

# **HyperBody: An Experimental VR Game Exploring the Cosmotechnics of Game- Fandom through a Posthumanist Lens**

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Thesis Submitted in Fulfilment of the Requirements for the Degree Of Doctor of Philosophy in Arts  
And Computational Technology

August 2023

## **Abstract**

Interdependencies among ACGN (Anime, Comics, Games, and Novels) communities in China, Hong Kong, and Taiwan are growing. However, game studies and fan studies remain distinct disciplines. This cross-disciplinary thesis bridges this gap by investigating "game-fandom" practices in VR production, defined as the fusion of game and fan studies within the ACGN context.

Drawing from Yuk Hui's "cosmotronics" and Karen Barad's posthumanist perspective, this research reconsiders the relationship between cosmology, morality, and technology (Hui 2017). It employs "intra-action" to emphasise the indivisible, dynamic relations among specified objects (Barad 2007). Cultural practices in C-pop idol groups, Chinese BL (Boys' Love) novels, science fiction, and modding communities are analysed, illuminating the ACGN fandom's cultural, technological, and affective dimensions. This work features the creation, description, and evaluation of an experimental VR game, "HyperBody", which integrates the written thesis by reflecting game-fandom's cosmotronics and intra-actions.

The thesis offers two significant contributions: "queer tuning", a theory illuminating new cultural, technological, and affective turns within fandom and computational art, and a "diffractive" approach, forming a methodological framework for posthuman performative contexts. This diffractive framework enables practical contributions such as creating and describing experimental VR productions using the sound engine. It also highlights a thorough evaluation approach reconciling quantitative and qualitative methods in VR production analysis, investigating affective experiences, and exploring how users engage creatively with queer VR gamespaces. These contributions foster interdisciplinary collaboration among VR, game design, architecture, and fandom studies, underscoring the inextricable link among ethics, ontology, and epistemology, culminating in a proposed ethico-onto-epistem-ological framework.

## **Declaration of Authorship**

I hereby declare that the work presented in this thesis is entirely my own. Where I have consulted the work of others, this is always clearly stated.

I acknowledge the contributions of fandom members Emma, Tang Fei, Aristo, Jingzhi, CheeseTalk, Linn, and Tianqi, with whom I engaged in digital ethnographic studies. Their contributions across diverse fandom materials provided context and inspiration for my work. While they were instrumental in furnishing raw materials and fandom insight, it is essential to clarify that the conceptualisation, design, coding, and integration of these materials into the VR game, "HyperBody", were solely my work. Though invaluable, their participation was consultative, aiding my understanding of the fandom culture. My independent academic and design endeavours are the creation of "HyperBody" and the associated thesis, which represents an extensive exploration of game-fandom cosmotechnics and intra-actions.

SIGNED

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7th August 2023

## Acknowledgements

I am incredibly grateful to many people whose contributions have shaped this thesis and my journey to complete it. Firstly, my deep gratitude goes to Professor Atau Tanaka, Professor Sylvia Pan, Professor Helen Pritchard, and Dr Olli Tapio Leino. Their insightful academic guidance has been invaluable and pivotal in shaping the course of my research. Their dedication and passion have inspired me and pushed me to excel in VR games, fan studies, game studies, and computational art.

I owe an outstanding debt of thanks to my parents, whose steadfast support and encouragement have guided me during this journey's challenges. Their financial support has allowed me to fully immerse myself in my research. For that, I am forever thankful.

Heartfelt thanks to Emma, Tang Fei, Aristo, Jingzhi, CheeseTalk, Linn, and Tianqi for their valuable insights and feedback during the interactive interviews that helped create and describe the HyperBody VR game. Their contribution to this project has been significant, and I am grateful for their time and expertise.

I want to extend my gratitude to Nora O Murchú, the artistic director of Transmediale; Michael Connor, director of Rhizome; Živa Kleindienst and Tadej Vindiš, curators of KIBLA, and Liyan Han, curator of UCCA Edge. Their valuable guidance, trust, and facilitation have enabled me to conduct art residencies and installations, providing platforms for showcasing the HyperBody VR game.

I would also like to express my appreciation to Maximilien Simard-Poirier from Audiokinetic. The academic licence for the Wwise sound engine was an essential asset in developing the HyperBody VR game. For this, I am incredibly grateful.

I want to acknowledge the help of Alaric, Jiashun, Summer, Yufei, Morgan, Binbin and the anonymous participants who dedicated their time and expertise to evaluating the HyperBody VR game. Their constructive feedback has been instrumental in the game's development and optimisation.

Finally, I sincerely appreciate the entire team, named and unnamed, in and out of Goldsmiths' Computing Department. Your unwavering support, guidance, and expertise were vital in helping me navigate this journey successfully. The environment you have created has allowed me to thrive in my research and practice. This journey would have been much more challenging without all of you, and for this, I am eternally grateful.



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## List of Audio-Video Materials

- File name: Qiang-001 - Pinkray Game Level - Walkthrough.mp4 || Media type: Video || Description: Comprehensive presentation video for creating and describing the "HyperBody" VR game level "Pinkray" || Duration: 11m08
- File name: Qiang-002 - Seventeen/Sixty-one Game Level - Walkthrough.mp4 || Media type: Video || Description: Comprehensive presentation video for creating and describing the "HyperBody" VR game level "Seventeen/Sixty-one" || Duration: 41m32s
- File name: Qiang-003 - Garden Portal Game Level - Walkthrough.mp4 || Media type: Video || Description: Comprehensive presentation video for the "HyperBody" VR game level "Garden Portal" || Duration: 13m56s
- File name: Qiang-004 - Vampire Squid Game Level - Walkthrough.mp4 || Media type: Video || Description: Comprehensive presentation video for the "HyperBody" VR game level "Vampire Squid" || Duration: 14m32s
- File name: Qiang-005 - Typhoon Lionrock Game Level - Walkthrough.mp4 || Media type: Video || Description: Comprehensive presentation video for the "HyperBody" VR game level "Typhoon Lionrock" || Duration: 14m17s
- Folder name: Qiang-006 - Pinkray Game Level - Character Voices Folder || Media type: Folder containing 40 audio files || Description: Audio of the character voices before implementing in the sound engine Wwise, based on Appendix G, for creating and describing the "HyperBody" VR game level "Pinkray".
- Folder name: Qiang-007 - Pinkray Game Level - Sound Remixes Folder || Media type: Folder containing 2 audio files || Description: 2 remixes before implementing in the sound engine Wwise, based on Appendix G, for creating and describing the "HyperBody" VR game level "Pinkray".
- Folder name: Qiang-008 - Pinkray Game Level - Voidscaapes and Miscellaneous Folder || Media type: Folder containing 7 audio files || Description: 4 voidscape effects and 3 miscellaneous effects before implementing in the sound engine Wwise, based on Appendix G, for creating and describing the "HyperBody" VR game level "Pinkray".

- File name: Qiang-009 - Pinkray Game Level - Navigation Paths and Hotspots.mp4 || Media type: Video || Description: Navigation paths and hotspots presentation video for evaluating the "HyperBody" VR game level "Pinkray" || Duration: 00m40s
- File name: Qiang-010 - Garden Portal Game Level - Navigation Paths and Hotspots.mp4 || Media type: Video || Description: Navigation paths and hotspots presentation video for evaluating the "HyperBody" VR game level "Garden Portal" || Duration: 00m40s
- File name: Qiang-011 - Vampire Squid Game Level - Navigation Paths and Hotspots.mp4 || Media type: Video || Description: Navigation paths and hotspots presentation video for evaluating the "HyperBody" VR game level "Vampire Squid" || Duration: 00m50s
- File name: Qiang-012 - Garden Portal Game Level - Xianyin.mp3 || Media type: Audio || Description: Sound sample before implementing in the sound engine Wwise for evaluating the "HyperBody" VR game level "Garden Portal" || Duration: 05m17s



## 1. Introduction

"HyperBody" is a practice-based research project exploring the interplay of culture, technology, and affection within ACGN (Anime, Comics, Games, and Novels) fandom. It integrates posthumanist principles and "cosmotechnics" to develop an experimental VR game, fostering multifaceted narratives and a multi-fandom universe. This project utilises cross-disciplinary research methods to stimulate diverse cultural and technological expressions. It also employs a mixed-methods approach to evaluate the experimental VR experience, contributing to our broader understanding of game and fandom dynamics.

The thesis develops an empirical, diffractive, and practice-based framework of fan ethnography and interactive interviewing with Emma, Tang Fei, Aristo, Jingzhi, CheeseTalk, Linn, and Tianqi. These seven people are from various Chinese ACGN communities that produce and consume fanvids,<sup>1</sup> fanart,<sup>2</sup> web novels, architecture, and game mods. The written thesis is accompanied by the VR game "HyperBody". I conduct the digital ethnographic study with them and then collaborate to develop a specific element for the "HyperBody" game levels. I reuse creative practices from ACGN fandom and digital ethnography in virtual space. In my research, I use Unity and the sound engine Wwise to co-create multiple virtual spaces as a VR game with interviewees and collaborators from various fandoms and gaming communities. A VR gamespace provides me with plenty of opportunities to approach diverse fandom members and players in offline exhibitions and online events. I technically describe the VR gamespace and also use a mix of qualitative and quantitative methods to evaluate the VR gamespace through workshops and in-depth interviews. Audio-visually, "HyperBody" and its experimental experiences provoke aesthetic relationships, entanglements, and "intra-actions" in multi-fandoms' "cosmotechnics". The VR gamespace includes five game levels: "Pinkray", "Seventeen/Sixty-One", "Garden Portal", "Vampire Squid", and "Typhoon Lionrock".

As an aca-fan, both an academic and a fan, I self-identify as a member of various ACGN communities. Practice-based research is a critical way to balance the theory and praxis between academia and fandom. The aca-fan's nodal position transmits knowledge between the academic world and fandom. I frequently act as a consumer, maker, and collaborator mediated between

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<sup>1</sup> Fanvids are fan-made videos that use footage from TV shows, movies, or other media to tell a story, express emotions, or explore a theme or relationship.

<sup>2</sup> Fanart is visual art created by fans of a fictional work based on characters or other elements of the original work. It is often made by amateur, semi-professional, or professional artists.

closed fandoms and gaming communities. I realise that a transformative and new relationship between fan studies and game studies is needed while communicating with various fandom members and making "HyperBody". A fannish attachment to my subject-object of study is an essential driving force in this research. Inhabiting ambivalence and critically reviewing the normative cultural logic are highlighted. A fannish attachment demands that I stay with the trouble (Haraway 2016). The boundary of defining fan and game studies must be redefined and expanded. Therefore, I use Karen Barad's posthumanist "intra-action" and Yuk Hui's philosophy of technology "cosmotronics" as the theoretical framework to propose an entangled "game-fandom" world system (Barad 2007; Hui 2016).

This thesis seeks to answer the following questions:

- How does fandom in the ACGN context relate to the interplay of culture, technology, and affections in the digital world, and which case studies can help us understand it?
- How can Karen Barad's posthumanist principles and Yuk Hui's cosmotronics be integrated into the development of an experimental VR game to create more than player-centred narratives and nurture a multi-fandom universe?
- How can cross-disciplinary methods, including practice-based research and digital ethnography, be applied to create and describe experimental VR games that stimulate diverse cultural and technological expressions and provoke creative thinking?
- What combination of quantitative and qualitative methods can be used to evaluate the experimental VR experience, and how can these insights extend our understanding beyond the scope of game and fandom?

The introduction covers my cultural background and my experiences in art, game design, and architecture. It also explores the fields of fan studies and game studies and how they relate to the structure of my thesis. Through my involvement in fandom and gaming communities, I have discovered a connection between these practices and my VR game "HyperBody".

## **1.1 Background**

Navigating the landscape of LGBTQ+ expression in mainland China is complex due to legal and social obstacles (Wakefield 2020). Despite homosexuality being decriminalised, the absence of explicit laws safeguarding against discrimination based on sexual orientation or gender identity results in continued prejudice in various facets of life, such as employment, housing, and

education. The persistent societal stigma and pressure to adhere to conventional gender roles heighten the challenge for LGBTQ+ individuals.

However, in this milieu of constraint, the digital realm emerges as a haven for self-expression and community building. There is relative freedom and a laissez-faire attitude within Chinese online communities and social media platforms. Online platforms like Bilibili, Lofter, Baidu Tieba, and Weibo<sup>3</sup> have become important temporary spaces for the LGBTQ+ community (Hong and Monteil 2020). My project, "HyperRave", showcased at I: project space<sup>4</sup> in Beijing exemplifies this dynamic (Xi 2019).

These online spaces offer the LGBTQ+ community a secure environment to narrate their experiences, engage with each other, and gain awareness about LGBTQ+ issues. The emergence of these vibrant virtual communities amidst the backdrop of a challenging sociocultural climate underlines the resilience and adaptability of China's LGBTQ+ population. Moreover, they highlight the transformative potential of online spaces as powerful tools for community building, self-expression, and advocacy within an otherwise restrictive environment.

## **1.2 Artistic and Lecturing Experiences in Gaming**

### **HyperRave**

I conducted digital ethnographic research and organised the exhibition at I: project space in 2019 in Beijing, China. The "HyperRave" exhibition explored the relationships among VR, queerness, post-internet, and ACGN culture. The exhibition transformed I: project space into a virtual gamespace and techno club with the help of curator Shaonan Xi and artist Mingxuan Xie. Using VR/AR devices, we created four virtual dancing portals, inviting players to choose their virtual genderqueer avatar. The guests wore VR headsets, transforming into virtual characters that

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<sup>3</sup> Notable Chinese digital platforms include Bilibili, Lofter, Baidu Tieba, and Weibo. Bilibili is known for its anime, comic, and game (ACG) content and allows users to view, submit, and overlay commentary on videos. Lofter is a social blogging platform similar to Tumblr where users can post and share various content like text, images, and music. Baidu Tieba, the largest communication platform in China, functions as a forum for creating or joining topic-specific "bars" (forums) and is provided by the search engine company Baidu. Weibo is a microblogging platform similar to Twitter that facilitates user interaction through short messages, images, and videos.

<sup>4</sup> I: Project Space is based in Beijing and was founded in 2014 by Antonie Angerer and Anna-Viktoria Eschbach. The space is located in the old Hutong area of Beijing and combines an exhibition space with a residency studio for visiting artists from China and abroad.

watched and danced with the spatial experiences, continuously adapting and changing according to the DJ's music.

"HyperRave" aimed to combine techno music, queer body, and gamespace into a Gesamtkunstwerk, investigating the relationship between the body and space, intermediating between virtual and physical spheres. It explored the aesthetic potential of VR and looked at each layering of realities (Figures 1.2.1 to 1.2.4) from fandoms, games, architecture, performance, music, and club culture, highlighting the relating and tangling of multiple community spaces of dissimilar types of spaces on non-hegemonic cultural levels. Rather than having a sculptural statement, we created a multi-reality spatial experience. We invited collaborators and players to play, dance and help merge offline and online communities. The research involved multiple entanglements (Figure 1.2.5) between fan and gaming communities, including anime like *Akira*, *Ghost in the Shell*, *Beast Wars: Transformers*, and video games such as *World of Warcraft*, *StarCraft*, *Grand Theft Auto*, and more (Qiang 2019). This entanglement led to the "Queer Maximalism Manifesto" (Appendix E).



Figure 1.2.1. HyperRave Physical Level: VR Headset, DJ and VJ Stands.



Figure 1.2.2. HyperRave Virtual Level: Rave Instruction in VR Headset.



Figure 1.2.3. HyperRave Live: Bodies of DJ and VJ.



Figure 1.2.4. HyperRave Physical Level: "X" Portals for Dancing with 9 Virtual Player Characters.

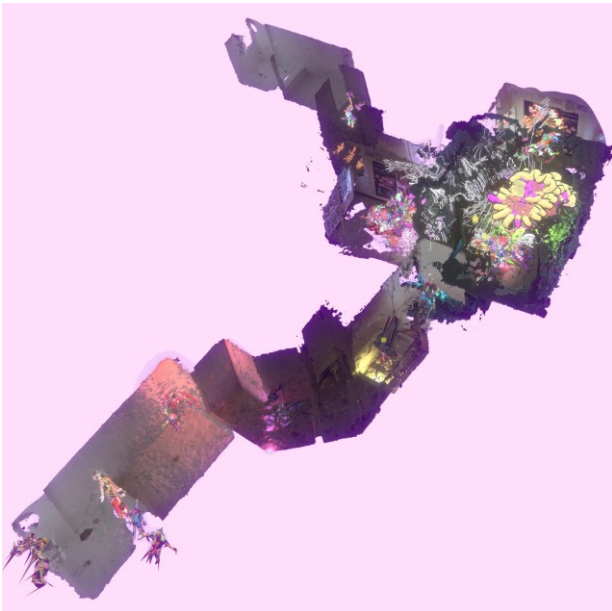


Figure 1.2.5. The aerial screenshot of the VR game shows the entanglement of multiple fandom bodies and characters.

Antonie Angerer and Anna-Viktoria Eschbach (2019), the founder and director of I: project space in Beijing, China, suggest that the entanglement of mainstream communities progressively cultivates diverse queer and affective fandom spaces. Digital ethnography within ACGN and fandoms redefines relationships beyond conventional digital devices and location contexts. Through

"HyperRave", the relational gamespace entangled with multi-fandom is developed, emphasising spatiality over the surface of digitality.

### **HyperBody Practices 2018-2019**

Before embarking on my PhD journey, from October 2018 to September 2019, the "HyperBody" project was supported by the Digital Earth Fellowship program, focusing on digital and physical tracks through the Middle East and Central Asia (Dellanoce 2019). Three geographic locations in China were investigated, each presenting a specific type of excess: the Hyper-Religious Body in the Dunhuang Caves, Gansu, the Hyper-Gastronomical Body in Chongqing, and the Hypersexual Body in Beijing. Fieldwork at these sites led to the development of the "HyperBody" - a multi-reality space that tangles physical and virtual spheres.

The VR game "HyperBody" was created in Unity and presented at Jerusalem Design Week 2019, Israel and the Volumetric Ecologies workshop with support from the Goldsmiths Computing Department. The game comprises photography, collage, video, animation, 360-degree moving drawing, and architectural 3D scans and models (Figure 1.2.6). It constructs discursive and multiple referential systems from various architectural scales.

The project aimed to redefine the spaces around the human body and lead them to the "HyperBody", an entanglement that reconfigures boundaries, properties, and meaning in various fandom and gaming communities.

The VR game "HyperBody" offered entangled physical-virtual temporal spaces that diffracted geographic locations, such as Dunhuang, Beijing, Chongqing, Jerusalem, and London. Multiple human and nonhuman bodies were reconfigured from the anecdote and meme in the VR game levels (Figure 1.2.8). These VR game levels addressed the reconfigurations of boundaries, properties, and meaning of identity, sexuality, and body scale in a possibly queered esoteric Buddhism in Dunhuang. The game was situated within a contemporary Chinese post-colonial context as a fluid, secular-sacred urban space.

The MTF (male-to-female) digital ethnographic study was conducted on the most popular Chinese communication platform, Baidu Tieba. Discursive queer bodies were drawn from ACGN and fandom communities with varied boundaries, scales, and temporalities (Figure 1.2.7). The MTF digital ethnographic research prompted the exhibition of "HyperRave" at I: project space in Beijing, China. It further helped produce the "Queer Maximalism Manifesto" (Appendix E).





Figure 1.2.6. Screenshot of HyperBody virtual level 1: Rubik's Cube Mansion - welcome to HyperBody.



Figure 1.2.7. The photograph shows HyperBody physical level 2: Hyper-sexual Body: Androcur with six pink yoghourts.



Figure 1.2.8. Screenshot of HyperBody virtual level 3: 465 Cave.



Figure 1.2.9. The photograph shows Hyper-gastronomical Body: feeding with physical and virtual hot pot food.



Figure 1.2.10. Photograph shows HyperBody physical level 3: playing inside 7 HyperBody virtual levels by HTC Vive Pro.

The "Queer Maximalism Manifesto" involved ACGN and fandom communities. The manifesto showcased the dynamic relationships between player and game, hybridising non-homogeneous physical and virtual spaces. It used the VR gamespace to translate multiple fandoms into a physical context and vice versa, ultimately accelerating the dissolution of physical and virtual spaces (Figures 1.2.9-1.2.10). The manifesto engaged with the onto-epistemological framework of technological and cultural productions, specifically within an Asian framework.

I used the manifesto to showcase how VR games can create multi-referential, multi-scale, and multi-temporal gamespaces (Qiang 2020). The VR game levels feature HyperBody entities that describe and remake gender, sexuality, myth, and religion in physical and virtual spaces.

### **Lecturing in Game Studies**

When I was selected for the Vilém Flusser Residency Program for Artistic Research 2020 by Berlin University of the Arts (UdK) and Transmediale, the festival for art and digital culture Berlin, I presented my game and fandom practices "HyperBody" (Figure 1.2.11). James Sweeting, the lecturer in game studies from the School of Art, Design and Architecture at the University of Plymouth, was interested in my game and fandom integration approach and VR space-making method. He invited me to deliver lectures and seminars for their students.



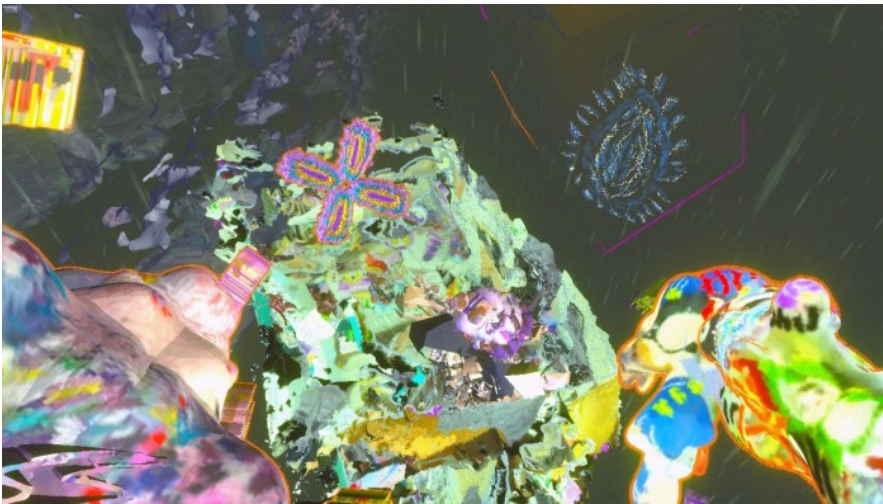


Figure 1.2.11. The VR game screenshot of game level Pinkray.

During my lecture and seminar for the MA Game Design Game Studies course at the University of Plymouth, I presented the idea of queer game avant-garde (Ruberg 2020, 19-22) and an affective and transformative approach to a game and fandom connection, showcasing my "HyperBody" VR game (Figure 2.11) and previous art and gaming practices. Co-lecturer James Sweeting and most students shared an interest in the tangling game and fan studies and engaged in an intense debate on the conceptualisation of queer game avant-garde. Students argued that transformative game design has already disrupted formalist and aesthetic qualities during their game design process without the need for the tags and representation of LGBTQ and queer. One student with three years of indie game development experience claimed that their transformative game design has already indicated a "vulnerable", soft, and tangible mode of interaction (Qiang 2020).

Through my experience as a lecturer, I have gained a different understanding of balancing experimental queer game design with a transformative indie game design approach while also considering both academic game studies and the gaming industry. It will be further explained in the next chapter.

### **1.3 Architectural Practices**

#### **Architectural Association School of Architecture (AA)**

By drawing from my architectural experiences and contextualising them within the game and fandom studies framework, we can delve into gamespace and narrative space complexities,

allowing for an in-depth analysis of the intricate relationships between fanworks, queer games, and experimental architectural design approaches.

Before pursuing a practice-based PhD at Goldsmiths, I completed my architectural diploma at the AA (Architectural Association School of Architecture) from 2014 to 2016. The AA is the UK's oldest independent architectural school and one of the most prestigious and competitive in the world, offering the "unit system" design studio for diploma students to develop comprehensive design projects in selected year-long design studios (units) (Steele 2014, 4). My education at AA encouraged me to take particular routes through the units and projects that set the foundation for my future architectural growth, interests, and ambitions. Through the "Unit 7" design studio with tutors David Greene and Samantha Hardingham, my architectural approach questions physicality and virtuality, time and movement, nature, culture, and technology, taking my professional expertise into experimental VR gamespace making. "Unit 7" investigates an architecture conditioned by the technological process of search rather than research, emphasising approximation in design and a posthuman performative approach. It prioritises exchange and discussion, dissolving boundaries between human and nonhuman, natural and built environment, architecture and landscape. With my situatedness, not only does "Unit 7"'s design approach heavily influence me, but David's architectural projects and Samantha's writings provide concrete examples to pursue and develop my design approach.



Figure 1.3.1. David Greene, LogPlug & RokPlug, 1969.



Figure 1.3.2. David Greene, LogPlug & RokPlug, log section, 1969.

As shown in Figures 1.3.1 and 1.3.2, one of David's projects as a member of Archigram,<sup>5</sup> "LogPlug & RokPlug", made in 1969, is a highly speculative and experimental design of services for mobile and temporary living in landscape settings. David's architectural vision provides an alternative design between nature, culture, and technology, fundamentally questioning the conspicuousness of architecture itself. During the two-year tutorship with David, I was constantly questioned about my ability to provide a different understanding of nature, culture, and technology and how much my architecture weighed. These design questions offered various perspectives on the context and scale of an architectural project.



Figure 1.3.3. Cedric Price, The interior of Fun Palace proposal, sketch, 1964. Architectural Association and Canadian Centre for Architecture.

Through Samantha Hardingham's writings, my architectural design was influenced by Cedric Price, an English architect who broadened the architect's role by integrating architecture with cybernetics, education, and technology (Smith 2017). Price's "Fun Palace" envisions an interactive and adaptive educational and cultural complex that brings boundless design methods for human and nonhuman agents (Figure 1.3.3). Hardingham's writings often question how to develop architectural thinking of nature, culture, and technology. The collaboration between David Greene and Samantha Hardingham provides me with a lifelong search for architectural response and thinking in a posthuman performative approach.

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<sup>5</sup> Archigram was an avant-garde architectural group formed in the 1960s in the UK. They were known for their innovative and experimental approach to architecture, which involved the use of technology and new materials to create flexible and adaptable designs.

## Haexp (Health Aficionado Experimentation)

From 2015 to 2016, I designed my diploma project, "Haexp (Health Aficionado Experimentation)",<sup>6</sup> in art, architecture, landscape, digital anthropology, video games and animation. The project was presented as an animation during the RIBA (Royal Institute of British Architects) examination, showcasing unexpected responses and design paradoxes through time, speed, and interval.

"Haexp" proposed a new health architecture that goes beyond traditional architectural and medical disciplines by embracing constant movement, flux, and change. The project envisioned a non-hierarchical medical network serviced by an architecture of transportation through the waterways in the UK. The city was reimagined as a medical ocean, and a new posthuman performative approach was explored. The project included various health apparatuses<sup>7</sup> such as "Haexp Wharf – Commanding Centre", "Super Ambulance", "Mobile Health Clinic", "Health Tree", "Energy Tree", "Marine Medicine Probe", "Underwater Medicinal Greenhouse", "Marine Medicine Workshop", "Sea Bathing Shell", "Robotic Horse", "Robotic Cow", "Anti-biotic Collector", "Underwater Sensor", and "Emergency Drone". The visual design of these apparatuses merged various ideas from the categories of medical, waterway, coastal, agricultural, landscape, technology, and video games. The soft, feminised aesthetic encompassed human and nonhuman elements, built and natural environments, and civil and technological forms.

In Figure 1.3.4, I intentionally collage the pencil drawings of various health apparatus on an actual photo of an aerial view of the River Thames and add acrylic paints to blur further the boundary between real and fictional. The texture contrast is highlighted with the saturated colour palette. In this collage, I aim to provoke an architectural response of picturesque and imperfect, which can be a fictional, speculative and video game-like environment.

In another aerial view of Albert Dock (Figure 1.3.5), all apparatus designs are rigorously examined in their respective architectural scale and context and how they respond to and touch the existing urban environment.

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<sup>6</sup> The project is presented as an animation that can be watched via YouTube: <https://youtu.be/Q0aDU5MVMVo>.

<sup>7</sup> The introductions of Haexp apparatus can be seen via YouTube: <https://youtu.be/Q0aDU5MVMVo?t=147> from 2:27.



Figure 1.3.4. Health Aficionado Experimentation (Haexp), animation screenshot, an architectural collage of various health apparatus with boats on the River Thames close to Battersea Park and Royal Hospital Chelsea in London, UK.

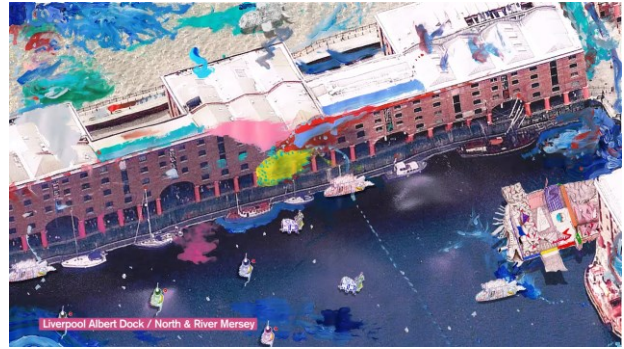


Figure 1.3.5. Health Aficionado Experimentation (Haexp), animation screenshot, an architectural collage of various health apparatus with boats in the Albert Dock connected to River Mersey in Liverpool, UK.

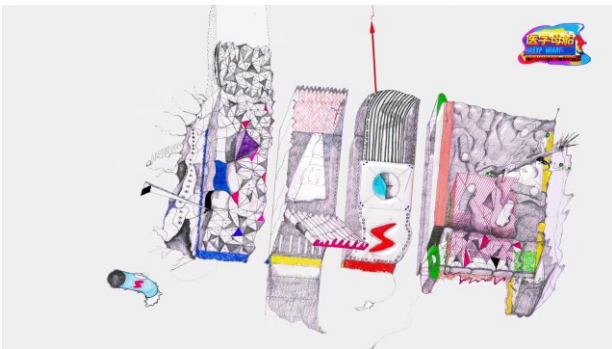


Figure 1.3.6. Haexp apparatus, Haexp Wharf – Commanding Centre, animation screenshot.

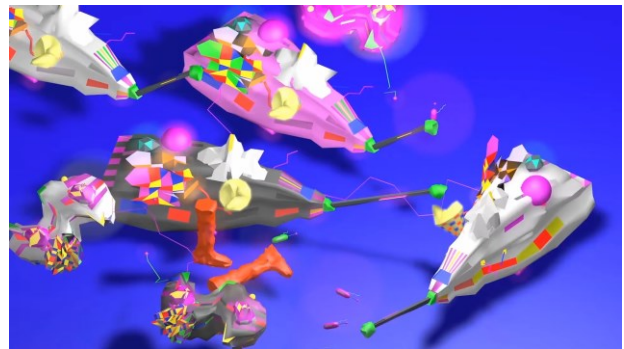


Figure 1.3.7. Haexp apparatus, Anti-biotic Collector, Underwater Sensor and Emergency Drone, animation screenshot.



Figure 1.3.8. Life-size painting of Haexp apparatus, the author touching the Emergency Drone, animation screenshot.

Figures 1.3.6 and 1.3.7 showcase the form speculation on the soft feminised aesthetic using pencil drawing and 3D modelling techniques. The design incorporates irregular, broken, cursive brushes and meshes with a high saturation colour palette to create deliberate incompleteness. The "Haexp" apparatus design is not seen as the final solution for health architecture but rather a continuous provocation for open and alternative design approaches for various architectural, medical, and video game communities.

In order to examine the architectural scale and texture of the "Haexp" apparatus, I created a 1:1 scale life-size painting of the various apparatus and physically interacted with the "Emergency Drone" while wearing an orange immersion suit (shown in Figure 1.3.8). This tactile experience allows for a connection between the soft, feminised aesthetic and a specific texture and scale, further blurring the boundary between the real and fictional aspects of the project.

My architectural education at the AA's "Unit 7" under David Greene and Samantha Hardingham has influenced my alternative architectural design approach that seeks to respond to the relationship between nature, culture, and technology. The design approach is based on speculation of incomplete, imperfect, and picturesque territory and extends beyond the conventional realm of architecture into animation, digital ethnography, and video games. I propose creating an experimental gamespace to investigate the notions of time, speed, and interval, as well as aesthetics, space, and scale. My personal architectural experience is essential to understanding the architectural design approach in "HyperBody" and the investigation of narrative space and gamespace.

### **ADMCP (Architectural and Digital Material Cultural Probe)**

From 2016 to 2018, I conducted an architectural research project called "ADMCP (Architectural and Digital Material Cultural Probe)" at the AA. My "ADMCP" project was a precursor to the "HyperBody" VR game and explored the transformative space-making between physical and virtual environments. The project utilised various media, including drawing, painting, photography,



photogrammetry, 3D scanning, and VR filming (Figures 1.3.9 - 1.3.12). I created 360-degree VR videos from the research archives to provoke discussion about the cultural and technological intermediation between physical and digital spaces. The mediation was heightened through "hyperisation" and gamification. "ADMCP" laid the foundation for the technological and conceptual mediation used in "HyperBody".

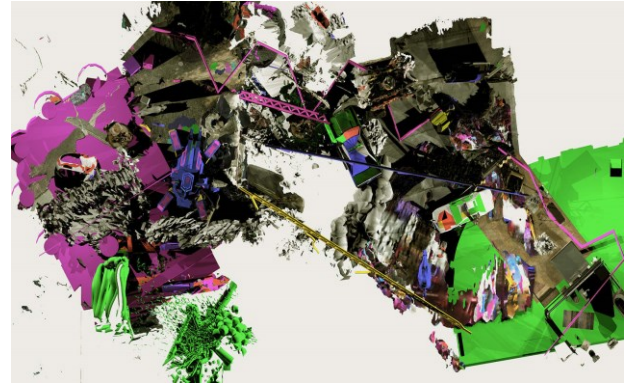


Figure 1.3.9. Probing Hyper Landscape: Red clothed male body wearing VR headset from photogrammetry with Eva unit 01's Controlling Complex from Neon Genesis Evangelion.

Figure 1.3.10. Hyper Landscape: plan.



Figure 1.3.11. Screenshot of unfolded top/ bottom VR Video, probing Hyper Architecture.



Figure 1.3.12. Screenshot on probing Hyper Domesticity: digital material cultural painting, GTA Vice City - 1986 Miami Versus 2016 West Bromwich.

"ADMCP" merged physical and digital realms. Gamification and "hyperisation" were defined and explained in the context of architecture, digital games, anthropology, and material culture to accelerate the dissolution of physical and virtual spaces. Different from using game elements in non-game contexts, gamification is to apply multiple game cultures into a physical context and vice versa to accelerate the dissolution of physical and virtual spaces (Figure 1.3.12). "Hyperisation" combines non-homogeneous physical and virtual spaces (Qiang 2018, 8-13).



Figure 1.3.13. Screenshot of page 121 from *isthisit?* Issue 03, by Bob Bicknell-Knight, features *ADCMP* work: hybridising the physical main street of West Bromwich and the video game *Grand Theft Auto: Vice City*.

I conducted a field study in West Bromwich, UK. I created a series of hybrid artworks (Figure 1.3.13) combining the physical main street of West Bromwich in 2016 and the virtual streetscapes of Miami in 1986 from the video game *Grand Theft Auto: Vice City*.<sup>8</sup> The artwork was presented for the *Isthisit?*<sup>9</sup> Residency programme, using strip clubs, gentlemen's clubs, and fried chicken shops as transformative portals. The director of *Isthisit?* Bob Bicknell-Knight (2017, 61) celebrates the intermediation between various virtual game scenes and urban physical contexts, highlighting the game and fandom connection between physical and virtual space.

Rooted in a queer cultural landscape rich with diverse influences, my early practices in art, game design, and architecture have informed my academic journey. The intersection of these fields,

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<sup>8</sup> The interactive online version of hybridising West Bromwich and GTA Miami can be accessed from: <https://www.isthisitisthisit.com/westbromwichandmiami>.

<sup>9</sup> *Isthisit?* is an online platform, residency programme, and curatorial project that showcases emerging contemporary art from around the world. It was founded by Bob Bicknell-Knight in 2016.



seen through my cultural lens, sparked an interest in the intricate dynamics of fan studies and game studies. The narratives of fandoms and the interactivity of games, coupled with the spatial storytelling inherent in architecture, led me to see games as a world-making process from a posthumanist perspective. This perspective deepened my understanding of fandom and gaming integrations. As I embark on this doctoral research, I aim to introduce fan and game studies in greater depth, driven by my cross-disciplinary background and a spirit of exploration.

#### **1.4 Fan Studies**

Fan studies, evolving over three decades, has grown into a thriving multidisciplinary field that acknowledges fans as dynamic contributors to media consumption, identity, textual engagement, and communications. Despite its growth, methodological development within this domain still lags. This limitation has sparked conversations around alternative approaches, with scholars like Evans and Stasi (2015) advocating for less formalised structures and using methodologies such as autoethnography and digital ethnography. These tools can deepen our understanding of the aca-fan, an academic-fan hybrid that provides critical insights. Fan studies is a multi-inter-paradisciplinary field, embracing an eclectic range of theoretical and methodological contexts from diverse disciplines such as cultural studies, philosophy, sociology, and computational arts (Largent, Popova, and Vist 2020). However, a broadening beyond a predominantly white and Global North-centric structure is necessary, incorporating a transcultural stance and investigating non-hierarchical, rhizomatic virtual spaces (Wang et al. 2020). An aca-fan is optimal for studying fandoms, intertwining comprehensive material gathering with ethical considerations (Cristofari and Guitton 2017, 713). A new, more expansive framework for fan studies is required, emphasising the use of autoethnography and digital ethnography to create VR game practices. Within this framework, the aca-fan can conduct research, embody interdisciplinary practices, and contribute meaningfully to fan communities.

#### **1.5 Game Studies**

Game studies, a multidisciplinary field, focuses on the contextual relationship between games and players. A shift from the classic ludology-narratology debate towards understanding games as cultural entities is advocated (Mayra 2008). Notably, game studies intersect with queer theory, using "play" as a framework for queer critique and encouraging a reimagining of games via

nonheteronormative pleasures. Scholars like Bonnie Ruberg and Amanda Phillips (2018) argue for a necessary shift concerning games and queerness, advocating a blend of theory and praxis to create game spaces of radical potential. Game studies continue to broaden, connecting with diverse fields like sociology, anthropology, cultural studies, fan studies, and feminism (Euteneuer 2018, 790). The field recognises video games as an emerging art form that, akin to theatre, fosters co-creation between players and designers (Clara 2009). Moreover, the inner workings of video games reflect aesthetic theory, a perspective that allows examination of the relationship between sensual experience and gameplay (Atkinson and Parsayi 2021, 537). Looking towards the future, game studies intersects and offers strategic insights across art, science, technology, and policy (Ivanova and Watson 2021, 8-9). The field necessitates an interdisciplinary framework that intertwines ACGN fandom and queer game studies, promoting a re-envisioning of game studies within this emergent context.

## **1.6 Practices in PhD**

Rooted in fan ethnography, my research uses interactive interviews within various ACGN communities to explore the nuanced dynamics of fandoms and game studies. As an aca-fan, I examine vulnerable, minor, and closed fandoms and situate myself in the intricate web among creators, fans, and the fandom universe. Through detailed dialogues, I, alongside my interviewees, probe into the narratives and processes of fanwork creation, encompassing an examination of technical tools, gender and sexuality, affection and love, fantasy and reality. A key concept introduced is the "game-fandom", bridging fan and game studies. Analysis hinges on understanding, making, and consuming diverse fanworks. Interviewees like Emma, CheeseTalk, Linn, Tianqi, Jingzhi, Aristo, and Tang Fei contribute their perspectives and experiences enriching the research. Based on their consultative participation, the collaborative process extends to the VR game design, where I experiment with translating text, image, and video into gamespaces. Consequently, the methodology sees a creative reapplication from fandom practices, presenting the opportunity to redefine the culture, technology, and affection in the context of ACGN fan and game studies within the VR gamespace of "HyperBody".

## **1.7 Structure**

The thesis comprises eight chapters: Chapter 1: Introduction, Chapter 2: Literature Review, Chapter 3: Methodology, Chapter 4: Creating VR Gamespace, Chapter 5: Describing VR Gamespace, Chapter 6: Evaluating VR Gamespace, Chapter 7: Discussion, and Chapter 8: Conclusion. I will discuss specific aspects of my digital ethnography research from Chapter 4, the fandom member Emma's shipping vid and how it helps create the "Pinkray" game level. I will have an integrated and dedicated Chapter 5 to address the digital ethnographies of all fandom members Emma, Tang Fei, Aristo, Jingzhi, CheeseTalk, Linn, and Tianqi by describing the technical and technological process of creating the VR gamespace in "HyperBody". Furthermore, Chapter 6 will evaluate the VR gamespace by investigating players' gameplay. Finally will come the Discussion and Conclusion chapter.

1. Introduction

2. Literature Review

3. Methodology

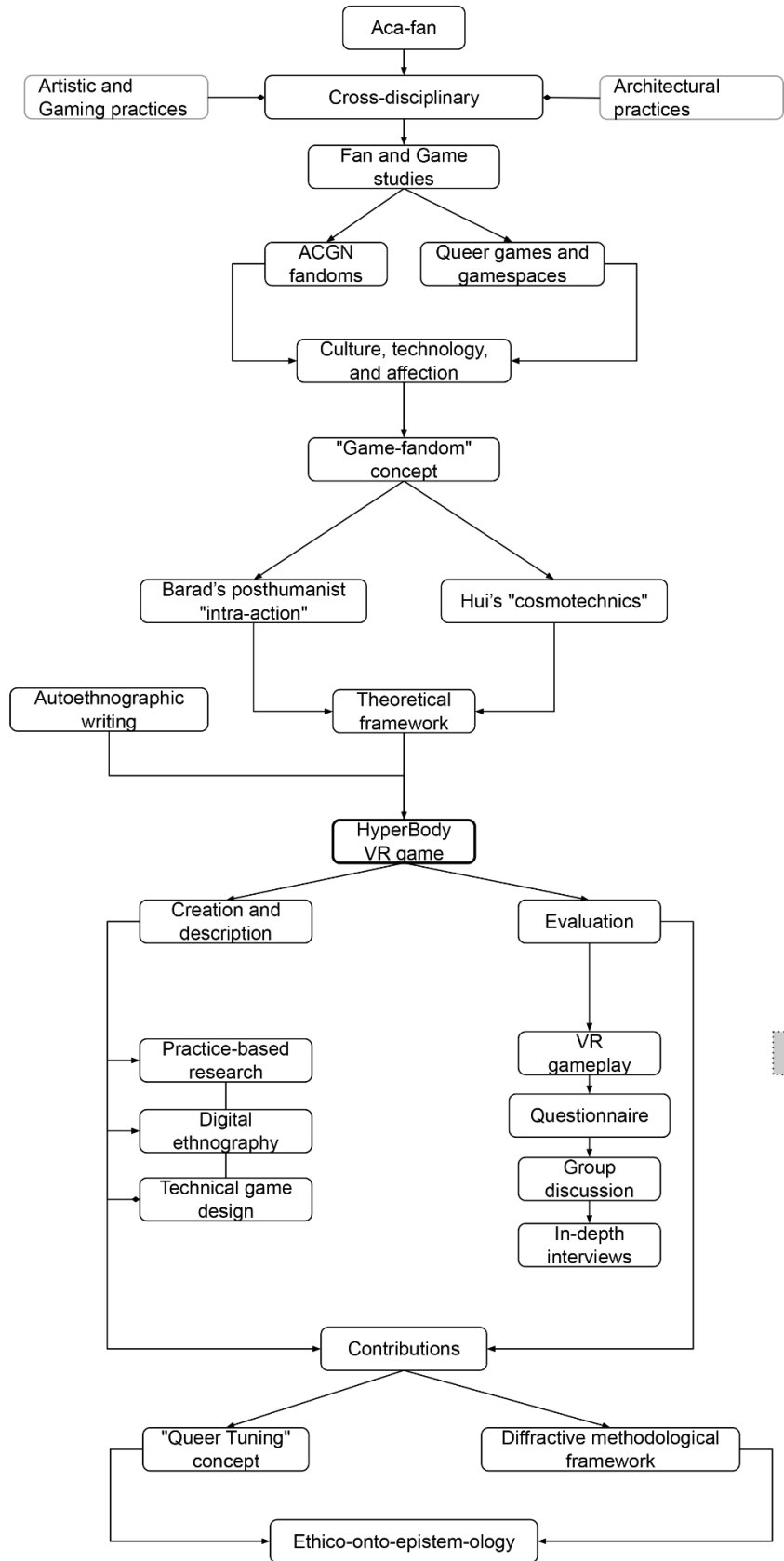
4. Creating VR Gamespace

Appendices A, B, C, and D

5. Describing VR Gamespace

7. Discussion

8. Conclusion



6. Evaluating VR Gamespace

Figure 1.7.1. PhD structure diagram.

Chapter 1 presents the fundamental contexts of fan studies, game studies, and "HyperBody" practices. Chapter 2 clarifies existing studies of ACGN and fandom. The theoretical framework section introduces Yuk Hui's concept of cosmotechnics and Karen Barad's posthumanist "intra-actions". I propose the concept of "game-fandom" in cosmotechnics as a creative approach that merges the domains of game studies and fan studies within the context of ACGN. I introduce Karen Barad's intra-action and material-discursive practices to form a crucial iterative framework and narrative to conduct research and practice. In Chapter 3, Methodology, practice-based research and digital ethnography are introduced for creating and describing the "HyperBody" VR game. The iterative methods, including the VR gameplay workshop and in-depth interviews, are included in the VR game evaluation process. The making of cosmotechnics through intra-actions is informed by these methodologies.

"HyperBody" in ACGN's context represents the entanglement of game and fandom, transcending physical-virtual boundaries. It is an output and site of intra-actions, influenced by posthumanist theory, denoting multiple practices. "Hyper" implies multidimensional spaces viewed via a diffractive methodology, promoting cross-disciplinary studies. The "Body" signifies a transformative entity with fluid intra-actions, highlighting the reshaping of boundaries and entanglements with fans and the game. "HyperBody" reimagines game-fandom relationships as complex intra-action systems, reshaping the understanding of interaction, agency, and "self" in game studies and fandom.

The thesis follows an iterative framework to introduce specific fandom themes, analyse the prosumption<sup>10</sup> of various fanworks, and create and evaluate "HyperBody" VR game levels.

In Chapter 4, Creating VR Gamespace, I delve into fandom dynamics featuring the game level "Pinkray". I collaborate with the fandom member Emma to explore shipping in the Generation Z Chinese fandom around the C-Pop group "ONER". The level, constructed through interactive interviews and collaboration with Emma, provides a nuanced portrayal of the queer fan culture rather than generalising it, reflecting an aesthetic of "passive virtue" seen in emerging Chinese

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<sup>10</sup> Prosume refers to fans who both produce and consume fan content, blurring the lines between producer and consumer in fan communities.

ACGN multi-fandoms and culminating in "queer tuning", a concept encapsulating the intertwined nature of fan prosumption and the potential of VR gaming for detailed cultural examination.

In Chapter 5, Describing VR Gamespace, I analyse the technical and technological aspects of two game levels, "Pinkray" and "Seventeen/Sixty-One," in "HyperBody". I aim to shift the lens of game-fandom and reintegrate my research and practice into computational art. In Appendices A-D, I iteratively address ethnographic materials from Tang Fei, Aristo, Jingzhi, CheeseTalk, Linn, and Tianqi, which correspond to different aspects of the VR game, including text, image, video, mesh, texture, scale, collision, fog, and audio.

In Appendix A, I discuss my conversations with Tang Fei, a Chinese science fiction writer, about her vision of a Chinese techno-feminist future and her new fiction. She allowed me to modify her works, creating the "Seventeen/Sixty-One" VR visual novel game level with iterative modification, crossover, and shipping of Chinese techno-feminist space.

In Appendix B, I introduce the architectural projects "Line Shift" and "Parallel Neo Home" to support and interrogate my architectural design approach. In the VR gamespace of "Pinkray," Aristo and Jingzhi's architectural thinking reaffirms the VR as a technological element to augment affection in modding, crossover, and shipping.

In Appendix C, I discuss my collaboration with CheeseTalk, a masters student studying computational art, to create new Luo Ji/Shi Qiang NPCs (non-player characters)<sup>11</sup> in the game level "Pinkray" and trigger an epistemological shift in the highly masculine fandom of the science fiction "Three-body Problem".

In Appendix D, with the support from experienced readers and Chinese BL (Boys' Love) fandom members Linn and Tianqi, I investigate Yuk Hui's cosmotechnics under the BL fandom's shipping. The entanglements of culture, technology, and affection add a "vulnerable and passive" tuning in the cosmotechnics. Linn and Tianqi, as voice actresses in the VR gamespace "Pinkray", will further ship multiple NPCs, demonstrating the use of audio and visual materials to tune identity, cultivation, superstition, technology, and affection.

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<sup>11</sup> In video games, a non-player character (NPC) is controlled by the game's artificial intelligence rather than the player. NPCs serve a variety of functions in games, such as providing quests or information, selling items, or serving as enemies or allies. They are an important part of creating an immersive game world and allowing the player to interact with characters other than their own player character.

In Chapter 6, Evaluating VR Gamespace, I propose an iterative method combining quantitative and qualitative data. I combine quantitative and qualitative data through the VR gameplay workshop and in-depth interviews. In stage one, participants' navigation paths, hotspots, and gameplay footage in various game levels are recorded during the VR gameplay. Immediately after the VR gameplay, participants complete the questionnaire. In stage two, I hold a group discussion with participants and ethnography and thematic analysis are used. I evaluate participants' behaviours, reflections, and non-standard design choices regarding cultural context, game mechanics, and VR navigation. In stage three, the post-VR gameplay, I conduct in-depth interviews with each participant. I use thematic and discourse analysis to explore audio-visual scenarios, situatedness, and queer notions. The creation, description, and evaluation methodology forms mutual reinforcement and captures the complexity of the game-fandom entanglement. It bridges the gap between quantitative and qualitative methods in VR productions, explores affective experiences, and encourages interdisciplinary research in VR, game design, architecture, and fandom studies.

Four research questions are addressed in Chapter 7 Discussion, and two significant contributions to fan studies, game studies, architecture, VR games, and computational art are presented. These contributions include the technique of queer tuning and the diffractive approach that describes and evaluates experimental VR gamespace within an ethico-onto-epistem-ological framework. The chapter also concludes by exploring the emerging concept of shared multi-player audio-visual VR gamespace, which requires further research.

The thesis and practice are created through close engagement with interviewees, collaborators and participants. An iterative framework between thesis and practice offers an audio-visual game-fandom through creating and describing the experimental VR game. The thesis and practice entanglement also inform a nuanced and robust evaluation of the experimental VR experiences.

## **2. Literature Review**

The literature review focuses on fan and game studies within the Chinese ACGN fandom community and proposes a transformative game-fandom. The proposed concept of game-fandom is to explore existing scholarly research, art practice, and fanwork that bridges practice-based research, fandom, and game studies and to understand how art practice and fanwork can introduce new approaches.

The review elucidates ACGN and fandom communities from mainland China to other Chinese-speaking areas in fan studies, studying the specific relationship between fandom and practice-based research. A framework is defined to examine transversality and verticality.

The review explores the emerging field of queer game avant-garde to connect fan studies to game studies. The notion of transformative game-fandom is proposed, examining and prosuming narrative, structure, technology, and personality.

I delve into Karen Barad's posthuman performative approach and the neologism of intra-action. I introduce Yuk Hui's cosmotechnics to showcase a remixed world system involving culture, technology, and affection. I put forth a theoretical framework that uses cosmotechnics and intra-actions to create game-fandom. At the conclusion of the review, I examine game-fandom through autoethnography and personal reflection connecting writing, method, methodology, epistemology, ethics, and politics.

### **2.1 ACGN (Anime, Comics, Games and Novels) and Fandom Communities**

In Japanese anime culture, fans often consider themselves citizens of a two-dimensional space, distinct from the three-dimensional world. ACGN, which comprises anime, comics, games, and novels, has emerged as a concept in the mainland Chinese context based on the virtual world of anime beyond two dimensions. ACGN has undergone significant development, from early consumption of imported Japanese anime in the 1980s and 1990s to increasing subcultural consumption in the Chinese domestic market, representing a media product of cultural reappropriation (Yin and Xie 2018, 5).

Baiheng Liu (2019, 2) defines "pan-anime users" as individuals with a basic understanding of ACGN and playing various roles, such as audiences, readers, players, and recipients. Liu argues that the fluid shift between producer and consumer, creator and receiver, should be addressed in



the context of ACGN and fandom practices. However, empirical data and evidence from websites are not helpful for ACGN fan studies due to the unstable, controversial, and interrupted history of Chinese online media fandom. From the first generation of fans of Japanese anime, comic, and English-language media franchises to indigenous Chinese ACGN works, this vulnerable culturescape has evolved to be translatable and intercultural. Zheng Xiqing (2019, 1) addresses Boys' Love (BL) fanfiction under the publication platform of Baidu Tieba and Jinjiang Literature,<sup>12</sup> discussing the ethical dilemmas surrounding perceived pornography and copyright enforcement that make BL highly vulnerable to policy shifts and political reasons within mainland China.

The context of ACGN and fandom communities is fluid, intercultural, and vulnerable and requires an epistemological framework that can bridge gaps and interstices to redefine and better understand fan studies practices' glocal<sup>13</sup> approach.

### 2.1.1 Fandom and Practice-based Research

In fan studies, the work of fan-scholars and aca-fans has sparked complex discussions and debates between fandom and academia, with multiple online fan communities intermediating and blurring the boundaries between the two. For instance, the fannish work of Cao Fei,<sup>14</sup> who repurposed the American TV show *The Walking Dead* in her work *Haze and Fog*, Michelle Williams Gamaker's<sup>15</sup> Arts Council Collection work, *House of Women* on the 1947 film *Black Narcissus*, SooJin Lee's performance in Nikki S. Lee's "Fan Club,"<sup>16</sup> Jenny Lin's<sup>17</sup> fans of Mao for researching China's Cultural Revolution, and Judy Batalion's<sup>18</sup> PhD research on female collaborations with living artists, all deserve attention. Reviewing fandom as a methodology for

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<sup>12</sup> Jinjiang Literature City, or Jinjiang Wenxue Cheng, <https://www.jjwxc.net>, is a leading website for popular online creative writing started from mainland China in 2003. Currently its business has expanded to Taiwan, Vietnam, Indonesia, Japan and Russia. It has different genres such as fanfiction, fantasy, science fiction, boys' love, girls' love, etc.

<sup>13</sup> ACGN and fan communities need to be reflected or characterised by both local and global considerations.

<sup>14</sup> Cao Fei is a Chinese multimedia artist. Her work includes video, performance, and digital media examining the daily life of Chinese citizens born after the Cultural Revolution.

<sup>15</sup> Michelle Williams Gamaker is an artist based in London making moving images and performances.

<sup>16</sup> Nikki S. Lee is a South Korean visual artist in photography and film. Her work informs Asian notions of identity.

<sup>17</sup> Jenny Lin is an associate professor of critical studies at University of Southern California and her research focused on social phenomena of urbanisation, globalisation, and decolonisation.

<sup>18</sup> Judy Batalion has a PhD in the History of Art from the Courtauld Institute, University of London, and also works as a curator and lecturer.

practice-based research, artists such as Michelle Williams Gamaker and Judy Batalion work within scholarly research and expand to non-commercial art practices supported by teaching, lecturing and PhD funds in the university. With this reworked model from the university, the artist's meaning and identity are redefined (Grant and Love 2019, 15). Based on art and fandom, Catherine Grant and Kate Random Love outline research and artistic methods mainly based on European and North American fandom communities. However, some Chinese and South Korean works are included. Maud Lavin (2019, 107) clarifies contemporary Chinese artist Cao Fei's fan practice of reworking and repositioning the cult American TV show *The Walking Dead* and horror adventure game *Silent Hill* based in Beijing, China. Jenny Lin (2019, 179) describes Chairman Mao's fan practices in Shanghai, China. Another Chinese artist, Zhiyuan Yang, uses fannish drag as the Chinese singer Teresa Teng to portray the difficult time during the Cultural Revolution. Catherine Grant and Kate Random Love (2019, 1-22) state that fandom communities and related inventive methods must be further investigated, especially in Asian countries. More extensive art and fandom mapping are needed to address the focus on North American and British artists. Art practices through multiple fandoms provide an alternative archive of other artists, histories and ideas often marginalised by popular culture and histories.

Addressing the particular fan studies and corresponding communities, Jia Tan (2017, 144-145) describes and reflects on the indigenous queer theory, Ku'er, based on events from Beijing and Hawai'i, and proposes transversal queer alliances. They use cultural specificity to critically reveal the structural hierarchy between the local and global. Queer alliances require researchers to practice, create, and distort existing notions of queer theory rather than simply collecting empirical data, especially in Asian contexts. Tan creates an encounter between queer theory and decolonial thinking and further argues for a provisional, unstable, and disturbing theory that could form other reconstructions of bodies and sexualities (Pereira 2019, 428-429).

Fandom as a methodology provides an essential step to approach the bridge and interstice of art practice, academic research, and fan studies. Art and fandom mapping from North American and British artists, researchers, expanded community members, practitioners, and amateur artists in Asian countries are explored, reviewed, and archived. Rather than addressing fandom as a methodology, researching and practising as an aca-fan, the contexts and entanglements of ACGN and fandom communities in Mainland China, Hong Kong, and Taiwan must be elaborated. I do this from the situatedness of an aca-fan. Building on Tan's work in this dissertation, before addressing ACGN and fandom communities, I establish a framework for researching and practising temporality, instability, and otherness.

### 2.1.2 Transversal Multi-fandom

Transformative Works and Cultures (TWC) is an academic journal published by the Organization for Transformative Works. Since 2005, the journal has contributed to studying fandom, fanworks, and fan practices through in-depth interdisciplinary research. The journal acts as an unstable and disturbing otherness between fandom communities and queer and fan studies academia.

Reviewing the BL (Boys' Love) manga and community in Japan, Sandra Annett (2017, 8-9) argues in an issue of TWC that BL is a source of autoerotic fantasy and critical interrogation of social relations of power. They question the privilege of only Japanese fans on BL. Annett acknowledges the limitations of their target area and calls for a more accessible crossover; more interdisciplinary works are required from both scholars and general community members. The framework of simultaneous research and practice supports this interdisciplinary approach. Based on transcultural flows and frictions of anime fandom, Kathryn Hemmann (2017) shows research on the interactions of media, text, and audiences in emerging fandoms beyond Japan across the globe. It could become an epistemological tool for new research methodologies.

Preservation and documentation of fanworks is a common topic in the study of fandom. However, little attention is given to the systematic selection, acquisition, indexing, preservation, and sharing of fanworks in the UK. Ludi Price and Lyn Robinson (2017, 5) suggest including fanfiction in libraries by rethinking document ideas. The multiplicity of fanworks includes video game mods to VR/AR technologies and conventional collections of images, audio and video. This ephemerality and compatibility of multiple emerging documents must be highlighted and further investigated. Fanfiction is highly vulnerable under Chinese policy shifts and government-targeted attacks, and urgent archiving is needed to document online fans' memories and history (Zheng 2019, 4). Due to censorship, Chinese online media fandom is a cultural appropriation and translation of various communities.

The specific relationship between human and nonhuman entities in different communities with different rules is discussed within a new participatory cultural context, following the archive and documentation of fan communities. New creative practices and fandoms already include AI, chatbots, and bots. Nicolle Lamerichs (2018, 4-5) highlights how fandom mixes human and nonhuman entities in creative practices through appropriation, poaching, and remixing. She claims that fans will inevitably encounter humans, nonhumans, businesses, data, and interfaces within this participatory culture, potentially leading to dramatic changes in fan practices and experiences.

Nonhuman creative writing practices have gained popularity and have already become part of the fandom. ColorfulClouds Tech has used AI for translation services in Beijing, China, since 2014. They recently released an alpha test platform called ColorfulDreams, which encourages new fandom practices by supporting continued AI writing of Chinese web novels. Fandom members and AI writers co-write with the ColorfulDreams algorithm, trained within the web novel genre. It includes generic writing bots, heterosexual romance bots, and Chinese BL bots (ColorfulClouds 2021). Multiple fandoms celebrate this participatory process, making and sharing various shipping fanfictions, ranging from historical immortality cultivation to modern cosmopolitan and parallel science-fiction worlds. Real-time collaborative fanfiction writing between multiple fandom members and varied writing bots can be expected soon.

Lamerichs encourages fans to think beyond anthropocentric dualism and community limitations and how affect, care, and love could be radically regenerated. Based on Lamerichs's (2018, 226) research on productive fandom, which sets up a cultural dynamic of fandom through an intermediated framework rather than one community, the concepts of multiplicity should be demonstrated when addressing ACGN and fandom communities. Xianwei Wu (2019, 5) has already warned, through research on a specific female ACGN fandom in China called 3n5b, that in a single fandom study, to avoid censorship and control from the government, the community itself might inevitably become another mechanism of control and surveillance with a specific social hierarchy.

The development of ACGN and fandom communities can benefit from creating an alternative archive that includes various forms of media, such as texts, images, videos, audio, game mods, performances, and VR/AR spaces. This archive should aim to capture the entanglement of multiple communities and technologies, despite its temporary and volatile nature. The idea of a transversal multi-fandom can be activated through this approach, while the concept of boundaries and exclusions between human and nonhuman entities must be addressed. Rather than reinforcing cultural dualism within the community, the posthuman ACGN and fandom contexts should be approached through multi-fandom.

In my experience with Chinese fandom, I have noticed that when scholars review and identify a single type of fanwork or practice, it has often transcended into a cross-genre presented on social media and video-sharing platforms. These works are frequently modified and shipped with other works from different fandom communities.

As someone with an architectural background frequently involved in digital ethnographic research and field trips, I believe a new fandom space framework needs to be established. Based on my prior artistic, game design, and architectural experiences in Chapter 1 Introduction, I argue that academics and researchers need to relearn from specific cultural frameworks, situate themselves within a context, and use writing and making as a method of inquiry into a fandom space rather than conventional empirical data collection and representationalism. This new framework will help define the crucial concepts of transversality and verticality in fan and game studies.

### **2.1.3 Vertical Multi-fandom**

In digital ethnography, multiplicity, non-digital-centric-ness, openness, reflexivity, and the unorthodox are particularly reused and remixed (Pink et al. 2015, 27-33). These principles will be further elaborated on in Chapter 3, Methodology. The de-centred digital research process indicates a non-community-centric-ness within the virtual space of ACGN and fandom. A multiple-community entanglement within non-community-centric research communicates and diffracts into wider audiences of academics and cultural strangers beyond particular fandoms.

The verticality approach needs to address non-community-centric-ness, encouraging a transversal approach. Researchers must be critically aware of "glocal" within their knowledge production. Unlike the research of third place in digital ethnography, such as the online virtual world Second Life (Pink et al. 2015, 162-177), the contexts should be found in different sections of online mainstream and marginal, closed and emerging virtual spaces of ACGN. A vertical approach aims to relate, unite, or consist of community spaces of distinct types on different cultural levels. Researchers must participate in a more profound, intimate, and affective ACGN community to investigate, poach, appropriate, and remix.

Transversality highlights the entangled forms of works and technologies, from texts, images, videos, audio, game mods, and performances to VR/AR spaces. Verticality focuses on relating and tangling multiple community spaces of distinct types on non-hegemonic cultural levels. I design and create fanworks that intersect with fandoms and ACGN communities. The "HyperRave" project in Chapter 1 Introduction, a multi-fandom feature with transversality and verticality, is presented using game engine technology in a physical-virtual gamespace.

### **2.1.4 Chinese Boys' Love (BL) fandom**

Chinese Boys' Love (BL) is a multi-fandom genre that embodies transformative work and addresses transversality and verticality. BL, also known as Danmei, is a male-male romance genre created by and for women and sexual minorities, including novels, manga, anime, games, audio dramas, MVs, songs, and cosplay. BL has become popular worldwide since its first appearance in Japanese girls' comics in the 1970s, forming an essential genre within and beyond the ACGN and other fandom communities in mainland China (Yang and Xu 2017, 3). Chinese BL is connected with Japanese ACGN but has evolved into a transnational, inclusive, and meta fandom that triggers discussions outside the female-dominated community boundary. It includes the Japanese, Euro-American, and original circles. BL's production, distribution, and consumption have offered a cultural convergence between the East and the West, facilitated by emerging social media and technological tools, creating a form of low-end globalisation (Yang and Xu 2017, 7).

This fan-led hybrid cultural globalisation starts from novels, audio drama, and cosplay. It disrupts heterosexual normality, resulting in more interest in a male-male relationship in higher-end media production beyond fandom. To transversality and verticality, Ying Yang and Yanrui Xu (2017, 16) use Chinese BL as an example to envision a promiscuous virtual space across time and place. Chinese BL is a sea that receives all rivers.

In Chinese mainstream online media, plenty of high-quality BL novel-adapted TV series are ready for shooting (Peipei 2020). It includes *Run Freely*, a school BL novel by Wu Zhe completed in 2017; *The Husky and His White Cat Shizun*, a fantasy BL novel by Meatbun Doesn't Eat Meat completed in 2018; and *The Case of Mr. Zhang*, an original historical BL novel by Da Feng Gua Guo published in 2011. It also includes *Sha Po Lang*, a famous steampunk historical BL novel published in 2020, and *Faraway Wanderers*, a historical BL novel completed in 2011 by Priest.

Chinese BL disrupts traditional cultural conflicts and restrictions between the sexual and non-sexual, private and public, online space and offline media, and fantasy and reality. It tangles with original male-male tradition, feminist and LGBT perceptions, and converges with Japanese ACGN culture, K-pop, western slash culture, and global sports culture. It creates an entanglement of multi-fandom transformative space. Zhou (2017) notes that Chinese BL blurs boundaries and creates a promiscuous virtual space that challenges norms and values.

### **2.1.5 Chinese Neutrosexuality**

Regarding discussing queerness, gender, and sexuality in contemporary mainland China fan studies, scholars investigating BL, cosplay, and androgynous idols from queer fan cultures in mainland China, Hong Kong, and Taiwan propose creating an alternative to the Anglo-American model of fandom studies. Eva Cheuk Yin Li (2017, 148) introduces the Sinophonic notion of neutrosexuality, which describes neutral gender or sexual identities in contrast to androgyny in Western contexts.

In the Hong Kong fandom context, the definition of normal and queer is challenged, and the notions of "normally queer" and "queerly normal" are provoked. Li (2017) states that these concepts are not just pure wordplays but illuminate a complex relationship and constant struggle on multiple aspects of fan events and works. The liminal space of negotiating queerness is crucial, and Chinese neutrosexuality desires to be queer by transgressing normality and paradoxically and concurrently being normal.

In her work, Li delves into how the HOCC (Denise Ho) fandom in Hong Kong dealt with the complex issues surrounding gender and sexuality before and after Denise Ho, a famous Cantopop singer and actress, publicly identified as a lesbian in 2012. Li argues that the fandom's negotiation of gender and sexuality reflects a more extensive cultural negotiation of queer and normative identities in Hong Kong. Before Ho came out, the fandom was characterised by ambiguity and subtext, where fans celebrated Ho's androgynous image and lively performances without explicitly referencing her sexual orientation. However, after she came out, the fandom became more overtly queer, with fans expressing support and admiration for Ho's courage. Despite this, Li (2017) notes that the celebration of queerness was often tempered by a desire to maintain a sense of normality and avoid challenging heteronormative cultural norms. HOCC fandom's focus on queer themes and its negotiation of gender and sexuality aligns with broader trends in contemporary Chinese-speaking queer fan cultures, which strive to transform normative gender and sexual boundaries and create new, more inclusive forms of cultural expression.

### **2.1.6 Transformative and Critical Fandom**

Transformative is a contradictory term that describes the necessity of complete change and the technological requirement of disruptive origination. Besides the technical meaning of the legal creation of new transformative works from copyrighted material, Alexis Lothian (2018, 371-372) calls for transformative digital humanities. Works made by feminists, queer activists, artists, and

media makers outside academia could significantly contribute to digital studies. Institutionalised academic works and following standards and frameworks must be destabilised and redefined.

From fandom as methodology, people feel fannish about practice-based academic research, and research practice networks operate as a fandom. Lothian (2018, 377) claims that devoting to this life must have an intense affective connection to the transformative object of fascination. Academic fandoms could mean more than departmental connections. From transformative to critical fandom, they believe embodied affections are based on theory and practice. A transformative and critical fandom considers collaboration and celebrates interpersonal and institutional conflict and contradiction (Lothian 2018, 389-390). A critical entanglement of research and practice must be created in multiple spaces that are not usually valued and regarded as scholarly.

### **2.1.7 Cao Fei: Zombie, Art and Fandom**

Using transformative and critical approaches to fandom practices, I will explore Cao Fei's fannish digital film work *Haze and Fog*, created in 2013, which draws connections between the TV show *The Walking Dead* and the video game *Silent Hill*. I will also introduce and compare it with the work of Qing Yan Jun, a Chinese media maker who creates BL shipping vids on the Chinese video-sharing website Bilibili and operates outside of academia.

Cao Fei's *Haze and Fog* is a 47-minute single-channel video. It is a new genre of zombie film in modern China that investigates people's collective consciousness living within the artist-defined magical metropolises (Wade 2013). The artist also claims her strong interest in subcultures, such as the online video game *Second Life* and cosplayers (Wade 2013, 58). The artist started with the TV shows *The Walking Dead* and *Silent Hill*. Rather than making intense, violent, and shocking scenes, Cao Fei examines various people's routines and daily rituals, from middle-class office workers in their neutral modern apartments to cleaners, real estate agents, prostitutes, deliveries, security and babysitters (Figure 2.1.1). Via cosplay and video game characters' skin and dress changing, the artist questions the current understanding of the real experience and fantasy inside this magical metropolis of Beijing.





Figure 2.1.1. Cao Fei, *Haze and Fog*, still image shows the reworking of zombies under Chinese cultural context, 2013. Eastside Projects and Vitamin Creative Space.

Most of the scholarly research on *Haze and Fog* fails to describe and elucidate the specific connections and reworkings to the artist's fandom interest, including the generic idea of video games, cosplay, and zombie films. It is only stated that Cao Fei repurposes zombies from zombie TV films and video games, which is more of a metaphorical representation (Bajaj 2014). The detailed connection and mediation of zombie concepts from Western to China and different cultural contexts of reusing the zombie type remain unquestioned. For *Haze and Fog*, an art project made in China in 2013, most essays, writings, and interviews came from contemporary art institutions such as Tate Modern in London, UK, Eastside Projects in Birmingham, UK, and Vitamin Creative Space in Guangzhou, China. There was still a considerable gap in establishing substantial communication between art and fandom. *Haze and Fog's* artistic concept and fandom practice remain initial and metaphorical. Maud Lavin (2019, 108-121) argues that Cao montages Eastern and Western aesthetics in a video-directorial role and as a prosumer. She uses the stagecraft of the zombie as a transnational symbol among internationally exhibited artistic, subcultural communities, and mass culture industries. As a well-known Chinese artist, Cao Fei has already triggered an essential art practice and conceptual register to approach specific types and genres within TV and game fandoms.

A transversality and verticality approach is necessary to study and practice art and fandom. Transversality highlights related technologies, such as texts, images, videos, audio, game mods, performances, and VR/AR spaces. Verticality highlights the connections and overlaps of multiple

community spaces of varying types and non-hegemonic cultural levels. Rather than simply repurposing and reworking aesthetics, a fandom-art practice can create more affective communication beyond specific art circles and established institutions.

### 2.1.8 Qing Yan Jun: Vampire and Same-Sex Shipping

In art and fandom practices, Owen Parry (2019, 127-128) defines shipping as a method to juxtapose new romantic relationships between characters, celebrities, or objects. These unofficial ships prompt speculative, performative, and archival world-making practices (Parry 2019, 129). Derived from the word relationship, shipping as transformative works includes memes, illustrations, vids, and fanfiction published on various online sharing platforms and social media such as Twitter, Tumblr, YouTube, Archive of Our Own (AO3), and especially Bilibili and Weibo in mainland China. Via shipping, art and fandom can create a space for both knowledge production and "worthless knowledge" beyond a given neoliberal and heteronormative context. It encourages and embraces excessiveness, intangibility, and affective pleasures of art and fandom (Parry 2019, 146).

Understanding ACGN and fandom as transformative and critical, Qing Yan Jun, a Chinese same-sex shipping vidder on Bilibili, will be introduced. Since early 2021, Qing Yan Jun has been a pretty famous uploader within the shipping fandom and has 289,000 followers on Bilibili. Since 2014, she has made more than 100 shipping vids ranging from the original mainland Chinese genre, Hong Kong film genre, and Euro-American film genre. They cross over historical and contemporary characters with BL, female-female, and poly shipping.

Cao Fei and Qing Yan Jun work with undead characters in their fandom practices. While Cao Fei's work deals with the Western notion of zombies, Qing Yan Jun's 3-minute BL shipping vid from 2020, titled *Dracula/Lam Ching-ying: My Only True Love Is The Greatest Daoist Priest*,<sup>19</sup> is based on the Western idea of vampires, Chinese vampires known as Jiangshi, and Daoist priests (Figure 2.1.2).

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<sup>19</sup> This BL shipping vid can be watched from Bilibili: <https://www.bilibili.com/video/BV1v7411i74y>. Most of Qing Yan Jun's vids can be accessed from Bilibili Personal Space: <https://space.bilibili.com/2386794>.



Figure 2.1.2. Qing Yan Jun, *Dracula/Lam Ching-ying*, the video thumbnail, Lam Ching-ying (left) and Dracula are shipped. My only true love is the greatest Daoist priest, written in Chinese in the middle of the image, 2020.

The character Dracula is sourced from the 2020 TV series *Dracula*, starring Claes Bang, while the Daoist priest character who performs a spell to control or destroy Jiangshi is sourced from the Hong Kong film *Mr. Vampire* in 1985 and various Hong Kong actor Lam Ching-ying featured Jiangshi films during the 1990s. This distinctive BL shipping vid speculates on the aesthetic and affective encounter of being a vampire and fighting with vampires. An eccentric romance is triggered between a seemingly oppositional pair beyond the human-centric fantasy world. An ideal Western undead creature is set against a Chinese mythological Daoist figure, half-human, half-immortal.

In Qing Yan Jun's (2020) own words, a heartless vampire was deeply attracted to the Daoist priest who destroyed the vampire. However, the vampire learned the story that the Daoist priest does not have a heart either. "My only true love is the greatest Daoist priest. One day, he will come and burn me with his peach wood sword".

Compared to Cao Fei's *Haze and Fog*, Qing Yan Jun's *Dracula/Lam Ching-ying* makes concrete and intimate inquiries into a multi-cultural, multi-fandom circle from the connection between art and fandom. It uses Dracula, Jiangshi, the Daoist priest from a new mainstream Western TV series and nostalgic 80s Kong Hong horror films. Adding a popular Chinese-Korean song, *Endless Love*, by Hong Kong actor Jackie Chan and South Korean actress Kim Hee-sun, Qing Yan Jun's shipping

vids have established a BL fandom space to explore affective communication, a posthuman love of conflict and contradiction, myth and undead.

Artist Cao Fei and media maker Qing Yan Jun's video works present a clear development of research practice between art and fandom. Qing Yan Jun closely engages with the proposed conceptual register of a transformative, critical, multi-fandom virtual space. Research and practice with a multi-referential and multi-temporal physical-virtual fandom space should be created instead of solely using shipping as methodology. Establishing an alternative ethico-onto-epistem-ology of game and fandom will be subsequently investigated.

## **2.2 Game-fandom: Game Studies and Fan Studies**

Queerness and video games share a desire to envision alternative ways of being and create space for resistance through play (Ruberg 2019, 1). From the research of video games and queerness to queer games and avant-garde, Bonnie Ruberg (2020, 15) argues that if queer games are avant-garde, video games must be an art form, which will trigger debates between video games and the ontologies of art. I propose the concept of game-fandom as a creative approach to merge the domains of game studies and fan studies within the context of ACGN. Configuring the transformative practices and gestures between video games and fan studies will also prompt creative productivity beyond simply consuming gameplay and text (Hilburn 2017). Based on queer games, combining game studies and fan studies helps to provoke transformative gameplay and further comprehend the ontology and representation embedded in alternative game worlds, stories, and experiences. Katherine Isbister (2017, 17) shows that various genres and ranges of emotional territory are also emerging in video games, indicating an affective and transformative approach to queer game studies and fan studies.

Unlike the neoliberal logic that a "diverse" representation of players creates a potential consumer market and increases profits, a more conceptual register in queerness should be investigated. An entanglement of game-fandom must be established to distort conventional gamespaces and rules by reconfiguring and highlighting embodiment, desire, and intimacy. According to interviews with queer game makers about their lives, inspirations, and game-making contexts, Ruberg (2020, 19-22) introduces the notion of queer games avant-garde. It has the chaos of identity, experimenting on affection, experience, and intimacy, constantly questioning empathy, seeking its alternative, and is essentially intersectional.

### 2.2.1 Queer Game Avant-Garde

In queer game avant-garde interviews, the game *Curtain*, developed in 2014, encourages the player to search for an abusive relationship in a two-women apartment (Figure 2.2.1). The aesthetic of the gamespace, UI, and multiple game paces are messy, expressive and highly intense, avoiding tokenism and reductionism and complicating the gameplay (McGee 2020, 68-70). In 2013, Andi McClure and Michael Brough made a quasi-game called *Become a Great Artist in Just 10 Seconds*, breaking the boundaries of the game and abstract art (Figure 2.2.2). Andi McClure (2020, 74-75) embraces abstracted embodied experiences rather than directly approaching gender and sexuality, celebrating bugs, accidents, and mistakes as opportunities for an experience in an abstract gamespace.



Figure 2.2.1. Llaura McGee, *Curtain*, video game, 2014.



Figure 2.2.2: Andi McClure and Michael Brough, *Become a Great Artist in Just 10 Seconds*, video game, 2013.



Figure 2.2.3. Naomi Clark, *Consentacle*, cards from the tabletop game, 2014.

Naomi Clark developed a non-digital-based tabletop role-playing game called *Consentacle* in 2014, which envisions a posthuman affective and sexual encounter between humans and aliens (Figure 2.2.3). During her interview with Ruberg, she argues that the fundamental and theoretical aspects of queerness and transformation should be interrogated beyond the notion of representationalism. Instead of gender, sexuality projection and autobiographical gameplay, more in-depth transformative gameplay must be studied to erupt the existing queerness in games (Clark 2020, 104-105).

## 2.2.2 Transformative and Evolutionary

Based on my game studies lecturing experience in Chapter 1 Introduction, a balanced understanding of queer game avant-garde and transformative game design is needed. James Sweeting (2020) introduces the evolutionary change in the game industry instead of proposing a new term focusing on queerness and avant-garde art forms. He demonstrates that the mainstream industry views revolutionary change as optional based on multiple games and various console generations over the past decade. From indie game design and transformative gameplay, the concept of style, genre, structure and graphical quality could significantly trigger and support a continuous evolutionary change rather than mask the lack of change in the mainstream industry. An evolutionary framework of game-fandom balances a radical notion of queer game avant-garde.

### **2.2.3 Llaura McGee: Visual Novel, Erasure and Other Dimension**

With an intersection of queer game avant-garde and evolutionary game-fandom, the interactive visual novel *If Found*, published in 2020 by Ireland-based studio Dreamfeel, headed by queer artist and game maker Llaura McGee, needs to be examined.

After McGee published the game *Curtain* in 2014, she started to work with more people and had a more extensive scope to develop *If Found* in 2015. This visual novel tells a story of a transgender girl, Kasio, who burns out of university and returns to her home place on Achill Island. It fulfils the overarching narrative and the characters of the West of Ireland. From conflicts with family and relationships with friends like Colum, Jack, and Shans, Kasio must go through these challenges. Christopher Byrd (2020) argues *If Found* has created a new standard for the visual novel genre. McGee aims to capture the moments various players could interpret and read differently based on interface and aesthetic design. One essential mechanic, erasure, is demonstrated to never clearly remove anything in a gamespace, possibly offering a seeing-through to other dimensions (Wright 2020). McGee reflects on her and the whole studio's identities and expresses a positive approach to queer, LGBTQ game communities and other game-fandoms. *If Found* encourages players and community members to play and make a game because games are for people; anyone can make them beyond the boundary of queerness.

*If Found* received a Games For Impact nomination at The Game Awards due to its pro-social message. The protagonist, Kasio, was not initially designed to be transgender, indicating a vast, unmapped territory for less game-like projects (Figure 2.2.4). The nomination signifies indie games' return to mainstream awareness, similar to the 1990s and early millennium (Valentine 2020).



Figure 2.2.4. LLaura McGee, *If Found*, video game, 2015. Dreamfeel.

The development of *If Found* by LLaura McGee and her studio Dreamfeel showcases a method and framework for creating and designing narrative, scene and gamespace. From scrubbing away and uncovering, fascinating transformative experiences are revealed. The game's affective, vulnerable, and erasable interactable space transcends the institutionalised labels of LGBTQ and queer games and offers transformative experiences. The game-fandom entanglement is an area that needs to be explored further. *If Found's* evolution of the approach to research and practice between game and fandom offers an essential avenue for exploration.

#### **2.2.4 Flatgame**

To create accessible and easily understandable gaming experiences in game-fandom, based on itch.io,<sup>20</sup> LLaura, with indie game designers Mark Wonnacott and Siobhan Gibson, provoke the notion of flatgame through a guide of flatgame making and the Flatgame Annuals. Flatgame (McGee, Wonnacott and Gibson 2016) is argued to concentrate on developing a game as the rawest combination of movement, art and sound. LLaura also writes a manifesto, "A Recipe for Flatgames" (Figure 2.2.5). Flatgames are games created with your hands, and the affections are highlighted and formed by movement responding with art and sound (McGee 2016). The game should simply feature movement and animation, with no other interactions, especially no collisions. It is formed as artwork through text, narrative, and sound effects, which always break the rules of

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<sup>20</sup> Itch.io <https://itch.io/> is a website for users to host, sell and download indie games.



making the classic game in the engine. Flatgame goes beyond the traditional 2D game and represents an approach to game design that highlights movement and art in a raw yet impactful way.



Figure 2.2.5. Llaura McGee, A Recipe for Flatgames, manifesto, 2016.

The game developer Stephen Murphy (2018) indicates that flatgame represents a collection of personal groupings and independent effects rather than standard game mechanics. The collections can be flattened into single moments of subjective experience. The "flatness" tends to separate from an individual perspective, and the concept of a singular coherent viewing position implicit in perspective gameplay is challenged. Importantly, flatgame encourages the player to decentre from the point of mechanical interaction and refuse to point any visual primacies in the gamespace. Non-player-centred collections are scattered across the gamespace (Murphy 2017), always becoming or being players, personas, characters, technologies, things, and animals. The flatgame development also indicates posthuman experiences instead of classic encounters and interactions between player and object. The flatgame approach emphasising decentralisation and posthuman performative experiences can enhance the game-fandom entanglement.

### **2.2.5 Game-fandom Space**

Game studies focus on aesthetic, cultural and communicative aspects of video games. As a real-time platform, video games combine and interact with text, audio, images, animations, video, and 3D objects. Fan studies examine fans and fandom with a highly interdisciplinary field of interaction with a "text". The "text" ranges from literature, film, music, television, or other media and people. Although the idea of transformative is used in both game studies and fan studies, because of differences between real-time multimedia and conventional media, the two fields remain relatively distinct to examine fans and gamers correspondingly. It is crucial to bridge and form a game-fandom entanglement that offers a new perspective of consuming and experiencing gameplay and source text (Hilburn 2017, 45). Hilburn only provides a critical overview to address the issue of transformative gameplay. A game-fandom entanglement needs to be expanded towards gamespace and narrative space.

### **2.2.6 Quadrazid: Speedrunning and Narrative Spaces**

Speedrunning, one of the genres of play-through in the video game *Half-Life*<sup>21</sup> released in 1998, needs to be presented explicitly from a gameplay video *Half-Life in 20:41* by quadrazid, CRASH FORT, coolkid, pineapple, YaLTeR, Spider-Waffle and FELip in 2014.

Speedrunning means trying to beat a game as fast as possible without cheating (SpeedDemosArchive 2020). Game fans have the distinctive ability to play the game and professionalise the gameplay in alternative ways. Quadrazid and other gamers spent nearly four years scrupulously planning, crafting and executing this run based on the wildest gamespace expectations. They use heavily scripted movements to jump, duck and turn in the gamespace. They penetrate and distort standard game levels substantially. This speedrunning gameplay warps and restructures a highly abstract, intimate and dizzily personal narrative space (Figure 2.2.6). Quadrazid claims speedrunning is his starting point for playing and becoming a gamer. Playing games is not just for fun; the connection between game and speedrun is crucial (SourceRuns 2012).

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<sup>21</sup> The Half-Life series is a critically acclaimed and influential first-person shooter game franchise. It has a large and dedicated fandom that has created fanfiction, art, mods, and speedrunning records. The games' innovative storytelling, physics, and gameplay mechanics have influenced the gaming industry and culture as a whole.



Figure 2.2.6. quadrazid, CRASH FORT, coolkid, pineapple, YaLTeR, Spider-Waffle and FELip, *Half-Life in 20:41*, speedrunning video, 2014.

Speedrunning as practice and community of metagame provides an analysis of space and speed and introduces games as narrative spaces. Speedrunning informs an unrestricted movement between gameplay and fandom practices, a re-curated gamespace of accidents and rules (Scully-Blaker 2016, 93-95). The player regains a sense of identity and uniqueness within a divorced transformative game-fandom world.

### 2.2.7 Transformative VR Gamespace

The Organization for Transformative Works (OTW) considers fanworks, such as real-person fiction, anime, comics, music, and vidding, as transformative. Historically, transformative fanwork from female culture has sparked new cultural identity expressions within fandom beyond mainstream media. Game-fandom combines game studies and fan studies, and multiple transformative works intertwined with video games and fandom encourage new creative spaces for producing and reproducing multiple cultural identities.

Quadrazid's speedrunning work *Half-Life in 20:41* provides a perspective to question and refine the notion of being transformative. A transformative gamespace examines, produces, and consumes narrative, structure, technology, and personality. The game-fandom entanglement also explores a space between physical and virtual.

*Half-Life: Alyx*, a VR first-person shooter game set before the story of *Half-Life 2*, was developed and published by Valve in 2020. With the increased sales of VR equipment, *Alyx* is viewed as a watershed moment in revitalising the generic VR market. Based on VR game analysis through graphs, the first-person system, interface, controller, interaction technology, sound, and stories, Donghyun Kwon (2020, 282) has developed a conceptual framework combining the notions of presence and immersion. Regarding VR and futurity, Adan Jerreat-Poole (2022) analyses *Alyx* as the fantasy of hyper-bodiedness and the myth of digital disembodiment. Similarly to Quadrazid's speedrunning work *Half-Life in 20:41*, Adan arouses the desire to transcend the physical body through digital avatars of pain, suffering, spatiality, and unpredictability. In order to design a feminist and ethical future, the turbulence of embodied bionic encounters must be configured and reimaged. Examining a transformative VR gamespace in a highly young VR game industry is urgent. Such a game-fandom entanglement will highlight space-making between physical and virtual. By rethinking presence and immersion, hyper-bodiness and disembodiment should be demonstrated.

### **2.2.8 Theo Triantafyllidis: Architecture, Art and VR/AR Gamespace**

Considering new creative space for producing and reproducing cultural identity in game-fandom, the artist Theo Triantafyllidis, born in 1988 in Athens, Greece, needs to be examined for his novel intersection between architecture, art and VR/AR gamespace.

In his art projects, Theo Triantafyllidis merges physical and virtual spaces through performance, VR/AR experiences, games, and interactive installations, creating immersive environments and stimulating spatial experiences. Trained in architecture, his rational and structured approach contributes to his complex world systems. Triantafyllidis frequently mediates between art and games and believes that video games remain a relatively new medium, particularly in spatiality and technology.

Theo Triantafyllidis (2016) raises whether our bodies are still necessary today, exploring the unknown beauty of body modification and its creative relation to sexuality. He speculates on a transformative body's alternative materiality, texture, colour, and functionality.

In physical and virtual space, performance and game experience, the artist created *Anti-Gone* in 2020. It is a feature-length livestream of mixed-reality experience, partly theatre, partly Twitch.tv. The avatars Spyda and Lynxa wear VR headsets and motion capture suits, juxtaposing with a

rebellious and excessive virtual world (Figure 2.2.7). Triantafyllidis adapted Connor Willumsen's graphic novel *Anti-Gone* into a game engine during the design process. They reappropriated the character design workshop based on the role-playing game *Dungeons and Dragons*. With the collaboration between Matthew Doyle and Triantafyllidis, a mixed-reality gamespace, they produced new gestures that established a shared experience for various audiences, from live, online, to offline (Ong 2019).



Figure 2.2.7. Theo Triantafyllidis, *Anti-Gone*, the performance and game experience, 2020.



Figure 2.2.8. Theo Triantafyllidis, *Nike*, a digital performance supported by motion capture, mobile screen and gaming PC, 2021.

In a group exhibition, *HYUNDAI x Rhizome of the New Museum: World on a Wire* at Hyundai Motorstudio Beijing in China, Triantafyllidis's augmented reality sculpture *Nike* and my mixed media installation *Dungeon: Maximalism HyperBody* are shown (Conor 2021). *Nike* uses queered Ork as an avatar, referred to as the fictional universe of Warhammer or the Orc in the *Warcraft* series. *Nike* creates a digital performance supported by motion capture, mobile screens, and gaming PCs. The exhibition space and the artist's virtual studio are overlaid (Figure 2.2.8). An Ork Aesthetic is demonstrated between video game tropes and an artist's performance under purposeful misappropriation of 3D modelling and materiality (Onassis 2020).

Triantafyllidis's practices intersect with art, architecture, games, performance, and VR/AR experiences. It demonstrates a new standard for accessing a shared, mixed-reality, multi-disciplinary, transformative game-fandom space. It is a physical, virtual space for multiple audiences and fans from live, online, to offline. A concept of play-game reconfiguration in physical-virtual space is further reviewed, considering the avatar and character as the player's body.

## 2.3 Theoretical Framework

### 2.3.1 Intra-actions

Only a few publications in game studies focus on posthuman approaches (Bogost 2010; Jessen and Jessen 2014; Wirman 2014; Westerlaken and Gualeni 2016; Fizek 2018). Theo Triantafyllidis' practices have established a mixed-reality game-player performance. Based on a game-fandom entanglement, an intra-action of player-game needs to be clarified in a posthuman performative approach. Intra-action replaces interaction instead of recognising agency as an inherent property of an individual or human. Intra-action is a dynamism of forces (Barad 2007, 141) that all specified play-game objects constantly exchange, diffract, influence, and work inseparably.

In game studies, a player-game object provides an onto-epistemological framework for analysing games in real-life and everyday spaces from a posthumanist performative perspective. Within such a framework in game-fandom, the agency is stressed over the traditional approach of defining and representing subjects (game players, spectators, and fandom members), objects (games, gameplay, fan practices, and fanworks), bodies (virtual and physical avatars and NPCs), and environments (virtual and physical gamespaces). Agency encompasses the making and being of

players, fans, NPCs, personas, gamespaces, fandom spaces, game engines, VR devices, texts, images, videos, 3D scans, 3D models, and technical and technological tools. To understand the friction and glitches between multiple fan practices and gameplays, a concept of intra-action in game-fandom must be proposed.

Karen Barad (2011, 31) argues that the posthumanist point is not to blur the boundaries between humans and nonhumans but to comprehend the materialising effects of specific ways of making boundaries in between. The seemingly independent entities with sharp edges do not imply an absolute exteriority relationship. For example, like the diffraction patterns of water revealing the indefinite nature of boundaries, displaying shadows in light areas and bright spots in dark areas, the relation of the natural and cultural is a relation of exteriority within (Barad 2007, 93).

Indefinite boundaries between humans and nonhumans characterise the world of ACGN fandom and gaming communities. The focus is on practices, doings, and actions, and the boundaries between nature and culture, human and nonhuman, are being reconfigured. Intra-action goes beyond the inherent property of an individual or human, as it involves a dynamism of forces that requires multiple game-fandoms to continuously exchange and diffract, influence and work inseparably. Game-fandom is developed as an intra-action of culture, technology, and affection in ACGN of fan and game studies.

Intra-action is a counterbalance to the interaction, and it indicates the materialisation of agencies traditionally referred to as "subjects" and "objects," "bodies", and "environment" through relationships. Intra-action argues that distinct bounded agencies emerge through this relating rather than before (Prophet and Pritchard 2015). Such an agential realist framework demonstrates a material world of game-fandom; the combinations of fanwork, gameplay, VR space, fandom members, and fictional characters are a constant process of becoming or being. Therefore, game-fandom agents are constantly emerging.

With a posthuman ethical approach, the human subject is no longer considered at the centre of reality. The player and the game object constantly reconfigure each other, and this conditioned form will be dissolved without this connection (Janik 2018, 7). Through the process of intra-action, a player character might be controlled by the player. In the next minute, unexpected actions might also happen, and a player as a dynamic subject shifts to a passive observer (de Petris and Falk 2017, 3). The friction between player-game reconfigurations forms gameplay. Fanworks are clear examples of the specific intra-actions of humans and nonhumans forming the player-game object

(Janik 2018, 6). A player-game object provides an ethical-onto-epistemological framework of games emerging in real-life and everyday spaces.

Between culture, technology, and affection, multiple transformative practices intra-acting of physical and virtual spaces in game-fandom need to be further elaborated based on the notion of cosmotechnics from Yuk Hui.

### **2.3.2 Cosmotechnics**

Yuk Hui (2017) introduces the concept of cosmotechnics. Hui uses cosmotechnics to demonstrate technology's limits and redefine the relation between cosmology, morality, and technology. The Greek word "cosmos" refers to a well-ordered universe. Simultaneously, the idea of the cosmos alludes to what is beyond the Earth. Morality is first and primarily concerned with the human domain. Cosmotechnics is the union of moral and cosmic order through technical activity. This relation has disappeared in our current globalised technological culture of the Anthropocene. Different cosmotechnics, ranging from ancient Indian technology, Chinese technology and Amazonian technology, should be further analysed and re-learned through cultural specificities and alternative epistemologies. Cosmotechnics should overcome the established oppositions of nature, culture, and technics. By opening a quest for cosmotechnics, technology can be resituated in a broader reality to enable and constrain it concurrently.

In the book *The Question Concerning Technology in China*, Yuk Hui used cosmotechnics in China to explore the ruined or damaged traditional knowledge during the modernisation process. From a philosophical and epistemological perspective, Hui seeks the potential effects and contribution of Chinese cosmotechnics to echo the problem and emerging global technological development. He proposes that specific Chinese "relatively vulnerable" indigenous ontologies could join and remix the dialogue with Western technology and metaphysics (Hui 2017, 20). Within different ACGN and fandom communities, the cultural and technological understanding from fandom members and fanworks' prosumption will be vital to examining, nurturing, and developing particular "relatively vulnerable" indigenous ontologies, as Hui proposed.

Yuk Hui argues that developing a distinctly Chinese technology philosophy that responds to Heidegger's challenge while rejecting the anthropological universality of technics and technologies is critical. In China and the broader context of Asia, it is shown that traditional metaphysics and moral cosmology are deracinated. Cosmotechnics tries to reconfigure the traditions and become



compatible with Western science and technology. However, a new approach to thinking and practising technologies must be demonstrated. It is fundamental to redefine the relationship between humans and the cosmos concerning technology in China that concurrently redefines cultures and natures. Rather than simply engraving Chinese philosophy within the technology via "spiritual", "superstition", or consumer-oriented "self-improvement", the cosmos of metaphysics and technologies needs to be re-appropriated, complicated to conquer modernity (Hui 2016, 298-301). It is essential to create a global philosophical and epistemological project. It resists a conventional time-axis of natures, cultures and technologies to generate new practices and knowledge.

For the theoretical framework, bridging Karen Barad's posthumanist intra-actions with Yuk Hui's philosophy of technology cosmotechnics is an alignment as they both highlight the complex entanglement of elements in shaping reality. Barad's intra-action acknowledges that objects, humans, and concepts do not pre-exist but emerge through reconfigurations. This notion resonates with Hui's cosmotechnics, which illustrates technology's onto-epistemological role in forming diverse cultures. By leveraging these theoretical frameworks, we can more holistically comprehend how technology - particularly VR gamespace - and culture influence and reshape each other. This integrated perspective encourages us to think beyond dichotomous distinctions and recognise the network of relations and mutual constitutions embedded in game-fandom practices.

## **2.4 Autoethnographic Writing and Personal Reflections**

Briony Hannell (2020, 6) recently argues that the structure of the fan studies method cannot be limited within the boundaries of queer contexts. A game-fandom practice engaged with personal, subjective and affective could evolve an epistemological and methodological framework through Barad's posthumanist principles and Hui's cosmotechnics. Using autoethnography can help conduct material-discursive practices in game-fandom.

Through autoethnographic writing, I aim to reflect on and diffract my position of enunciation. This reflection must be situated within a multi-referentiality of gender, race, ethnicity, class, nationality, and sexuality, as highlighted by Nina Lykke (2014, 10-15). Combining digital ethnography and autoethnography invites readers to situate themselves as both fandom members and cultural outsiders, which can encourage them to complicate gender and explore blind spots and intentional fluid ambiguities.

Game-fandom is a collaborative practice in communities that celebrate intervention and manipulation. Unlike conventional scholarly writing, my autoethnography seeks a more personal, creative, and adventurous approach accompanied by practice-based writing and making. In "HyperBody", autoethnographic writing intersects with interviews, shipping dialogues, Boys' Love (BL) novels, and manifestos. The autoethnographic practices in the VR game engine constitute a collective and transformative collaboration between the fandom members and me.

From an ethical approach to archives in fan studies, situatedness is highlighted. As an aca-fan, the incompleteness of the affects of the archive needs to be acknowledged. A partial, situated, and responsible approach to fan archives should be acclaimed from a self-reflexive angle in an ethnographic and autoethnographic perspective instead of an objective and impartial presentation (Jansen 2020, 6).

Game-fandom allows audiences and players to reflect on their knowledge production within a gamespace, an ethico-onto-epistem-ology that considers the entanglements of ethics, knowing, and being needs to be proposed.

#### **2.4.1 Intersectional Autoethnography**

Regarding gender futurity, intersectional autoethnography is introduced. This approach examines gender complexities to race, sexuality, geography, spatiality, community, and education. Intersectionality emphasises the combined impact of race, class, gender, sexuality, and other social identities and lived experiences. It prompts a continuous reimagination and expression of bodies and gender identities. Intersectionality and autoethnography affect how we understand narrative and how our bodies are affected. To establish an intersectional praxis, it is necessary to prioritise narrative fidelity, cohesion, self-reflexivity, and personal connection (Johnson and LeMaster 2020, 6). Striving for a shift in research and praxis can help inform gender futurity.

The autoethnographic writing utilised in this research is intersected and disrupted by various creative elements such as shipping dialogues, manifestos, and materials from interviews and my practices. The "HyperBody" VR gamespace serves as both the location where the research is conducted and the medium through which it is shared. It aims to prompt audiences, players, and research participants to reflect and diffract with their positions in knowledge production. Players often transform into collaborators, turning the research process into a portal for co-creation.

## **2.4.2 Spatial Archive**

Developing a writing and practice approach that embeds digital ethnography, ACGN, and transformative fandom practice is needed. Autoethnography addresses the vital relationship between making and writing as a process and product that celebrates the differences in reviewing the subject matter of social science (Ellis, Adams, and Bochner 2011). Adding spatiality to autoethnography proposes a physical-virtual space within the conventional systematic personal experience analysis method. The "HyperBody" includes a written thesis and a VR game, which forms a spatial archive of digital ethnography and autoethnography. It expresses an inseparable link between writing, method, methodology, epistemology, ethics, and politics. The making and writing in spatial autoethnography seek alternative analytical and accessible work within fandom members and academia.

My architectural background, introduced in Chapter 1, informs my approach to creating a spatial archive of digital ethnography and autoethnography. My architectural diploma from the AA (Architectural Association School of Architecture) encouraged me to take particular routes through the units and projects that set the foundation for my future architectural growth, interests, and ambitions. I participated in "Unit 7", which investigated an architecture conditioned by the technological process of search, emphasising approximation in design and a posthuman performative approach. David Greene and Samantha Hardingham's architectural projects and writings provide concrete examples to pursue and develop my design approach, which prioritises exchange and discussion, dissolving boundaries between human and nonhuman, natural and built environment, architecture and landscape. My architectural vision provides an alternative design between nature, culture, and technology, fundamentally questioning the conspicuousness of architecture itself, which will inform the creation of the spatial archive.

## **2.5 Chapter Summary**

The literature review explores the topics of ACGN and fandom, game studies, and fan studies. It discusses the concepts of transversality and verticality through the relationship between fandom and practice-based research. A physical-virtual fandom space is found to be transformative and critical by examining specific fandom practices from media makers and artists. The review also introduces and examines game-fandom entanglement in contexts such as queer game avant-garde, transformative and evolutionary game-making, and mixed-reality exhibitions.

The literature review elaborates on the theoretical framework by discussing the player-game concept based on Karen Barad's posthumanist intra-action and Yuk Hui's notion of cosmotechnics. It provokes a new vision of intra-acting culture, technology, and affection. An ethico-onto-epistemological framework of game-fandom cosmotechnic is developed to bridge the gap between fan and game studies. I highlight the importance of continuously reconfiguring and making material-discursive boundaries and exclusions within "HyperBody" gamespaces. The review concludes with autoethnographic and intersectional approaches, recognising iterative reconfigurations between ACGN fandom and situatedness. My architectural experience informs a spatial archive in the "HyperBody" VR game.

To continue developing the game-fandom entanglement and creating "HyperBody", further development is needed in the Methodology chapter to fully explore the diffractive methodology structure.

### 3. Methodology

The "HyperBody" introduces a diffractive methodology structure with an ongoing differentiating context between fan studies and game design. A diffractive game-fandom will lead us to question and transform the traditional Western philosophical dualistic self/other paradigm and the debates on subjectivity, identity, and difference within the distinct properties and bounds of fan studies and game studies.

Firstly, how to draw upon Yuk Hui's cosmotechnics and Karen Barad's posthumanist approach to facilitate the creation, description, and evaluation of "HyperBody" is clarified. Secondly, the methodology for creating and describing the "HyperBody" is introduced. Making cosmotechnics of game-fandom in the VR gamespace, the distinct bounded methods of modding, crossover, shipping, non-collision physics, bills of quantities, digital ethnography, and technical game design emerge through these relations (Table 3.1). Furthermore, the methodology for evaluating the "HyperBody" is elaborated. An evaluation framework for unconventional VR productions uses mixed methods. It blends quantitative and qualitative data across three stages: VR gameplay, group discussion and in-depth interviews (Table 3.2). The nuanced connections between these methods are demonstrated.

Method	Research and Practice Tools			Category
Practice-based research	Fandom: Modding, crossover, and shipping	Indie games: Non-collision physics	Architecture: Bills of quantities (Appendices F and G)	Creative
Digital ethnography	Interactive interviews	Collaborative practice	Feedback loop	Qualitative
Text, image, video, mesh, texture, scale, collision, fog, and audio				Technical

Table 3.1. Summary of the methods for creating and describing VR gamespace of "HyperBody".

Dependent Measures	Stages		Research Tools	Category	
Behaviour	1	Offline VR gameplay workshop	During the VR gameplay	Navigation paths and hotspots data, gameplay footages	Quantitative and qualitative
Reflection			Immediately after the VR gameplay	Questionnaires	Quantitative
Non-standard design choices on cultural context, game mechanics, and VR navigations	2		Group discussion	Ethnography and thematic analysis	Qualitative
Audio-visual scenarios, situatedness, queering notions	3	Online In-depth interviews (post-VR gameplay)		Thematic and discourse analysis	Qualitative

Table 3.2. Summary of the metrics for evaluating VR gamespace of "HyperBody".

### 3.1 Making Cosmotechnics through Intra-actions

Based on Barad's agential realist context, this ethico-onto-epistem-ological framework for creating, describing, and evaluating the experimental VR game will make iterative (re)configurations of culture, technology, and affection. The concept of ethico-onto-epistem-ology refers to the inseparability of ethics, ontology, and epistemology while engaging in knowledge creation, cultural practices, and the virtual space itself and its members, players, and objects - both human and nonhuman beings co-constitute the world intra-actively (Barad 2007, 90).

Cosmotechnics and intra-action are essential to establish the methodological framework for game-fandom. To access multiple ACGN fandoms, I propose using Hui's cosmotechnics, specifically in Chinese online fandom, to explore the presumption within a socio-political context. From an epistemological perspective, the goal is to understand the potential effects and contributions of Chinese fandom cosmotechnics in addressing emerging gender identities and sexualities within cultural and technological development. By studying cosmotechnic game-fandom, I propose that Chinese "relatively vulnerable" indigenous ontologies can participate and remix the dialogue with Western fandom and gaming communities to better understand culture, technology, and affection.

The proposed methodological framework involves making cosmotechnics through intra-actions in game-fandom, which supports creating, describing, and evaluating the experimental VR game "HyperBody". Practice-based research (modding, crossover, shipping, non-collision physics, bills of quantities), digital ethnography, and technical game design are included for creation and description. For evaluation, iterative methods are proposed, including the VR gameplay workshop

and in-depth interviews. The framework recognises that these practices have no set borders and constantly exchange and diffract, influencing each other and working inseparably.

Barad's ethico-onto-epistem-ology is a powerful integration of three critical aspects of research: ethics, ontology, and epistemology. This approach emphasises that the nature of being, the process of knowing, and moral considerations are interdependent. Barad introduces the concept of intra-actions, which suggests that entities do not exist independently but instead emerge through mutual shaping. This perspective shifts from individualism to acknowledging the importance of relationships, entanglements, and mutual shaping. When applied to the methodological framework, creating cosmotechnics through intra-actions in game-fandom highlights the interconnectedness of the self, collaborator and works within material-discursive intra-actions.

The methodology is not solely focused on constructing a VR game but also emphasises the importance of being responsible for the implications of these intra-actions. It involves creation, description, and evaluation methods. This approach allows for immersion in the process while shaping the outcome and being shaped by it. The lack of fixed borders in "HyperBody" practices aligns with Barad's view of the inseparability of entities.

These methods provide a sensitive understanding of the ongoing differentiating nature of culture, technology, and affection. This diffractive approach recognises the interconnectedness of the self, collaborator, and works within material-discursive intra-actions of game-fandom. It acknowledges no difference between subject and object, and the approach is not objective. The aim is not to provide an undistorted mirror image of multiple ethico-onto-epistem-ologies but to promote accountability and responsibility towards the cosmotechnics of game-fandom entanglements in which we are all involved.

### **3.2 Conducting Practice-based Research**

Based on Linda Candy's (2006, 1) definition, practice-based research is an investigation that generates new knowledge through practice and its outcomes. "HyperBody" is a practice-based research project that creates, exhibits, and distributes material-discursive practices using various media technologies, such as 3D scanning, VR, and game engines. Theory and practice are intrinsically connected in ACGN and fandom, and that theory should be contextualised rather than studied in abstraction. While practice-based art research has been prevalent in fine arts, performing arts, and creative writing in the UK, Australia, New Zealand, and Scandinavia, there are

only a few practice-based VR game and human-computer interaction research projects.

"HyperBody" aims to establish a practice-based methodology contributing to interdisciplinary art, architecture, computing, and digital cultural networks. I aim to articulate the experiments to a wide range of audiences within and beyond fandoms, not just expert practitioners, which should lead to a larger project within a context of complex risks and discursive systems (Vaughan 2017, 38).

Joyce Yee (2010, 16-17) encourages researchers to establish a structure and format of thesis corresponding to the practices by analysing methodological innovation in practice-based design doctorates. A form of bricolage, picking and mixing various interdisciplinary methods, is needed to derive an idiosyncratic mode of inquiry, which reflective practice can link back to the theory. Specifically, in game design research through game design practice, Paul Coulton and Alan Hook (2017, 174) demonstrate that research through design is highly suitable for academic game research. Research through design in game studies is an action-reflection approach that aims to elaborate and connect a theory within a broader cultural context, such as fan studies and game studies. Through practice-based research in game-fandom, a bricolage of methodologies and practices allows various audiences and players to recognise the societal impact of alternative presents and probable futures (Coulton and Hook 2017, 194), which is settled in a cosmotechnics of fan studies and game studies.

In fan studies and game studies, I use a bricolage of methods in my practice-based research, including modding, crossover, and shipping from fandom, the bill of quantities from architecture, and non-collision physics from indie games. By combining these techniques, I aim to establish a new theme that extends beyond specific ACGN fandoms and contributes to a broader academic and cultural context.

### **3.2.1 Fandom: Modding, Crossover, Shipping**

I use digital ethnographic methods to study fandoms and autoethnographic writing to generate situated knowledge reflecting my identity. As part of my research, with their consent, I conducted interviews with seven fandom members, including Emma, Linn, Tianqi, Aristo, Jingzhi, CheeseTalk, and Tang Fei. Based on their consultative support, I created multiple gamespaces in "HyperBody" during these interviews and collaborations, frequently using the methods of modding, crossover, and shipping borrowed from fandom and reinterpreting them. In addition, I incorporated the bill of quantities from architecture and non-collision physics from indie games based on my architectural background and previous "HyperBody" practices.



## **Modding**

In the gaming industry, mods refer to user-generated modifications, including new game models, textures, sounds, mechanics, or even complete game rewrites (Poretski and Arazy 2017, 480). Modders are the contributors who create and distribute these modifications, and they form a modding community. The relationship between the modding community and the game industry is complex and still evolving. There needs to be more academic discourse on game modding's cultural and intellectual aspects. In the context of fan studies, game modding is seen as a transformative play in the real-time strategy (RTS), role-playing, or first-person shooter (FPS) genres that promotes convergence between images, culture, media industries, and prosumers' roles (Hector Postigo 2008, 60).

In the creation of "HyperBody", modding is used to modify, alternate and regenerate new images, sounds, videos, and 3D objects based on communication with collaborators from different fandoms and gaming communities. This practice contributes to the VR gamespace and acts as a convergence between real-life places and online fandom sites. Jingzhi and Aristo's architectural mods elaborate on modding in Chapter 5, Describing VR Gamespace and Appendix B.

## **Crossover**

Crossover and shipping play similar roles in creating gamespaces that serve as spatial archives. Using a modified gamespace, crossover, and shipping can generate affective relationships among various NPCs, personas, and objects within the VR game, demonstrating affect as a crucial asset in methodology.

Crossover is a fan-created work combining two or more fandoms in different ways. It has become a popular subject among multiple communities and events, forming dedicated fandoms. Examples of crossover include fusions, actor crossovers, same-name crossovers, shared traits, location crossovers, historical crossovers, same-creator crossovers, crackfic crossovers, and het/slash-focused crossovers (Kingstoken, 2021).

Fusions involve combining characters from one fandom into the setting of another fandom to create an alternate universe. Actor crossovers involve two fandoms sharing the same actor. Same-name crossovers involve two fandoms having characters with the same name. Shared traits,

location crossovers, historical crossovers, and same-creator crossovers are similar to same-name ones. Crackfic crossovers create unrealistic universes that cannot be crossed over, while het/slash-focused crossovers focus on characters that are difficult to pair or ship romantically.

Crossover is essential to connect modding and shipping in creating "HyperBody". Collaborators and their fandoms are combined, resulting in the convergence of different fan communities and gaming communities. The gamespaces contain various NPCs, environments, and objects that have formed a new world system. An affect-focused crossover is proposed in "HyperBody" among different collaborators.

## **Shipping**

Shipping is derived from the word "relationship", defined by Owen Parry (2019, 127-128) as creating new romantic relationships between characters or celebrities in fanfiction. Shipping includes various media such as memes, illustrations, videos, and fanfiction that are shared on online platforms and social media. It is a practice that encourages and embraces excessiveness, intangibility, and affective pleasures of art and fandom (Parry 2019, 128).

While shipping has the potential to be anti-capitalist, it is not necessarily so, and it can utilise indeterminacy to create alternate worlds and challenge hegemonic authority. According to Parry (2019), shipping should not be limited to re-writing art history or clarifying minor narratives of creative relationships. Instead, it should imagine a community of excessive and inclusive culture, technology, and affection.

Regarding shipping vids, slash vids are defined initially to create and interpret the chemistry between the characters in the source material as homoerotic. Using "/" between the characters indicates a sexual relationship between same-sex characters. In fandom terminology, the definition of slash remains controversial (Romano 2016). It is sometimes argued to be an inflammatory response to heteronormative from the source materials, which hardly can be queer. However, simultaneously, more slash fans occupy mostly white male characters, marking it as a profoundly awkward and regressive genre. Some people have criticised the term "slash" as outdated or even offensive, as it originated from using a slash (/) to separate characters' names in a pairing. It implies the relationship is purely sexual, reducing queer relationships to fetishised fantasies rather than genuine emotional connections (Kustritz 2003). As a result, some fan communities have moved away from using the term "slash" and instead use alternative terms like "queer fanfiction" or

"fanworks featuring LGBTQ+ characters" to be more inclusive and respectful of the complexity and nuance of queer relationships (Bradley 2016).

Only recently have scholars investigated fanvids as scholarly texts rather than just objects of study. Rox Samer (2019, 545) argues that slash vidding as a creative, critical praxis contributes to the methodology of remixing transfeminist futures within the context of transgender media studies. Vidding aims to challenge transphobic and cissexist common sense and review what the realities could be.

In the context of making "HyperBody", shipping creates affective gamespaces by combining various NPCs. The next chapter will further investigate Emma's queer shipping vids. The goal is to expand Parry's fandom and art shipping concept beyond ACGN fandom and into Chinese mainstream online culture, encompassing fandom, art, and shipping in VR gamespace.

### **3.2.2 Indie Game: Non-collision and Voidscape**

As synthesised from the Literature Review chapter, a game can be conceptualised as an affective experience where players, NPCs, art, sound, and movements coalesce to create a narrative environment. It presents as both an art form and an avant-garde exploration, pushing the boundaries of conventional artistic ontologies (Ruberg 2020). An evolutionary framework of game-fandom can bridge the divide between creators, players, and fans. It intertwines the dimensions of game design, gameplay experiences, and fandom affection, effectively enabling a game to function simultaneously as a research site and its resultant medium.

A game's experimental gameplay, movement, and affective responses fuse with "HyperBody". The experimental VR gamespace of "HyperBody" resonates with the notions of flatgames (McGee, Wonnacott and Gibson 2016), emphasising raw, non-collision movement and affective response through art and sound. Such a design cultivates a transformative VR experience in which players reclaim their identity within a game-fandom universe. "HyperBody" defines a "flight simulator" where players relearn the boundaries of the physical-virtual body, embracing unpredictability, spatial reconfigurations, and affective states.

"HyperBody" is an experimental VR game that integrates multiple fandoms, game studies, VR gameplay, indie game development methodologies, and architectural design. The goal is to create an immersive and transformative VR gamespace where players, NPCs, and the environment coexist, evolve, and reshape experiences.

Reconceptualising the role of the human player in a gamespace, we must consider the implications within a posthuman performative context. Instead of considering humans as the primary game actors, it is pertinent to acknowledge the dynamic system where humans, bots, mods, and the ludic system collectively partake in the play process (Stasieńko 2017). Barad's posthumanist performative approach aids this non-player-centric research by implying a shared network of human and nonhuman bodies and agentialities.

Exploring the concept of "voidscape" can offer novel insights into the player's experience in the non-player-centric system (Priestman 2014). In traditional gaming with collision and interaction, players might accidentally plunge into negative space, an omnipresent area of inaction or non-existence, constituting a large portion of the gamespace. This negative space is usually masked in a conventional game setting.

A non-collision physics system in Unity offers an alternative perspective on gamespace. Without Rigidbody and Collider, one object remains unaffected by the impact of another. It allows players to navigate through any 2D or 3D objects, blurring the boundaries between positive spaces and voids and constantly reconfiguring space based on the player's movements.

As per game designer Chris Priestman (2014), the concept of voidscape should be investigated further to shift the focus away from the player and towards understanding the gamespace as more than a mere simulation of reality. Within a non-collision gamespace, multiple agents, including players, personas, NPCs, technologies, and animals, coexist without distinct boundaries between positive and negative spaces. This setup provides a more detailed, sensual experience, highlighting the player's insignificance and further accentuating the experimental design's focus on player minuteness. The concept of voidscape thus facilitates a deeper understanding of the posthuman performative world system beyond the virtual and real-life spaces (Fizek 2017, 5).

A series of gameplay experiences between the voids and the positive spaces in "HyperBody" will be presented. I will analyse multiple gameplay screenshots and refer to specific items listed in the bills of quantities (Appendix F).

### **3.2.3 Architecture: Bill of Quantities**

Referring to my experimental architectural design approach in Chapter 1 Introduction, the bill of quantities is an important concept that provides project-specific measurements of the work items identified by architectural drawings. During my "Unit 7" studies at the AA (Architectural Association

School of Architecture), my tutors, David and Samantha, required students to fully articulate their architectural concepts and drawings through every specific item that forms an incomplete, imperfect, and picturesque architecture.

In the architectural profession, a bill of quantities is a comprehensive list of materials, components, and labour required for a construction project. This document is crucial in cost estimation, project management, and resource allocation. Architects can more accurately and efficiently plan and execute their projects by breaking down the various components and tasks.

The bill of quantities concept can be applied to gamespace design. This approach requires game designers to plan and design game environments with the same level of detail and precision as physical spaces. A bill of quantities in game design can include digital assets such as 3D models, textures, animations, and programming and scripting needs. A clear understanding of the required components can help game designers optimise their gamespace for performance, aesthetics, and user experience.

To describe the "HyperBody" VR gamespace, the architectural concept of the bill of quantities will be applied to the experimental design in the Unity game engine (as shown in Appendices F and G).

### **3.3 Digital Ethnography**

I utilise digital ethnography to integrate my written thesis with my practices in the VR game. According to Karen O'Reilly (2005, 3), ethnography involves iterative-inductive research that combines various methods to grow itself through the study. Ethnographic research acknowledges the researcher's role and considers humans as objects and subjects for investigation. When digital media intersects with ethnographic practices, it necessitates an interdisciplinary methodology and a specific conceptual paradigm to navigate the emergent research environment (Pink et al. 2015, 21).

I conduct the digital ethnographic study in particular fan and gaming communities through interactive interviewing, collaborative practice and creating a feedback loop. I follow the game-fandom digital ethnography principles, including multiplicity, non-digital-centric-ness, openness, reflexivity and unorthodox (Pink et al. 2015, 27-33). The notion of multiplicity requires researchers to use specific theoretical frameworks connected to academic disciplines and other communities. Non-digital-centric-ness concentrates on a broader set of environments, relations and events

characterised by digital media. An open digital ethnography research process encourages various digital forms of collaboration to co-produce knowledge with research participants. The reflexive practice acknowledges the researcher's pivotal situation to knowing and being that affects knowledge production in a world of situatedness. Digital ethnography requires a more unorthodox form of communication. A visual digital ethnography is proposed to bring feelings, relationships, materialities and configurations from a specific research context.

In the digital ethnographic study for my thesis, I work with individuals from various Chinese ACGN communities who create and consume fan content such as videos, art, novels, and game mods. Using a diffractive and practice-based approach, I develop a fan ethnography and interactive interviewing framework, informed by Karen Barad's materialist discourse and Yuk Hui's cosmotechnics. The goal is to explore and consolidate the concept of transformative game-fandom. Through interactive interviewing, collaborative practice, feedback loops, and ethnography in VR gamespace, I aim to create "HyperBody" together with my interviewees and collaborators. The project stresses the entanglement of various works and technologies, such as texts, images, videos, audio, game mods, performances, and VR/AR spaces. While it retains the verticality of multiple community spaces, it relates and tangles multiple community spaces of different types on non-hegemonic cultural levels.

### **3.3.1 Interactive Interviewing**

Interactive interviewing in this study breaks away from the traditional question-answer dynamics and employs a participatory dialogue to exchange insights and experiences. As a researcher and aca-fan, this method aids in blurring the lines between researcher and participant, encouraging interviewees to reflect and elaborate on their fandom and gaming practices. This approach, entrenched within the cosmotechnics game-fandom context, allows for a co-construction of knowledge and fosters a profound understanding of the complex interplay between fandom practices, VR game creation, and individual identities. The role of the aca-fan serves as both a methodological tool and an ethical stance, providing an insider perspective and enabling a nuanced understanding of the fandom culture.

In interactive interviews, being an aca-fan means that I am not an external observer but a participant in the conversation. It contributes to a more sincere, less hierarchical interview environment where interviewees might feel more comfortable sharing their thoughts, feelings, and experiences, especially concerning gender and identity. Moreover, by being part of the ACGN

community, an aca-fan is more likely to understand and respect the boundaries of the interviewees, providing a safer space for sharing personal experiences.

Co-creating the "HyperBody" VR game as an aca-fan encapsulates the essence of reciprocity within the fandom community. Engaging in this manner enriches the research through shared experiences and collaborative efforts. It acts as a tangible contribution to the community. Such collaboration amplifies the cultural richness and diversity of the fandom, providing an innovative outlet for expression and a platform for further discussion and exploration.

This aca-fan approach serves a dual role: as a methodological tool offering an intimate insight into the fandom culture and as an ethical stance ensuring the research process is participatory, respectful, and non-exploitative. The guiding principles of beneficence, respect, and justice are central to this process, protecting the interests and dignity of the fandom participants.

The immersive approach of an aca-fan facilitates a nuanced understanding of fandom dynamics, encouraging more researchers to adopt similar stances. It would bridge the gap between academia and fandom and stimulate more works and collaborations, sparking different perspectives and discussions. The goal is to foster an environment where both groups can learn, reflect, and mutually benefit. This academic-fan collaboration model suggests new possibilities for research within fandom communities, thus propelling the field forward while respecting its core values and practices.

I explore online fan and game communities for the game-fandom digital ethnography, attending multiple offline ACGN events. They engage in my workshops, lectures, and exhibitions, allowing them to easily communicate and become friends with me. Building a solid relationship with interviewees is crucial for conducting interactive interviews. The next step is to invite interviewees to multiple sessions, which form a collaborative communication process. Through self-disclosures and self-probing, I encourage interviewees to do the same, thus further developing our relationships in real life. We are expected to probe "self" and "other" during the interviews.

### **3.4 Collaborative Practice**

After conducting interactive interviews with various ACGN fan communities and game communities, I invite my interviewees as consultants to co-create a VR game level dedicated to their specific ACGN fandom practices and cultural contexts. This open digital ethnography can

create a collective spatial archive for game-fandom and contribute to the prosumption of ACGN and fandom communities.

While creating the gamespace, interviewees provide raw fandom materials, and I modify, cross over, and ship them, including texts, images, animations, videos, 3D avatars, 3D scans, and 3D models. Through this collaborative process, I generate the "HyperBody" VR game, which is co-produced knowledge that can be involved in various art exhibitions and provide a broader platform for discussion and debate of fan studies and game studies beyond ACGN fandoms.

The concept of "HyperBody" as a co-produced knowledge in creating a VR game level reflects the collective ownership approach. By inviting interviewees as consultants for creating VR gamespace, the authorship of the project becomes shared, reflecting the values of fandom communities that underline collaboration and collective creativity. Using various fanworks and materials, such as texts, images, animations, and 3D models, further reinforces this approach to authorship as a collaborative effort. Ultimately, the project aims to contribute to the spatial archive of game-fandom while promoting the prosumption of ACGN and fandom communities.

Collaborative practice is a critical interdisciplinary field between digital ethnography and game design. It introduces a creative, speculative, and playful exploration of ethnography that provokes changes in approaches, theories, and probes (Hjorth et al. 2017, 6). Through co-creating a VR game with ACGN fandom collaborators, digital ethnography is a valuable tool to describe everyday fandom practices. Also, it plays an essential role in intervening and reconfiguring a cosmotechnic world online and offline.

### **3.4.1 Creating a Feedback Loop**

I engage in various activities to showcase my practice-based research through multiple outputs of the "HyperBody" VR game and autoethnographic writing. These activities include group exhibitions, art residencies, research workshops, academic conferences, and publications. I always ensure that all my collaborators are credited accordingly. For more information about the activities in which I have already participated, refer to the practice folder accompanying my thesis.

I aim to invite most collaborators to participate in online and offline activities. It enables my interviewees and collaborators to share their work with other members, players, and audiences within and beyond specific ACGN fandoms. After various activities, I expect to receive multiple questions, queries, and suggestions from different audiences in specific fandom and academic



circles. I conduct interactive interviews with my collaborators to ensure that the VR gamespace is continuously refined and redesigned based on our understanding of these inputs. Through updated outputs of "HyperBody" and autoethnographic writing, I hope to reach more audiences and fandom members in multiple activities, potentially triggering more interactive interviews and collaborative practices. This feedback loop allows me to learn from various situations and make responses in VR game-making and autoethnographic writing.

Through interactive interviewing, collaborative practice and creating a feedback loop, I establish an unorthodox communication between game-making and autoethnographic writing to evoke feelings, affections, relationships, materialities and configurations in game-fandom cosmotechnics.

### **3.4.2 Ethnography and VR Gamespace**

The VR game industry, though young, offers rich potential for digital ethnography, with virtual worlds representing valuable cultural spaces for investigation. Research should not be confined by predetermined methodological dogmas but guided by the specific questions from exploring these virtual cultures. As a flexible methodology, ethnography can adapt to emergent events and research needs within these digital landscapes, acknowledging their validity as research sites (Boellstorff et al. 2012, 6).

Recognising the conscious and subconscious cultural layers that ethnographers and players bring to the game worlds is critical, as is understanding these spaces as dynamic intersections of cultural knowledge and strategies rather than isolated "culture gardens". Miller's (2008) research on the single-player gameworld of the *Grand Theft Auto* series underscores this point.

In my research, I aim to push the boundaries of ethnography in VR gamespace, focusing on cosmotechnic game-fandom that encompasses feelings, affections, relationships, and materialities. By using interactive interviewing, collaborative practice, and creating a feedback loop for creating "HyperBody" VR game levels, the study probes deeper into game-fandom presumption and its evolution into cosmotechnics. The VR game and written thesis constitute a spatial archive, continuously developed and represented through "HyperBody".

## **3.5 Technical Game Design**

"HyperBody" VR game levels are described via various parameters such as text, image, video, mesh, texture, scale, collision, fog, and audio. These are connected to practice-based research methods and digital ethnographic studies. Each parameter corresponds to a facet of the diffractive process. For example, text, image, and video are related to fandom-inspired shipping, where Emma and Tang Fei's ethnographic materials are introduced, and the textual and visual narratives are expanded. Mesh, texture, and scale incorporate architectural principles of bills of quantities and reflect fandom-inspired modding and crossover; Aristo and Jingzhi's collaboration helps create architectural mods. Collision and fog can be tied to non-collision physics from indie games, significantly influencing the gamespace's navigation experience. CheeseTalk's ethnographic materials further contribute to non-collision NPCs as an example. Audio contributes to an affective sonic experience, facilitating a space for personal, subjective, and affective reflection based on shipping, in which Linn and Tianqi's voice acting plays an important role.

Technical game design provides a concrete and comprehensive framework for creating and describing the VR gamespace. It emphasises the interconnectedness between qualitative, creative, and cross-disciplinary actions in VR game design. Overall, the technical description of the game is intrinsically linked to the creation and description methods, with each technical parameter resonating with an aspect of the practice-based method and digital ethnography.

### **3.6 Iterative Evaluation Methods**

Evaluating the player experience is critical for designing VR games and effectively using the evaluation principles in interdisciplinary fields. VR is still a niche in the gaming industry. The rising complexity of VR game development demands evaluation of player satisfaction, level of immersion, and motion sickness. Game companies must adopt more user-centred approaches to investigating player behaviour, emotions, and experience (Sudakova 2019, 2). Academics also need more studies evaluating non-normative VR game experience and design. Compared to standard VR games, "HyperBody" uses the theory of cosmotechnics from the Hong Kong philosopher Yuk Hui. Defined as "the unification of the cosmic order and moral order through technical activities", cosmotechnics demonstrates the limits of the current notion of technology and redefines the relationship between cosmology, morality, and technology (Hui 2017). Most existing frameworks in game development and user evaluation are rooted in Western culture. In order to evaluate the VR gamespace in "HyperBody", I argue that the level of science and technology development in the East cannot be directly compared to the West due to differences in epistemology and philosophy. It

is urgent to explore a new framework combining the development of technology, different theories of digital culture, and the quest for multiple cosmotechnics from the perspective of the East. This chapter aims to bridge the knowledge gap of VR games, fandoms, and architecture by evaluating the player experience in "HyperBody".

I hope more cross-cultural, interdisciplinary VR productions can be formally evaluated to challenge the existing notions of what VR gamespace can be. To develop an evaluation framework, I conduct an offline VR gameplay workshop where I collect participants' navigation paths, hotspot data, and gameplay footage in various "HyperBody" game levels. After the gameplay, the participants give feedback in a group discussion and complete the questionnaire (Appendix J). After the VR gameplay workshop, I interview each participant online, prompting in-depth conversations about experiences and feelings between real-life environments and non-normative experimental gamespace. I conceptualise and develop an evaluation framework from the workshop and in-depth interviews. The results can enable interdisciplinary researchers and designers to assess and evaluate experimental VR games and experiences. My evaluation framework uses the Game Experience Questionnaire (GEQ) (IJsselsteijn, de Kort, and Poels 2013), UX (user experience), ethnography (Pink et al. 2015), and thematic and discourse analysis.

### **3.6.1 Related Work and Mixed Tools**

Qualitative content analysis has been characterised as "ethnographic" in a bent (Altheide, 1996) and "hermeneutic" (Mayring, 2014). For a qualitative exploration of VR experience, both "ethnographic" and "hermeneutic" foreground the necessity of discovery and face validation above the rigour of verification studies. While qualitative content analyses uphold interpretive principles using reflective, reflexive, and cyclical coding techniques that acknowledge and highlight the potential influence of a researcher's academic training and alignment, quantitative analyses are sequentially linear and strongly emphasise replicability (Murphy 2017, 6). For multiple elements influencing presence in virtual environments, the newly built VR environment requires a measurement tool for psychological assessment. Qualitative approaches, which have yet to be widely employed in this field, may offer insights into participants' subjective experiences of presence (Riches et al. 2018, 4). Based on VR for student learning, Timothy J. Berndt (2021, 37-38) believes qualitative research is offered as a flexible and sensitive method that enables the discovery of new approaches. It incorporates inquiry, artefact analysis, and the necessity to establish significance, emphasising understanding the participants' views. With a qualitative

method, VR becomes significant since it allows individuals to think and expose their perspectives. Acquiring accurate information about the product or technology is feasible, making it easier to evaluate user behaviour (Cavalcanti et al. 2021, 2). It is crucial to collect valuable qualitative and quantitative data to strengthen our understanding of combining authenticity, interaction, and cooperation in VR games (Wang et al. 2021, 2).

Engagement with participants in VR has been driven by psychology and human-computer interaction, resulting in a specific bent on the themes and methodologies studied. Programs utilising conventional questionnaires do most of the work in this field; although incredibly useful, they create a research deficit around more qualitative and creative endeavours with participants. Additionally, VR is an emerging technology, and more research with participants has concentrated on user experience than the new research approaches opened up when players navigate virtual spaces (Phil et al. 2022, 48-49). In order to perform in-depth and qualitative projects, there are essential research gaps around examining good emotional experiences and evaluating how participants might themselves connect more creatively with VR settings (Phil et al. 2022, 69-70).

A comprehensive evaluation process is necessary to assess player experience in traditional and VR games. It uses quantitative and qualitative methodologies to gauge critical game elements such as gameplay, mechanics, graphics, sound, narrative, and overall user engagement.

Traditional approaches such as focus groups, observation, interviews, playtesting, questionnaires, game telemetry and heuristic evaluation remain prevalent in the gaming industry and academia (Bernhaupt 2015, 5-6). In addition, simulator sickness and presence questionnaires (Weech, Kenny, and Barnett-Cowan 2019; Cummings and Bailenson 2015) are also commonly used when evaluating VR games. For VR, standardised questionnaires like the Game Experience Questionnaire (GEQ), Player Experience of Need Satisfaction (PENS), or Immersive Experience Questionnaire (IEQ) are essential quantitative evaluation methods (IJsselsteijn, de Kort, and Poels 2013; Ryan, Rigby, and Przybylski 2006; Jennett et al., 2008).

Evaluating user experience is not a single element but comprises different dimensions that influence each other. Rather than focusing on individual aspects, it is essential to consider all the relevant factors and dimensions specific to the VR game to achieve a comprehensive and successful evaluation (Bernhaupt 2015, 7). A mixed method can capture the intricate experiences and distinctive characteristics of experimental VR games like "HyperBody", which uncovers unconventional design, experience, and gameplay mechanics.

To perform an in-depth evaluation of "HyperBody", I propose an iterative method combining quantitative and qualitative data, including stage one, an offline VR gameplay and questionnaire; stage two, an offline group discussion; and stage three, an online in-depth interview with each participant. During the VR gameplay workshop, I record participants' navigation paths (the in-game XYZ coordinates 45 frames per second) in specific game levels and the entire VR game-playing process as videos. After the VR gameplay, participants complete the questionnaire I create and expand on the Game Experience Questionnaire (GEQ) structure. In stage two, I hold a following group discussion. I use ethnography and thematic analysis to investigate non-standard design choices on cultural context, game mechanics, and VR navigations. In stage three of the post-VR gameplay, I conduct in-depth individual interviews with each participant, specifically analysing their audio-visual experiences, situatedness, and queering notions. To examine emotional experiences and how participants reflect and relearn in the VR gamespace of "HyperBody", thematic and discourse analysis is used as a single analytical approach. The evaluation methods will be demonstrated in Chapter 6, Evaluating VR Gamespace.

### **3.7 Connecting Creation, Description, and Evaluation**

The approach to creating, describing and evaluating an experimental VR game is comprehensive and interconnected.

The practice-based research methods, digital ethnography, and technical game design are entangled, ensuring a multifaceted perspective on creating and describing VR games. With no fixed borders, this entanglement allows each methodology to inform and enhance the others, offering a rich and nuanced understanding of the game-fandom cosmotechnics. The emphasis on a diffractive approach foregrounds the interconnectedness of the self, the collaborator, and the works within the game-fandom context. This perspective aligns with Barad's posthumanist approach and recognises the material-discursive intra-actions at play, fostering a more holistic, accountable, and responsible approach to creating VR games.

Simultaneously, the evaluation process combines quantitative and qualitative data, offering a balanced and comprehensive view of the gaming experience. I explore emotional experiences, encouraging participants to engage creatively with the VR setting. The expanded GEQ framework, coupled with ethnographic discussions and thematic discourse analysis through in-depth interviews, delivers a diverse dataset, highlighting not only player behaviours but also their reflections and non-standard design choices.

Analysing navigation paths, hotspots, and gameplay footage shows insights into the more practical aspects of VR engagement. Including participant behaviours, reflections, and design choices presents a deeper understanding of the cultural context, game mechanics, and VR navigation. This approach also explores audio-visual scenarios, situatedness, and queer notions, broadening the scope of analysis.

The VR game's creation, description, and evaluation are intrinsically connected. The game-fandom entanglement approach to creation and description sets the stage for a diverse, inclusive, and engaging VR game that bridges cultures, technologies and disciplines. The evaluation, in turn, offers insights that can inform further iterations of the VR game, creating a feedback loop that fosters continuous improvement and innovation.

The appropriateness of these methodologies lies in their mutual reinforcement and ability to capture the complexity of the game-fandom entanglement. By focusing on practice, culture, and personal experience in the creation phase and using a multifaceted approach to evaluation, I am in a solid position to capture the full richness of the experimental VR gaming experience. This comprehensive approach to understanding and enhancing the VR game aligns with the goal of promoting interdisciplinary research in VR, game design, architecture, and fandom studies. It can bridge gaps, explore affective experiences, and deepen the dialogue between Chinese and Western fandom and gaming communities.

Combining ethnographies in creating, describing, and evaluating "HyperBody" presents a thorough, nuanced view of the intersection between VR production, game design, and fandom culture. The ethnographies collected through various methods, including interactive interviews, collaborative practice, feedback loops, group discussion, and in-depth individual interviews, are critical in cultivating a contextualised understanding of the game-fandom cosmotechnics. The digital ethnographies include seven fandom members for creating and describing "HyperBody". Another ten participants are involved in the group discussion and in-depth interviews in the evaluation stage. These methods allow for exploring subjective experiences, cultural nuances, and technical dynamics at VR gameplay within different "HyperBody" game levels and their communities.

In Chapter 4, Creating VR Gamespace, the ethnography conducted through the interview with Emma, a vidding fan of the Pinkray/Katto ship, plays a crucial role in understanding the community's perspectives and affections. Emma's Pinkray/Katto ship provides valuable insights

that inform the basic design and narrative structure through the culmination of the "queer tuning" concept.

Appendices A, B, C, and D serve as repositories for additional ethnographic materials with interviewees Tang Fei, Aristo, Jingzhi, CheeseTalk, Linn, and Tianqi, ensuring a diverse collection of cultural levels and technological perspectives. These appendices support and complement the main text, enriching the understanding of the fandom and its interactions with "HyperBody"'s design process. Moving Tang Fei, Aristo, Jingzhi, CheeseTalk, Linn, and Tianqi's ethnographic materials to appendices ensures a streamlined narrative within the main chapters while preserving fandom research's depth and iterative structure. Each chapter focuses on creating, describing, and evaluating, merging fandom, game studies, and VR production. Appendices provide additional context and detail.

Chapters 4, 5, and 6 correspond to specific ethnographic focuses and methods. For instance, Chapter 5, Describing VR Gamespace, describes various text, image, video, mesh, texture, scale, collision, fog, and audio parameters. These parameters are connected to different ethnographies corresponding to the appendices A, B, C, and D.

Chapter 6 evaluates the VR gamespace through an iterative method that combines quantitative and qualitative data, encompassing VR gameplay workshops, in-depth interviews, and thematic and discourse analysis, to comprehensively understand participants' behaviours, reflections, and interactions with the "HyperBody" VR experience.

Combining digital ethnographic methods and materials across chapters and appendices creates a multifaceted and iterative view of the "HyperBody" VR game and gameplay. This approach ensures a comprehensive understanding of the game's experimental design, reception, and impact within its cultural, technological, and fandom contexts.

The methodologies for creating, describing, and evaluating are subtle and sturdy, paving a path for enriching unconventional VR production and its scholarly conversation. I acknowledge other methods and methodologies used in fan and game studies. However, instead of solely analysing the processes, practices, and facts within these fields, "HyperBody" stresses the intra-actions of fan and game studies. The emphasis is placed on the indeterminate nature, imagination, and the potential for transformation. The cosmotechnics created are deeply intertwined with culture, technology, and, most importantly, affection.

#### 4. Creating VR Gamespace

"HyperBody" is an experimental VR game that explores fandoms' intricate dynamics. One of its levels, "Pinkray", was developed collaboratively with a fandom member named Emma, focusing on the practice of shipping within a Chinese Generation Z fandom centred around the male C-Pop group, "ONER". The level delves into exploring male/male romance, fanvids, and shipping. Emma's shipping vids, embedded in the "ONER" fandom, serve as an essential reference, highlighting the critical role of reflexivity and intersectionality within fan presumption.

In the "Pinkray" level, the aim is not to make sweeping generalisations about the "ONER" fandom but to depict its queer fan culture through interactive interviews, a collaborative approach, and a continuous feedback loop with Emma. The dialogues and co-creations with Emma directly shape the "Pinkray" game level, effectively creating a game-fandom. The level finally culminates in the concept of "queer tuning", emerging as a new form of intra-action of culture, technology, and queerness, resulting in new modes of intimacy, affect. It underlines the potentiality of VR gaming as a platform for nuanced cultural exploration.

I met Emma, an MA Creative & Cultural Entrepreneurship student at Goldsmiths, during Welcome Week events on campus in my first year as a research student. The first time I talked to Emma about my current research interest, she questioned whether a practice-based project on Chinese ACGN could be an academic research project. Her understanding of what could constitute good academic research differed significantly from mine. Therefore, I invited her to the Goldsmiths' VR Lab to play the "HyperBody" VR game demo on the Oculus Rift S I was developing. As I mentioned in the Chapter 1 Introduction, the "HyperBody" connects to my "Queer Maximalism Manifesto" (Appendix E). I explained my research to her as Emma wore the headset and immersed herself in the VR world. While playing the "HyperBody", she was surprised at how much it related to her personal interests in fandom practices and vidding. Vidding is the act of creating a fan-oriented video (Fanlore 2020). Specifically, the vidding she did was for the "Pinkray/Katto" ship in the Chinese boy pop group "ONER" fandom.

QIN's Entertainment established ONER, a C-pop group, in 2018. Comprising of Pinkray, Katto, Kwin, and Didi, the group initially debuted as a quartet, but member Katto left in 2019. The band achieved prominence after participating in the "Idol Producer" survival reality show. They have four studio albums, "Allergy", "Ball", "ONER-Struck", and "Mr. Parallel Circus". Their distinct sound, dynamic dance skills, and charismatic personas have amassed a dedicated Chinese fan base. ONER signifies an assembly of four extraordinary individuals united as one cohesive idol group,



each contributing their distinct talents and personalities to create an enriched, singular identity. Their fans are notably creative and passionate, maintaining an active online presence with communities like the ONER fan page on Weibo, boasting over three million followers. These platforms provide a hub for fans to share updates, fanart, and organise events. ONER's substantial social media following enables fans to share their affection for ONER and remain current with their activities.

Emma explained that she regularly produces fanvids for the ONER fandom, explicitly focusing on Pinkray and Katto. Pinkray is the team leader, and both members specialise in rap. Emma claimed she was a key member and vid maker of the Pinkray/Katto ship. She reuses visual materials from ONER's video logs on Weibo, video advertisements, interviews, and fan recordings to make the videos. Emma's videos draw on fandom themes such as everyday domestic settings, high school backgrounds, travelling scenes, birthday parties, and theatrical narratives like Shanghai's themes during the Republic period of China and Hong Kong cinema. Emma incorporates Korean drama, contemporary Korean and Chinese romantic love songs, and diverse personas like teacher/student, high school classmates, pop idol trainees, gang boss/undercover, and casino boss/special agent into her narratives. Emma's Pinkray/Katto fanvids range from cute to dramatic and slightly homoerotic, and most fans describe her videos as "super creative". Emma was introduced to the ideas of digital ethnography and is keen on the intersection between fandom and academia. Emma hopes her fanworks in Pinkray/Katto communities can be stored and archived differently, such as in a gamespace. My collaboration with Emma has led to multiple interviews and game-making workshops over six months.

#### **4.1 Shipping Practice as Game Design's Writing Phase**

This section introduces shipping and discusses how it is made present by Emma's Pinkray/Katto vidding practices. I outline how shipping is an emerging creative practice within contemporary Chinese fandom. Emma's shipping practices inform my game design's "writing" phase. Emma's Pinkray/Katto vidding plays an instrumental role. These practices, part of the dynamic landscape of contemporary Chinese fandom, provide the narrative texture and emotional underpinning for the proposed conceptual framework of "queer tuning". They become the vital source material for crafting the game level "Pinkray" with their vibrant relationships, affectional complexities, and cultural idiosyncrasies.

Emma created Pinkray/Katto vids for the ONER fandom between June 2018 and July 2019. However, in July 2019, Katto terminated his contract with QIN's Entertainment and left the group. As a result, Emma's ship and her relationship with ONER ended. During our conversations, Emma expressed her sadness and emotional turmoil caused by Katto's departure, eventually leading to the discontinuation of the vidding practices.

Emma said in our discussion:

*It seems all those days were fakes. The love and affection were just performances; those young idols are just good at lying. Looking back, it mostly was just a scar on my heart. Because of the official bad end of this ship, both Pinkray and Katto's fan communities have become more inclusive and open to various types of fans such as ONER group fans, heterogeneous groups and general fans of C-pop boy groups. I think it is not strange to say most fans prefer a sad narrative compared to a happy ending, so it is good timing for you to get into my Pinkray/Katto vids!*

It is imperative to shift our focus from being mere fans to adopting an academic approach in examining the Pinkray/Katto shipping vids more critically now that the official end of their relationship has been announced. There are a variety of Pinkray/Katto fanvids in the larger community on Weibo and Bilibili. Despite many fans having hidden or deleted their works, Emma's assistance allowed for a broader archive of Pinkray/Katto shipping practices to be reviewed.

*Otherwise, if this ship is still existing and developing in the big fandom of ONER, it would have been complicated due to the inevitable community politics and hierarchical restrictions, possibly from the fans' competition among four idol group members.*

It is noted that by collaborating with Emma and exploring Pinkray/Katto fandom, I could access not only Emma's fanvids but also fanfiction. This privilege provided a valuable opportunity to explore shipping and creative practices among fans born after the millennium and gain insights into gender and identity issues within C-pop idol group fandom.

A collaborative yet distinct division of roles defines the co-authorship in creating the "Pinkray" game level with Emma. Emma provided insights, raw materials, and a rich understanding of fandom culture, notably through sharing their fanvids and illuminating the fan practices, gender, and identity issues within the Chinese C-pop idol group fandom. However, it is essential to underscore that while these contributions were instrumental, they were primarily consultative. The conceptualisation, design, coding, and incorporation of these elements into the "Pinkray" game

level, as well as the academic research supporting it, were independently undertaken by myself. This dynamic co-authorship model thus preserves the originality of academic and fandom members, ensuring a balanced representation of perspectives and expertise in the "HyperBody" VR game.

As an aca-fan, I have followed various uploaders and watched videos about male-male shipping, drag, male-to-female transition, and transgender on Bilibili. I have accessed plenty of queer fanfictions and fanart on Lofter. While Baidu Tieba proved more problematic to access, I still found a series of very active male-to-female communities. Despite regularly censoring specific hashtags and hot topics, diverse fandom members still use Weibo as a huge circulation platform to share fanworks. I have found considerable queer and LGBTQI+ material online, indicating the volatile but laissez-faire stance on government censoring.

Emma said:

*This freedom is also apparent about my male-male shipping, especially on Weibo's specific hashtags and hot topics. Everyone seems to know it but just not say it in public. I really want to use my vids, like the fanfictions of Pinkray/Katto from my friends in ONER fandom, to substantially question the pre-occupied gender, sexuality, and character concepts.*

Moreover, our discussions made it clear that, even though they featured male/male pairing, Emma did not simply regard her Pinkray/Katto vids as a slash with a straightforward sexual relationship.

*Instead, I intend to softly hint at a queer relationship between the characters rather than showing it. My friends and I really do not want to alienate the straight audience. This is super important to exploit the special queerness between Pinkray/Katto outside the community bubble.*

The personas recreated from Emma's vids were supposed to challenge and redefine gender, sexuality, and character within the source material.

*I believe, based on remixed personas, narratives and recontextualised spaces, the ambivalence, doubt, and opacity within the hints from multiple videos and images have potential to excite beyond the fandom, they are not just made for the queer members. A soft way of remixing mainstream culture and new technology is key to sustain the creative process of my practices.*

We can understand Emma's fandoms as what transmedia scholar and remix artist Rox Samer describes as transfeminism. As Samer notes, affections are not only feelings or emotions but also go beyond our cognitive attempts to make sense of the world (Samer 2019, 542). The affection produced by Emma's remixing in vidding has destabilised and surpassed the expression of vids themselves. Remix forms are constantly multiplying and hybridising in the digital context and virtual space. Scholar-artists working in queer cultural production and critical theory should use this remixing approach to look for/after those vulnerabilities (Samer 2019, 541). Samer further argues that vidding offers an intellectual and affective methodology of remixing. It tries to touch various viewers from academia, fandom and beyond non-binary communities. Addressing the concept of shipping encourages them to ask and imagine how the vulnerable visibility of the fandoms could be looked after and brought out of their cultural bubbles. It is crucial to remix a creative gender and transgender future and make an innovative "relationship" of love and affection.

Emma further argued:

*As a Generation Z, I still don't have a comprehensive education and understanding of gender culture. However, because I am so young and feel passionate about remixing characters, personas and affections, I believe I can envision and try my best to build a creative and alternative affect asset within my shipping vids. Most of the members are like me, we do not retain a notion of queerness. We do not resist certain groups or against some fandom based on their identity, gender and sexuality. Instead, for various Pinkray/Katto ship members, we share sincere affections on their "relationship" in real-life and fictional worlds. We want to share this affectionate ship to the general public on a mainstream online platform.*

From ordinary scenes, emotionally layered dialogues, diverse personas and themes practices, Emma's vids in the Pinkray/Katto ship do not only offer a female gaze onto a male-male romance but also create a "sad narrative" that is open to the mainstream without any resistance or feeling of being against a particular group. Emma's vids are created in a way that allows diverse audiences to connect with the stories and characters portrayed and offers a space for transformative thinking and imagination. The emotionally layered dialogues, diverse personas, and themes practised in Emma's vids highlight the power of fan creativity to explore different facets of relationships and identities. Using fanworks to reimagine mainstream media narratives in new and often more diverse ways can offer essential reflections on Chinese social norms and values and help to create more inclusive and accepting communities. Emma's vids demonstrate the potential of fanworks to offer alternative narratives and relationships that are engaging, transformative, and thought-provoking.

Emma provided three of her vids,<sup>22</sup> including *Stay With Me*, *In the Mood for Love* and *Oxygen*, for the research. *Stay With Me* is a 48-second short vid based on a top-rated South Korean TV series, *Guardian: The Lonely and Great God*. Emma reused the original soundtrack *Stay With Me* by CHANYEOL and PUNCH as background music in *Stay With Me*. She continued a sad, cursed, immortal, close male friendship and mythological story and recreated a Pinkray/Katto pair within the Korean-style magic and modern cultural scene.

*In the Mood for Love* is a 91-second vid featuring a fictional Chinese Republic era in Shanghai. Emma re-appropriated various scenes to establish a new sentimental spy/cautious detective relationship between Pinkray/Katto in a Chinese spy fiction genre. She used *Hua Yang Nian Hua (In the Mood for Love)* by Zhou Shen and Li Wei as background music.

*Oxygen* is an 84-second vid showing Emma's most experimental, tragic, abstract approach to shaping two sad personas of Pinkray and Katto. The narrative intersects with Chinese idol group training, stage, prison myth, crime and gambling. It retrieves lost memories between Pinkray/Katto in music plays and hidden criminal acts. Emma reused the original soundtrack of Yang Qi (*Oxygen*) by Hao Lei in Lou Ye's film *Summer Palace*.<sup>23</sup>

Emma's vids, including *Stay With Me*, *In the Mood for Love*, and *Oxygen*, are safe to share and mainly circulated on Weibo and Bilibili, catering to a broader audience beyond the queer fandoms. For instance, in the case of *In the Mood for Love*, Emma tried to intersect Pinkray and Katto's scenes with existing popular films that feature Shanghai during the Republican era in China before 1949, using narratives from that era.

Emma claimed, "I hope a special queerness could permeate through a familiar story with distinctive characters."

The ordinary and affectionate dialogues between the fictional characters are understood through the background music, which slowly informs a soft, feminised relationship. This relationship can be defined under the "passive virtue" concept described by Florence Chia-ying Yeh (Xiong 2012).

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<sup>22</sup> With Emma's approval, three selected Pinkray/Katto vids were uploaded on YouTube with unlisted links: <https://youtu.be/euN1BGFCxqE>, <https://youtu.be/ULn5Z-8brv0> and <https://youtu.be/EQliw2b0cW0>.

<sup>23</sup> *Summer Palace* is a Chinese film directed by Lou Ye that depicts the love story of a young couple in the backdrop of the 1989 Tiananmen Square protests. The film portrays the complexities of young love, exploring the themes of passion, desire, and heartbreak, and how political and social unrest can impact personal relationships. The film's depiction of intimacy and sexual desire caused controversy in China and was banned for a time.

## 4.2 Shipping Vids through Passive Virtue

In contemporary Chinese-speaking queer fandom, geographical and cultural differences have resulted in clashing forces, even amidst the constant convergence of global digital trends. An incredible imbalance in the literature of queer East Asia must be recognised (Lavin, Yang, and Zhao 2017, 14). Examining mainland Chinese queerness through the beauty of passive virtue compared to more visible LGBTQ-influenced regions like Hong Kong and Taiwan is vital.

Florence Chia-ying Yeh, a Chinese-born Canadian poet and sinologist, introduced the concept of the beauty of passive virtue as an explicit aesthetic of *Cí*, a type of lyric poetry in classical Chinese poetry. Passive virtue expresses feelings of desire in a persona and addresses a wide range of personal, affectional, and feminised topics. Yeh argues that the beauty of passive virtue depicts an opaque and non-linear stance towards the extreme external pressure from established cultural, political, and moral values. In works like *Huajian Ji (Collections from Among the Flowers)*<sup>24</sup> by Wen Tingyun and Wei Zhuang, poets use a feminine persona and feminised language to express a gentle affection and imagination of femininity, regardless of gender identities (Wu 2020). Passive virtue represents deliberate "vulnerability", soft elasticity, vague "resentment", and depression under an ambisexual mindset.

For example, when Yeh uses the beauty of passive virtue in traditional Chinese poetry, she refers to Zhu Yizun, a Chinese poet who helped revive the *Cí* song and further developed the *yan* (florid) style from the early Qing dynasty. Zhu Yizun uses *Cí* solely on romantic love, desire, passion, and sexuality—margins of gendered emotions, deemed inappropriate for investigation and explanation in great literature (Fong 1994, 439).

The *Yan* style of *Cí* originally refers to obscene and sexually explicit phrases. Yeh repurposes the *Yan* style to include various lyrics about beauty and love, sometimes hinting at profound sentimentality and high ambition. For example, Zhu Yizun's love lyrics in *Jingzhiju Qinqu* describe his illegitimate love for his younger sister-in-law, Shouchang. Yeh argues that the beauty of passive virtue within Zhu's love lyrics represents true vulnerability. Despite experiencing such profound and painful affection, and with Shouchang passing away tragically, Zhu refuses to seek any belief or resistance against established cultural, political, and moral values.

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<sup>24</sup> *Huajian Ji* is a collection of Chinese poetry written by Wen Tingyun and Wei Zhuang in the Tang dynasty, known for its themes of love, desire, and nature.

Zhu's love poems, which exist on the unclear boundary between fiction and nonfiction, hint at an imagined space in how gendered emotions are portrayed. They demonstrate the contradiction between gender and moral representation and the indeterminacy of an ambisexual mindset (Fong 1994, 459-460).

During the conversation with Emma on queerness understandings between mainland China, Hong Kong, and Taiwan, we agreed on being neutral (Li 2017, 148) and ambisexual in a mainland Chinese fandom context, especially for her fanvids and discussions in the online community.

*As far as I have experienced, the queerness in Pinkray/Katto and ONER fandoms is always and deliberately chaotic, unstable, performative, and fictional. Because we also love to use and try different technological tools with different forms of work, we together wish to create multi-layered virtual personas, characters, and spaces.*

Scholars have discussed the presence of queerness in ACGN and fan studies originating from Japan but adopted by Taiwan, Hong Kong, and mainland China. Mainland China's boy idol group fandom has been embraced, modified, and integrated into mainstream culture, particularly within online communities. In our research of Pinkray/Katto fanvids and fanfictions, Emma and I discovered that the song lyrics, writings, and poems were often linked to traditional Chinese literature.

This intertextuality creates complex cultural references and lends depth to fandom practices. It suggests that while fans participate in a contemporary cultural phenomenon, they simultaneously engage with and recontextualise their traditional cultural heritage. The confluence of modern fandom and traditional literature provides a fertile ground for understanding the cultural nuances that inform and shape these fan practices. Such findings underscore the importance of considering historical and cultural context when studying fandoms, particularly those in non-western societies. It points towards an inherent capacity of fandom practices to bridge different cultural eras and sensibilities, enriching both the individual fan experience and the overall cultural discourse. It offers a valuable lens to interpret the dynamics of mainland Chinese fandom, providing insights for game designers and researchers of contemporary media.

Emma admitted, "Ci is always one of the important inspirations." By exploring the beauty of passive virtue in Chinese poetry and applying it to contemporary fanworks in mainland China, vulnerability becomes crucial in redefining queerness and neutrosexuality, particularly gender and sexuality. Neutrosexuality (Li 2017, 148) should be further developed in both theory and fanworks

to become a fluid and unstable state characterised by a vulnerable, soft, elastic, and vague presentation.

#### 4.2.1 Stay With Me



Figure 4.2.1. Emma, Stay With Me, Screenshot at 00:03, Seaside view indicates the continuation of the original narrative of Guardian: The Lonely and Great God, 2019.



Figure 4.2.2. Emma, Stay With Me, Screenshot at 00:07, Showing the personas Pinkray (left) and Katto (right), 2019.



Figure 4.2.3. Emma, Stay With Me, Screenshot at 00:16, Pinkray: If I close my eyes, 2019



Figure 4.2.4. Emma, Stay With Me, Screenshot at 00:20, Katto's eyes in the snow scene, 2019





Figure 4.2.5. Emma, Stay With Me, Screenshot at 00:29, Katto: I hope you are forgotten, 2019.



Figure 4.2.6. Emma, Stay With Me, Screenshot at 00:31, Pinkray at the seaside, a character of sentimentality and vulnerability, 2019.



Figure 4.2.7. Emma, Stay With Me, Screenshot at 00:35, Dream of good time between Pinkray/Katto, 2019.



Figure 4.2.8. Emma, Stay With Me, Screenshot at 00:47, Pinkray: is Katto my destiny? 2019.

Emma's shipping practices and fanvids make soft but profound and always painful relationships engaging with passive virtue. In *Stay With Me*, from Figure 4.2.1 to Figure 4.2.8, Emma created a soft, passive and vulnerable character of Pinkray, with only a sheer wish to have a good time with Katto.

*I continue the official narrative of Guardian: The Lonely and Great God, my invented characters of Pinkray and Katto belong to different families of immortals. Because of the external pressure of moral values and their designated missions, Pinkray must not show resistance but only expresses vague and depressing affection.*

Figures 4.2.3 and 4.2.4 of Emma's *Stay With Me* vid showcase the eyes of Pinkray and Katto from different angles. Pinkray's sentimental wish is portrayed through Katto's face and innocent eyes,

which only appear on a painful snowing day. The background music *Stay With Me* accentuates the question of Pinkray and Katto's destiny as immortals. Their specific destinies establish a passive, opaque, and elastic relationship.

#### 4.2.2 In the Mood for Love



Figure 4.2.9. Emma, In the Mood for Love, Screenshot at 00:12, A rendezvous between Spy/Detective, Pinkray/Katto, in a clubhouse at Republican-Era's Shanghai, 2019.



Figure 4.2.10. Emma, In the Mood for Love, Screenshot at 00:17, Pinkray: Where is Katto? 2019.



Figure 4.2.11. Emma, In the Mood for Love, Screenshot at 00:34, Katto: Why not call me? 2019.



Figure 4.2.12. Emma, In the Mood for Love, Screenshot at 00:48, Pinkray's secret archive is found by Katto, 2019.



Figure 4.2.13. Emma, In the Mood for Love, Screenshot at 00:58, Sending a telegram, 2019.



Figure 4.2.14. Emma, In the Mood for Love, Screenshot at 01:02, Burning documents, 2019.



Figure 4.2.15. Emma, In the Mood for Love, Screenshot at 01:05, Katto: It is you, 2019.



Figure 4.2.16. Emma, In the Mood for Love, Screenshot at 01:06, Pinkray, 2019.



Figure 4.2.17. Emma, In the Mood for Love, Screenshot at 01:09, Katto: Go away and never be back, 2019.



Figure 4.2.18. Emma, In the Mood for Love, Screenshot at 01:15, Pinkray is leaving, 2019



Figure 4.2.19. Emma, *In the Mood for Love*, Screenshot at 01:17, Pinkray: I still want to ask, if I have an extra ticket, would you like to go with me? 2019.



Figure 4.2.20. Emma, *In the Mood for Love*, Screenshot at 01:25, Barge is coming, 2019.



Figure 4.2.21. Emma, *In the Mood for Love*, Screenshot at 01:28, Pinkray, 2019.

In *In the Mood for Love*, Pinkray/Katto's personas shift to spy/detective during the Chinese Republican Era of Shanghai. Pinkray tries to persuade Katto to leave his detective role and escape together, but political, ideological, and moral pressures make it impossible for Katto to express affection. In Figures 4.2.9 to 4.2.19, Emma carefully presents Pinkray/Katto's acts, burning secret documents, struggling, chasing, and escaping. In scenes with Pinkray and Katto's faces and eyes, their communications are always opaque, soft, and passive, highlighting their deliberate vulnerability and depression. Figures 4.2.15, 4.2.16, 4.2.17, and 4.2.21 are particularly notable. Pinkray's last request remains dramatic and sad: "If I have an extra ticket, would you like to go with me?" Despite the restrictions and challenges, Pinkray/Katto's relationship reflects the beauty of passive virtue and the negotiation of queerness and neutrosexuality in contemporary Chinese-speaking queer fandoms.

### 4.2.3 Oxygen



Figure 4.2.22. Emma, Oxygen, Screenshot at 00:07, I am sorry for your loss. Katto is crying, 2019.



Figure 4.2.23. Emma, Oxygen, Screenshot at 00:10, Abstract scene: Please smile like the first time we met, 2019.



Figure 4.2.24. Emma, Oxygen, Screenshot at 00:22, Pinkray lost his memory, 2019.



Figure 4.2.25. Emma, Oxygen, Screenshot at 00:27, Prison wall with CCTV camera, 2019.





Figure 4.2.26. Emma, Oxygen, Screenshot at 00:29, Pinkray, please remember me in the future, 2019.



Figure 4.2.28. Emma, Oxygen, Screenshot at 00:35, CCTV camera: Who are you? 2019.



Figure 4.2.30. Emma, Oxygen, Screenshot at 00:52, A vision of Pinkray before, 2019.



Figure 4.2.32. Emma, Oxygen, Screenshot at 00:57, A vision of Pinkray now, 2019.

Figure 4.2.27. Emma, Oxygen, Screenshot at 00:34, Katto: Who are you (Courtesy of Emma)? 2019.



Figure 4.2.29. Emma, Oxygen, Screenshot at 00:42, The crime, 2019.



Figure 4.2.31. Emma, Oxygen, Screenshot at 00:55, Gambling, 2019.



Figure 4.2.33. Emma, Oxygen, Screenshot at 01:04, Maybe we could play together again, 2019.



Figure 4.2.34. Emma, Oxygen, Screenshot at 01:10, Pinkray/Katto's hands: Maybe we could play together again, 2019.



Figure 4.2.35. Emma, Oxygen, Screenshot at 01:17, Abstract scene: I have reached the end of all roads, 2019.

Emma's non-linear narrative of Pinkray/Katto in *Oxygen* tests the notions of vision and memory. From Figure 4.2.22 to Figure 4.2.32, the concrete roles and relationship between Pinkray/Katto become unnecessary. Various abstract scenes are incorporated in Figures 4.2.23, 4.2.34, and 4.2.35, blending and remixing a soft, translucent, and saddening relationship in half-dream, half-real-life scenes of prison, casino, and stage.

Emma added:

*With Katto's cry and Pinkray's amnesia, whether they can play the music and dance together only remains in Pinkray/Katto fans' dreams and my fantasies. Reflecting on Katto's quit from ONER, my vid Oxygen wants to bridge this painful and unprotected relationship in both my shipping world and the real world. A painful and tragic narrative may be easier to catch the audience's mind and allow a more inclusive and passive understanding of identity, gender and sexuality. Most of my friends outside of ONER and male-male shipping fandoms found it easier to get into the Pinkray/Katto shipping world with tragic, vulnerable and opaque stories.*

In Emma's works, the beauty of passive virtue is represented by an abstract force that challenges cultural and moral values. Emma uses the song Yang Qi (*Oxygen*) and references Lou Ye's *Summer Palace* to provoke an idiosyncratic and chaotic love and relationship. She suggests that Pinkray must lose his memory to start anew with Katto on a different stage in the future. Between Emma's fluid and fictional personas, passiveness and softness become expressed in her particular visual style, themes, and genres, simultaneously echoing and reflecting the vids' background music, song lyrics, and video annotations.

Emma's vids highlight the passive virtue, which helps redefine neutrosexuality and Sinophonic queerness within the fictional worlds and characters she creates. These vids are important not only as fanworks but also as an essential part of fandom and game studies, as they establish an epistemological framework. This framework transcends the boundaries of specific fanwork genres. It aims to blend, tune and ship various cultural, fictional, and abstract scenes and fluid personas within a passive, soft, and fragile audio-visual fandom space. This approach deepens our understanding of queerness in games and should be used to study, communicate and remix with various fanworks in contemporary mainland China multi-fandoms.

Emma's vids align with Li's concept of neutrosexuality, which emphasises maintaining a neutral and youthful persona, being open to learning new technology and communicating with the public. This approach is particularly relevant in contemporary mainland China multi-fandoms, where there is a growing desire to transgress normative gender and sexual boundaries and create new forms of cultural expression. Emma's interest in collaborating on a VR game comes from her desire to explore new modes of expression and bring her perspective on Sinophonic queerness to a broader audience. She sees VR as a medium that can transcend the limitations of traditional fanworks and engage with a broader audience, showcasing the potential for new and innovative cultural production.

Emma's shipping practices express a form of "passive queerness", which can be understood as an opaque and non-linear expression of affection between Pinkray/Katto in a vulnerable, soft, elastic, and ambisexual manner. This approach is grounded in trans\*/matter/realities and queer political imaginings, and it involves an epistemological framework featuring opaqueness and non-linearity for imagination and desire. Such a framework creates a charged void of affection-filled bodies (Barad 2015, 388). Additionally, a passive form of affection and a vulnerable relationship is discovered from seams and sutures, consistently and constantly forming a patchwork of multiple entangled scenes, personas, and bodies ready for intra-action (Barad 2015, 393).

Opaque and non-linear affections are not in the spaces of scenes, personas and bodies but of the spaces of scenes, personas and bodies. A new framework of queerness calls for an ontological indeterminacy and infinite possibilities for intimate sensing, touching and response (Barad 2015, 401). Like Emma's Pinkray/Katto ship, a vulnerable and soft relationship reconfigures physical/virtual space, time, and mattering filled with imaginaries, desire, and love.



When I discussed this with Emma, she argued, "I do not think it is necessary to remix any traditionally vivid imagination of sexual encounters between Pinkray and Katto. Instead, queerness is endured and partly articulated using in-depth, soft, expressive ways."

In contrast to recent research of slash vids by Samer under the established context of transfeminist and transgender media practices, the possibility for queerness is extended by Emma's shipping practice beyond the concepts of gender and sexuality. It also asks for a particular tuning to queerness, cultivated on the ordinary scene, dialogues, practices, softness, elastic identity, and various personas shared and transformative by the community.

### **4.3 Queer Tuning as Game Design's Framework**

From the analysis of Emma's shipping vids and the epistemological framework, many community members create highly transformative and radical fanvids that depict alternative relationships passively with an opaque representation of sexuality. These vids are within explicit Chinese historical and contemporary fantasy or other fictional contexts, such as *Stay With Me*, *In the Mood for Love*, and *Oxygen*, which retain a soft tuning and passive virtue. They are legal to publish and share on online communities and social platforms. They encourage diverse cultural strangers to understand shipping as an alternative approach to fantasising, making, and transforming saturated affections and relationships. With a passive, soft, and vague mindset, these vids create unexpected and recuperated historical and fictional figures and character pairings (ships), especially within the youth cultural context in mainland China.

The creative practices of shipping vids challenge the conventional notion of characters being solely fictional or real-life. This soft tuning, characterised by an aesthetic of passive virtue in contemporary China, goes beyond appealing to possible LGBTQ markets. As Emma has previously stated, queer tuning in shipping practices does not involve resistance against or seeking healing for their identity, gender, and sexuality. In comparison to the neutrosexuality demonstrated by Li in Hong Kong, most mainland Chinese fandoms maintain a lightweight, blank, and young body proper, free from historical, cultural, political, and moral burdens. This fandom tuning expresses that the sea receives all rivers and welcomes new cultural, technological, and affective turns.

Shipping vids' creative practices significantly inform the design of the "Pinkray" game level. The queer tuning concept can move beyond identity boundaries to embrace softness and openness.

This approach, inherent to mainland Chinese fandoms, embraces a lightweight and youthful character free from historical or cultural weight. These aspects translate into the game's aesthetics, VR navigations, and soundscapes, shaping an immersive fandom experience responsive to diverse cultural, technological, and affective shifts.

Under the fast-emerging short video platforms of Bilibili and Weibo, Emma addressed:

*This passiveness and softness have already pushed queer tuning in shipping to be a popular genre, especially for fanvids. I'm among Generation Z. I entered the Pinkray/Katto fandom to learn our own queer culture gradually. The creative practice of making fanvids of Pinkray/Katto led me into an epistemological unlearning of gender and identity.*

By exploring and creating queer-tuned relationships in the "Pinkray" game level, real-life and fictional bodies may need gender fluidity to produce innovative fanfictions, fanvids, and cosplays. Using scholarly vidding as a transfeminist methodology highlights how unpredictable and inexplicable remixing can generate new affects in a future of fluid gender reality (Samer 2019, 542).

Emma added:

*From the soft femininity of queerness, gender is not that important. The more important part is how to passively blur and remix both physical and virtual personas to create novel genderfluid works. What I expect is a real fandom of the near future, with emerging technological tools, I can push vidding into a new level, with more fluid cultural and affection output. I guess maybe VR is a good start.*

#### **4.4 Pinkray Plush Dolls as NPCs**

After numerous conversations with Emma about queer tuning in the Goldsmiths' VR Lab and my studio, we developed a strong friendship. Emma introduced me to a fetishistic subcommunity surrounding Pinkray, her favourite idol. The subcommunity is based on the Weibo Super Topic, similar to Reddit subreddits called #LittleMoonKindergartenClass711. "Little Moon" is Pinkray's nickname, "Kindergarten" refers to the fan-made works of Pinkray's children, and "711" is Pinkray's birthday, July 11th. Fans share visually cute and erotic posts featuring gender-bending plush dolls of Pinkray, which serve as a source for designing NPCs in the "Pinkray" game level. While digital gaming has been extensively researched, toy play among adults remains mostly unexplored in academic studies, particularly fan studies (Heljakka 2017, 91).



Figure 4.4.1. #LittleMoonKindergartenClass711 fandom, Plush doll sharings on Weibo Super Topic, 2021.

The Pinkray plush doll community (Figure 4.4.1) was established under this Weibo Super Topic. They crowdfunded the production process, including conceptual drawings, clothes templates, hair colours, facial expressions, and accessories. The Pinkray plush doll is related to a specific dress-up of Pinkray, ranging from a nude plush doll to a prototype of clothes, makeup, related furniture, and even an entire house model. Pinkray plush dolls were often dressed in adorable Lolita prom dresses or a complete copy of Pinkray's public dress code. According to Katriina Heljakka (2017, 103), Pinkray plush dolls hold significant value for players and other fandom members, promoting creative practices, aesthetic appreciation, accumulation, studying, manipulating, organising, displaying, and sharing.

Pinkray's background as an Adam Smith Business School graduate at the University of Glasgow in Scotland adds to his appeal as a young Chinese idol with overseas studying experience. Emma was thrilled by this rarity and expressed a desire to visit Glasgow. The UK is often seen as "British Gaydom", representing a collective LGBT experience, community, and culture. Pinkray's experiences in the UK contributed significantly to the queering process. Creating and sharing Pinkray plush dolls on Weibo's Hot Topic gave many young fans born after the millennial generation joy and fun. The community invited Emma and her friend to play and participate in performances. Pinkray was queered in various outfits, from Lolita dresses to BDSM fetish wear and Japanese school uniforms. As a real-life young boy idol and a collectively acknowledged virtual default fluid body, Pinkray embodies the fluidity of gender and sexual identity, continually being transformed and reimagined by the community.

Emma added, "As also a plush doll fan, I do not think I am only a collector of objects but a creative player of narrative worlds. If Pinkray plush dolls can be put into gaming, lots of my dreams will come true!"

Because of the community's age structure, adding to this ship's bad ending, the community needed 3D creative practices. Thus, I made a series of distorted but cute Pinkray plush dolls as NPCs in the "Pinkray" game level.

I chose Emma's recommended melancholic fanfiction by FocusOnYourLove from the community and translated it into English. I then handwrote it using the VR painting tool in the "Pinkray" game level. In the next section, I will explain the materials in greater detail.

#### **4.4.1 Ryker/White Cat Monitor as NPCs**

Through the practices of queer tuning, I recreated the characters Ryker from the Chinese anime series *Mo Fang Da Sha* and White Cat Monitor from *Black Cat Detective*. I made a new ship of Ryker/White Cat Monitor. *Black Cat Detective*, a children's TV programme from 1984 to 1987, was criticised for intense violence but had a small fandom on Baidu Tieba that made fanart of *Black Cat Detective/White Cat Monitor* (Figure 4.4.2). The fandom transformed the characters into cute androgynous young boys with cat ears, reviving these special old Chinese anime characters with gender-bending personas within the fandom. Sadly, protagonist Ryker in *Mo Fang Da Sha* did not have a fandom or shipping practices, so within the "Pinkray" game level, I remixed Ryker/White Cat Monitor bodies for an alternative gen (general audiences) ship with a platonic relationship.

However, most Black Cat Detective/White Cat Monitor fandom materials have been deleted or banned due to sensitive issues between children's programs and gender-bending.



Figure 4.4.2. Shanghai Animation Film Studio, left: Ryker in the anime *Mo Fang Da Sha*, 1990; right: Black Cat Detective/White Cat Monitor in the anime *Black Cat Detective*, 1987.

Similarly, many Pinkray/Katto fandom members have quit the practices and tried to delete their fanfictions, fanart, and vids online, which made it difficult for me and Emma to find materials for our project. Fortunately, Emma found her Pinkray/Katto vids on Weibo and shared them with me. She argued that fanvids should be regarded as a continuous textual and visual form for investigation in fandom and academic contexts. In addition, she had to ask multiple online closed groups and close friends from the fandom and subcommunities during the material searching and researching process. These challenges highlight the importance of preserving fanworks as a cultural heritage and the need for further studies.

#### **4.5 Creating Cosmotechnics in Pinkray**

Through our collaboration, Emma and I created a new VR game level called "Pinkray" in "HyperBody" by remixing 3D models of Pinkray plush dolls, translating Pinkray/Katto fanfiction by FocusOnYourLove, and including 3D scans of architectural and urban spaces related to Pinkray and Emma as well as Ryker/White Cat Monitor NPCs. Our fanworks are important for fandom and game studies and for developing a cosmotechnic framework. Using tools like vidding, shipping, VR, and game engines, Emma and I engage in cosmotechnic practices that allow a cosmos of

queer tuning to emerge. In the following section, I will explain the tools and the frameworks that emerged from our collaboration in "HyperBody".

#### 4.5.1 Vidding to VR Game Design

Before collaborating in VR and the game engine Unity, Emma used video editing software as an ordinary fandom member to create short fanvids in the shipping genre. Vidding is a creative and critical praxis that can contribute to the methodology of remixing transfeminist futures. However, scholars studying cosmotechnics, such as Yuk Hui and Pieter Lemmens, must discuss how affective cosmotechnics can be created. Affections, especially in shipping vids, are feelings or emotions beyond cognitive attempts to make sense of the world. I demonstrate that Emma and her fandom members have already created an alternative world system through an interview and study of Emma's vidding practices in the Pinkray/Katto fandom. This world system is ready to introduce a specific onto-epistemological framework between culture, technology, and affection.

Emma argued that most members, including herself, did not retain a pre-existing classic notion of the Western idea of queerness. Instead, various Pinkray/Katto ship members shared sincere affections about their "relationship" in real-life and fictional worlds. I collaborated with Emma, expanding and advancing the tools from video editing to VR game creation. We aimed to present a fandom space of culture, technology, and affection that can create an efficient and novel dialogue with a Western understanding of shipping, vidding, VR gaming, and gender identity.

In the "Pinkray" VR game level, we remixed and reconfigured translated Pinkray/Katto fanfiction by FocusOnYourLove (Figures 4.5.1 to 4.5.2), remixed NPCs of Pinkray plush dolls, Ryker/White Cat Monitor (Figures 4.5.3 to 4.5.5), 3D scans of architectural and urban spaces related to Pinkray and Emma (Figures 4.5.6 to 4.5.8).<sup>25</sup> Like Emma's feedback, NPCs, 3D scans, and spaces were understood, and a soft, feminised relationship slowly formed. Through our collaboration, we initiated an affective cosmotechnic practice in the game engine and revealed a cosmos of queer tuning.

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<sup>25</sup> Qiang-001 - Pinkray Game Level - Walkthrough.mp4 is available on the storage media attached to this thesis. See List of Audio-Video Materials on page 7-8.



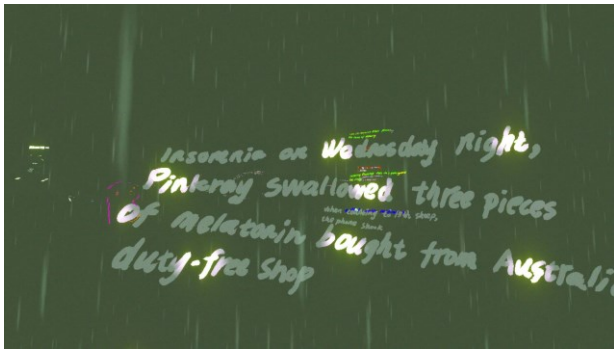


Figure 4.5.1. Pinkray VR Game Level, Gameplay Screenshot, One section of translated version Pinkray/Katto fanfiction by FocusOnYourLove, fanfiction rewritten in an affective cosmotechnic as multiple 3D objects.

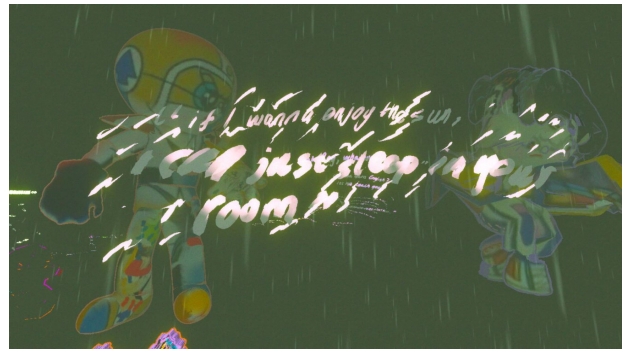


Figure 4.5.2. Pinkray VR Game Level, Gameplay Screenshot, One section of Pinkray/Katto fanfiction 3D object intersects with Ryker/White Cat Monitor remixed personas in the background.



Figure 4.5.3. Pinkray VR Game Level, Gameplay Screenshot, Ryker/White Cat Monitor remixed personas.

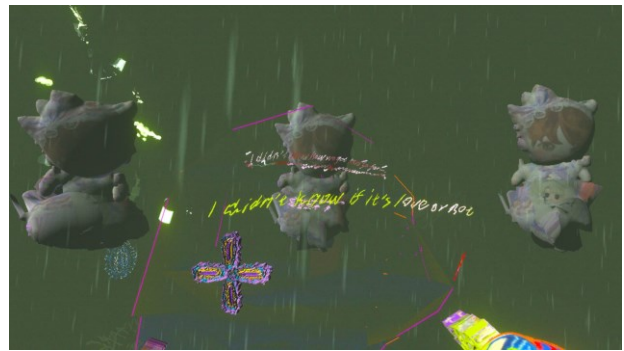


Figure 4.5.4. Pinkray VR Game Level, Gameplay Screenshot, remixed personas of Pinkray plush dolls.

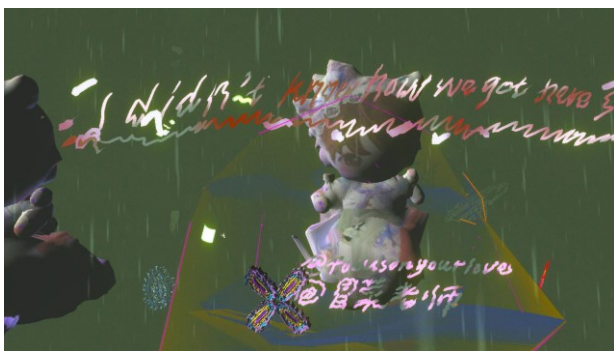


Figure 4.5.5. Pinkray VR Game Level, Gameplay Screenshot, One section of Pinkray/Katto fanfiction



Figure 4.5.6. Pinkray VR Game Level, Gameplay Screenshot, 3D scan spaces related to Pinkray/Katto and Emma.

3D object intersects with remixed personas of Pinkray plush dolls in the background.



Figure 4.5.7. Pinkray VR Game Level, Gameplay Screenshot, Other remixed personas for shipping.

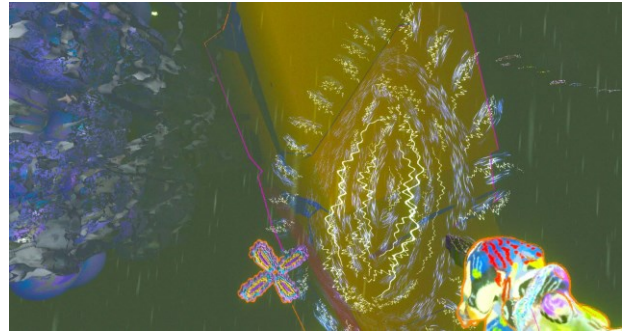


Figure 4.5.8. Pinkray VR Game Level, Gameplay Screenshot, Portal: leading players to another affective cosmotechnics.

#### 4.5.2 Vulnerable Frameworks

Rather than approaching Emma's shipping vids and our collaboration from a Western perspective of queerness, we have chosen to highlight the concept of queer tuning through the lens of passive virtue. An opaque and non-linear approach to the overwhelming external pressure of established cultural, political, and moral values represents queer tuning. A feminine persona, feminised language, and a gentle expression of affection and imagination of femininity characterise this approach. The cultural and gender identity associated with passive virtue is deliberately vulnerable, with a soft and elastic quality and a vague sense of resentment and depression that emerges from an ambisexual mindset.

As an alternative to the Anglo-American model of fandom studies, a cosmotechnics of queer tuning is proposed to study the relationships between culture, technology, and affection in game-fandom studies. Queer tuning is defined within the "Pinkray" VR game level as deliberately chaotic, unstable, performative, and fictional, potentially creating multi-layered NPCs, 3D scans and spaces. Emma and I tuned them through shipping, creating a game-fandom space for a dialogue of queerness.

Under the ethical-onto-epistemological framework of queer tuning, gender is not the most critical aspect. Instead, it is essential to passively blur and remix physical and virtual personas to create



new gender-fluid works. These works can be disseminated beyond closed fandom communities, using and challenging more technological tools and accumulating an affective spatial archive.

In a conventional fandom study, there is often a separation between the technical and technological analysis of video editing and VR game making. VR game-making is rarely considered a conceptual and methodological tool within fan studies. While a conventional fan study of shipping examines a well-defined zone of shipping practices within a specific community and genre, it often lacks an examination of the embodied technical and technological contexts. Fan studies should examine multiple technical and technological contexts to avoid creating bounded categories of texts, images, and videos. A game-fandom study should aim to create entanglements between objects and subjects rather than maintaining boundaries between them.

In a game-fandom study of *Creating VR Gamespace*, the analysis of vidding and VR game-making informed Chinese fandom shipping practices. Focusing on Emma's shipping practice in the Pinkray/Katto community, we proposed queer tuning. The "Pinkray" VR game level, through the collaboration between Emma and me, acted as a conceptual and methodological tool to bridge culture, technology, and affection. Under cosmotechnics, queerness and gender were compared to physical and virtual personas for passively blurring and tuning. A straightforward expression of queer culture and identity was compared to a gentle affection and imagination of femininity. Such a deliberate vulnerability can create more novel genderfluid works and disseminate them under Chinese political, cultural, and technological contexts.

#### **4.6 Intra-actions of Pinkray**

There was no border between the interviewees, me, and their fandom practices during the interactive interview. Emma and I positioned Pinkray/Katto fandom context into the notion of a cosmotechnics of game-fandom. Emma expressed and reflected on a broader context of their online fandom practices. After considerable time and multiple sessions, I stayed self-reflexive in my knowledge of situatedness, which informs autoethnographic thesis writing. As I highlighted to Emma during our conversation on her fan practices, I avoided informing her of a pre-existing and distinct boundary between the fanwork genre of vidding and the fan practice type of shipping. Emma's practices have a soft, vulnerable, and unstable relationship between vidding and shipping. Vidding is a technical tool that provides a broader online audience and platform for Emma to create multiple personas and narratives based on the Pinkray/Katto ship. Through the shipping vids, Emma and her fandom members did not retain a pre-defined notion of queerness and being

LGBTQ. They shared sincere affection for their soft and unstable "relationship" in real-life and fictional worlds. In Emma's practice, a re(con)figuration of shipping and vidding demonstrates a new world system that remixes a fandom future with queer tuning.

Based on the process-based interactive interviewing and collaboration, Emma and I pushed a cosmotechnic further. From video editing to game-making technologies, these two technics were re(con)figured to form a new VR game level, "Pinkray". In "Pinkray", translated Pinkray/Katto fanfiction by FocusOnYourLove (Figures 4.5.1 to 4.5.2), remixed personas of Pinkray plush dolls (Figures 4.5.3 to 4.5.5), 3D scans of architectural and urban spaces related to Pinkray and Emma (Figures 4.5.6 and 4.5.8) demonstrated a vulnerable doing and making of boundaries for an affective cosmotechnics. Transformed from passive video watching to an active format of immersive game playing, we both recognised that Pinkray/Katto fandom and related works in the VR game level could become meaningless without interviews and collaboration. Vidding, gaming and shipping were intra-acted, and the Pinkray/Katto ship was reconfigured. As a creator and a player, Emma and I constantly exchanged, diffracted and influenced each other.

From interactive interviewing to collaboration, Emma's shipping vid informs the entanglement of Pinkray/Katto, in which the queer tuning only emerges as intra-action. Combining Emma's shipping vids, Pinkray/Katto fanfictions, "Pinkray" VR gameplay, Pinkray/Katto personas, and related NPCs is a constant process of becoming and being. A game-fandom by agents of vidding, shipping, interviewing, and collaborating are constantly emerging as intra-actions.

#### **4.7 Discussion**

This chapter has unravelled an intricate identity creation, exploration, and perpetuation process within fandom and gamespace. Grounded in the method of digital ethnography, I have examined the exchange and mutual influence between Chinese fandom members, as exemplified by my interactive interviews with Emma, a vidding artist and Pinkray/Katto shipper.

Emma's quote:

*From the soft femininity of queerness, gender is not that important. The more important part is how to passively blur and remix both physical and virtual personas to create novel genderfluid works. What I expect is a real fandom of the near future, with emerging technological tools.*

By expressing her feelings and interpretations about the Pinkray/Katto relationship through shipping vids, she gave a tangible form to the abstract relationships and undertones, highlighting the queer tuning in the "Pinkray" VR game level.

The intra-action of Emma and me has led to the creation of a dynamic, continuously evolving gamespace of Pinkray/Katto; multiple narratives and identities coexist and intermingle. These narratives blur the boundaries from VR gameplay, personas, NPCs, and fanfiction to shipping vids. They have transformed the VR gamespace into a game-fandom cosmotechnics continually reshaped by our actions and dialogues.

This constant process of becoming and being demonstrates how a VR gamespace can operate as a new form of discourse that extends beyond traditional definitions and encompasses the collective process of creation and interpretation within and beyond the fandom.

The Pinkray/Katto fandom, as evidenced through Emma's shipping vids and their impact on the "Pinkray" VR game level, provides a powerful example of how VR gamespaces can enable and empower players to explore, construct, and express their identities in ways that are different from those in the physical world and conventional online communities. Through the lens of queer tuning, we can perceive a compelling future where VR gaming experiences could redefine our conceptions of self, community, narrative, culture, technology, and affection.

#### **4.8 Chapter Summary**

This chapter investigates the transformative potential of co-creating the "Pinkray" game level, examining Chinese fandoms' intricate identity creation and interpretation process. Through digital ethnography, it explores the dynamic relationship between game designers and fandom members, illustrated by the Pinkray/Katto fandom and the vidding artist within it, Emma. Her shipping vids and the fandom's collective efforts reveal the conceptual framework of queer tuning in VR gamespace. They also demonstrate how the VR gamespace can tune multiple identities and narratives to coexist and intra-act, transforming the "Pinkray" game level into a game-fandom cosmotechnics. Pinkray/Katto shipping practices and "Pinkray" game design create a fundamental ethico-onto-epistemological framework. Shipping creates a passive, soft and fluid relationship between bodies and characters in VR gamespaces. It is a cosmotechnic for describing, studying, and remixing fanworks under queer tunings that emerge as intra-actions. The next chapter will

address an expanded understanding of culture, technology, and affection through the perspectives of technical game design.

## 5. Describing VR Gamespace

This chapter will present the technical and technological perspectives of describing the audio-visual VR gamespace in Unity with the sound engine Wwise. The ethnographic materials and resulting game levels must be dissected through 3D scanning, 3D painting VR applications and the game engine environment. From a technical game design perspective, detailing the specificities of space-making in visual and audio aspects is crucial.

The "HyperBody" VR gamespace encompasses five distinct levels: "Pinkray", "Seventeen/Sixty-One", "Garden Portal", "Vampire Squid", and "Typhoon Lionrock". Each level adheres to a consistent design framework incorporating text, image, video, mesh, texture, scale, collision, fog, and audio elements. Due to the complex integration of multiple audio-visual components and digital ethnographic materials, "Pinkray" and "Seventeen/Sixty-One" are more comprehensive illustrations of the design framework in action, thus meriting a more in-depth exploration. In this chapter, I will delve into the intricacies of two specific levels, "Pinkray" and "Seventeen/Sixty-One". In the next chapter, I will evaluate experimental VR experiences at all levels, except for "Seventeen/Sixty-One". The spatial arrangement and path construction of "Seventeen/Sixty-One" are similar to "Pinkray".

As I introduced "Pinkray" in the previous chapters, participants can experience the ideas of a multi-fandom VR gamespace through a narrative path of fanfiction. "Seventeen/Sixty-One" (Figure 5.1.1) was developed to interrogate the connections between 3D text object, 2D image, 2D animation video, and NPC in the VR gamespace. Based on my interview and collaboration with Tang Fei, like "Pinkray"'s narrative path, "Seventeen/Sixty-One" serves as a VR visual novel from my adaptation and modification of Tang Fei's two short stories, "1761"<sup>26</sup> and "Spore".<sup>27</sup>

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<sup>26</sup> 1761's English translation can be accessed from The Science Fiction Research Association (SFRA) Review: <https://sfrareview.org/2021/04/02/1761/>.

<sup>27</sup> Spore's English translation can be accessed from Clarkesworld Magazine: [https://clarkesworldmagazine.com/tang\\_05\\_21/](https://clarkesworldmagazine.com/tang_05_21/).

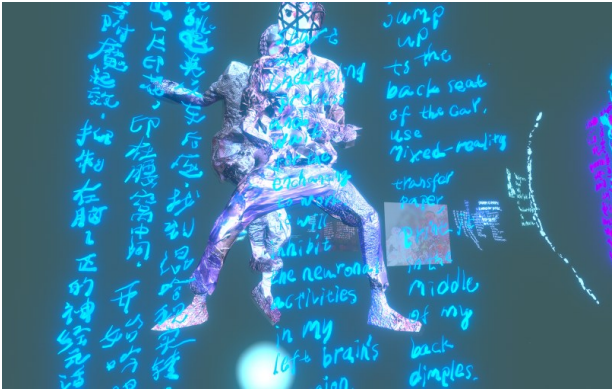


Figure 5.1.1. Seventeen/Sixty-One, gameplay screenshot, the animated 3D text objects intersect with NPCs and image objects in the background.



Figure 5.1.2. Garden Portal, gameplay screenshot, 3D scan staircase leading to the walled garden (3D scan of UCCA Edge's outdoor terrace).

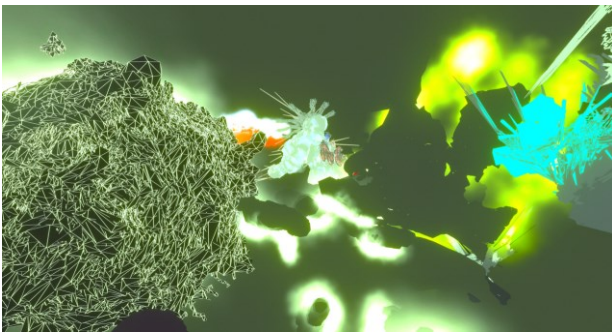


Figure 5.1.3. Vampire Squid, gameplay screenshot.

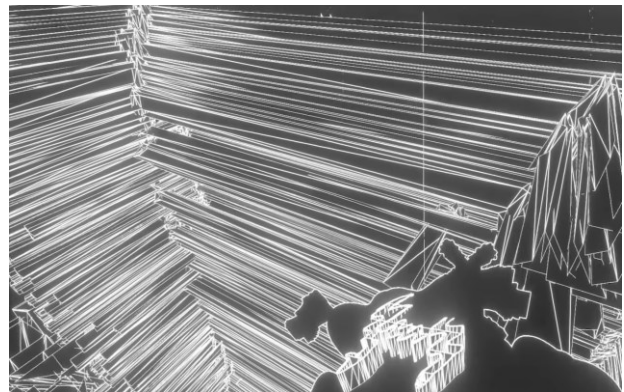


Figure 5.1.4. Typhoon Lionrock, gameplay screenshot.

"Garden Portal" is a game level commissioned by UCCA Edge, an independent Chinese institution of contemporary art in Shanghai. I transform the institution's outdoor terrace into a 3D scan game environment (Han, Tang, and Long 2022). As Figure 5.1.2 shows, "Garden Portal" provides participants with a primary VR navigation through 3D scan architectural space, and the sound remains incomplete and imperfect.<sup>28</sup>

"Vampire Squid" was created during my Vilém Flusser Residency for Artistic Research in 2020. Based on the research on Vilem Flusser's Vampyroteuthis Infernalis, the fictional notions and relationships of space, sexuality, skin, and modification are demonstrated. Inspired by Flusser's

<sup>28</sup> Qiang-003 - Garden Portal Game Level - Walkthrough.mp4 is available on the storage media.

writing on fictional bodies and his ideas around skin, space, and sexuality, the game level creates an abstract cosmos of fragments of bodies and materials (Qiang 2021). 3D scans of spaces, cartographies, and surfaces in London and Berlin are remixed into multiple worlds within the game engine. The result is a complex ethnographic archive (Bross 2020). Figure 5.1.3 shows that "Vampire Squid" offers players an abstract and more complex spatial experiment between 3D scans and cosmotechnics.<sup>29</sup>

"Typhoon Lionrock" is a highly conceptual and complex game level about my reflection on Chinese cosmotechnics.<sup>30</sup> It was created when I audited Yuk Hui's philosophy course at the City University of Hong Kong in 2021. Technically, this game level is designed purely for speculative thinking of movement, direction, body-space scale, and soundscape in VR gamespace.

"Pinkray" and "Seventeen/Sixty-One" are engaged with digital ethnography and autoethnography. My interviewees, including Tang Fei, Jingzhi, Aristo, CheeseTalk, Tianqi, and Linn, will be addressed iteratively. They are in Appendices A, B, C, and D. Based on two specific game levels, "Pinkray" and "Seventeen/Sixty-One", I will first describe text, image, and video based on the visual novel game. I will connect my architectural background to VR game design through mesh, texture, and scale. The methods of bills of quantities and non-collision physics will be used. I will also reflect on the flatgame idea in indie games to study collision, fog and rainfall effects. Lastly, I will elaborate on using the sound engine Wwise to configure audio objects for randomisation, spatialisation, and effects.

## **5.1 Text, Image and Video**

The "HyperBody" VR gamespace is based on the context of ACGN game-fandom. As I clarified earlier in the Literature Review, a game-fandom entanglement offers a new perspective of consuming and experiencing gameplay and source text expands towards transformative gamespace and narrative space. In "Pinkray", I rewrite the Pinkray/Katto fanfiction and import it into the VR gamespace as multiple animated 3D text objects (Figure 5.1.5). "Seventeen/Sixty-One" is designed as a VR visual novel. I collaborate with my interviewee Tang Fei, rewrite her novels, and import them as 3D text objects. The 3D text objects of fanfiction and novels create the narrative that is the fundamental element in the VR gamespace.

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<sup>29</sup> Qiang-004 - Vampire Squid Game Level - Walkthrough.mp4 is available on the storage media.

<sup>30</sup> Qiang-005 - Typhoon Lionrock Game Level - Walkthrough.mp4 is available on the storage media.

This section will examine the notion of the visual novel first. I will analyse further how text transforms into a 3D text object in the gamespace. Through the description of "Pinkray" and "Seventeen/Sixty-One" from both VR gameplay and Unity editor, the narrative text is achieved as a series of 3D text objects with various handwriting styles, calligraphy, and materials without the collision effect. 2D illustration and animation videos are performed as 3D skin fabric with the collision effect. Through the text, image and video design, the VR gamespace provides an experimental reading experience for the player. The visual novel with texts, images, and videos is expanded and complicated by alternative navigation regardless of classic VR skills and experiences of exploring the gamespace.

### **5.1.1 Visual Novel**

Visual novels can be traced back to Japan's reading culture and the technological development of a new reading experience during the Millennium. The visual novel is a type of interactive fiction game presenting a narrative through illustrations, animation, and sound (Kamei-Dyche 2017, 13). It intermediates between short fiction and video games and depends on the player to choose various endings. The minimalist interaction of the visual novel makes it difficult to gain an international audience, although being a popular cultural product in ACGN fandoms from Japan, mainland China, Hong Kong, and Taiwan. Although the number of published works remains low compared to other game types, the visual novel is argued to be one of the most relaxing games because the core is the story and how players choose the story (Hakkun et al. 2018). The visual novel can be used as an educational methodology to help the hospital improve patients' engagement via increasing empowerment and self-efficacy. Under some settings, visual novel games may outperform other health interventions (Yin, Ring and Bickmore 2012).

In ACGN fandoms, the gal game, or bishōjo game, is a visual novel featuring attractive female characters. In the research on community identity, gender, and romance, Siheng Zhu (2020, 49-50) demonstrates that in response to the objectification of women, gal games present a gentle, soft, non-aggressive, and non-patriarchal behaviour that is crucial for romantic goals in the story. A new dimension of masculine expression can be established that informs ACGN fans' attitudes toward gender politics. Additionally, regarding multi-scenarios, the visual novel is designed as hypermedia in which multimedia elements (image, sound, and video) and multi-scenario structures are entangled by the narratives. The narrative of the visual novel is viewed as hypertext that is not constrained to be linear and opens to the reader's choice (Lee 2018).



Based on the study of the visual novel as a type of video game, current analysis within the boundary of ACGN fandoms and gender politics needs to be expanded into technical and technological interrogation, such as text, image, and video.

### 5.1.2 Animated 3D Text Objects in Pinkray

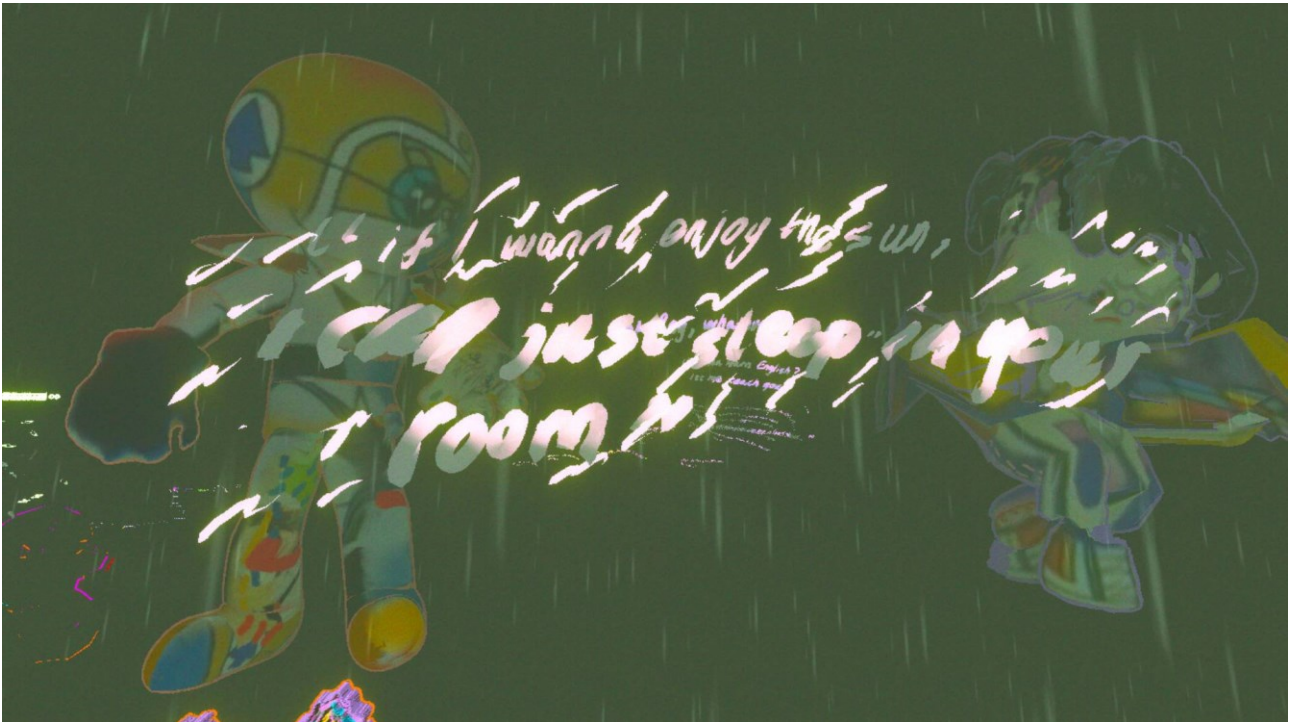


Figure 5.1.5. Pinkray, gameplay screenshot, one section of Pinkray/Katto fanfiction as a 3D text object.

In "Pinkray", based on Pinkray/Katto fanfiction, I create the narrative text as a series of 3D text objects in 1:1 scale life-size. Figure 5.1.5 features one sentence section from the narrative. The sentence is "If I wanna enjoy the sun, I can just sleep in your room", which I paint and animate in the software Oculus Quill.<sup>31</sup> Oculus Quill is an intuitive 3D painting and animation software for VR devices.

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<sup>31</sup> The details of Oculus Quill can be accessed via: <http://quill.art/>.

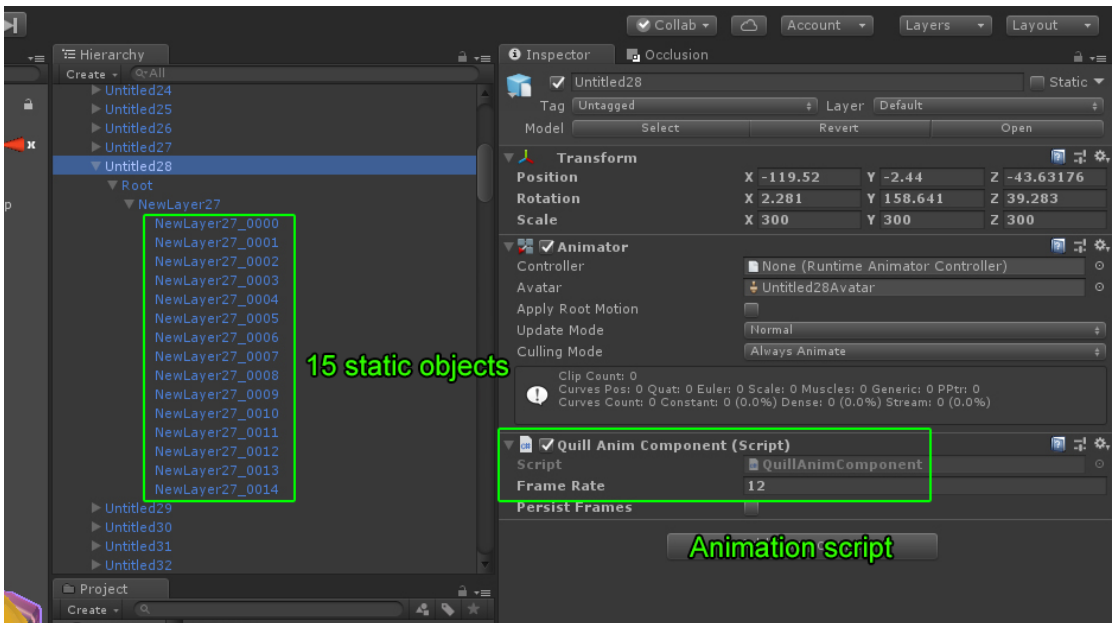
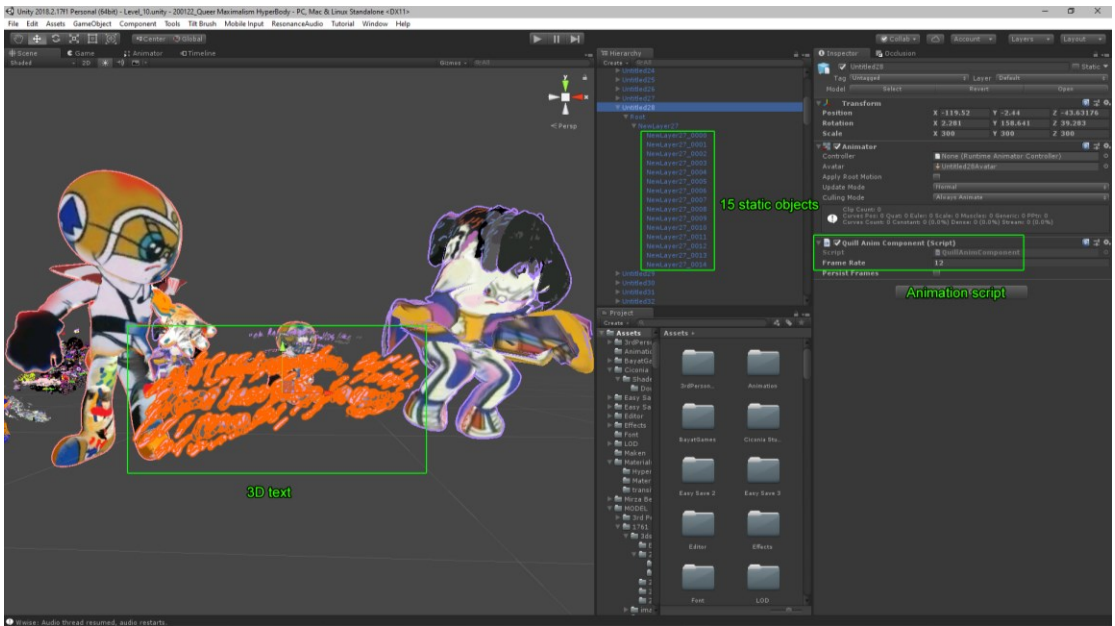


Figure 5.1.6. The animated 3D text object "If I wanna enjoy the sun, I can just sleep in your room".

Figure 5.1.6 presents the sentence in the Unity editor as orange highlights. The sentence is a 3D text object containing 15 static objects. A script is added to animate 15 objects with a frame rate of 12.<sup>32</sup>

<sup>32</sup> The animation effect can be seen from Qiang-001 - Pinkray Game Level - Walkthrough.mp4 available on the storage media, from 0:00.

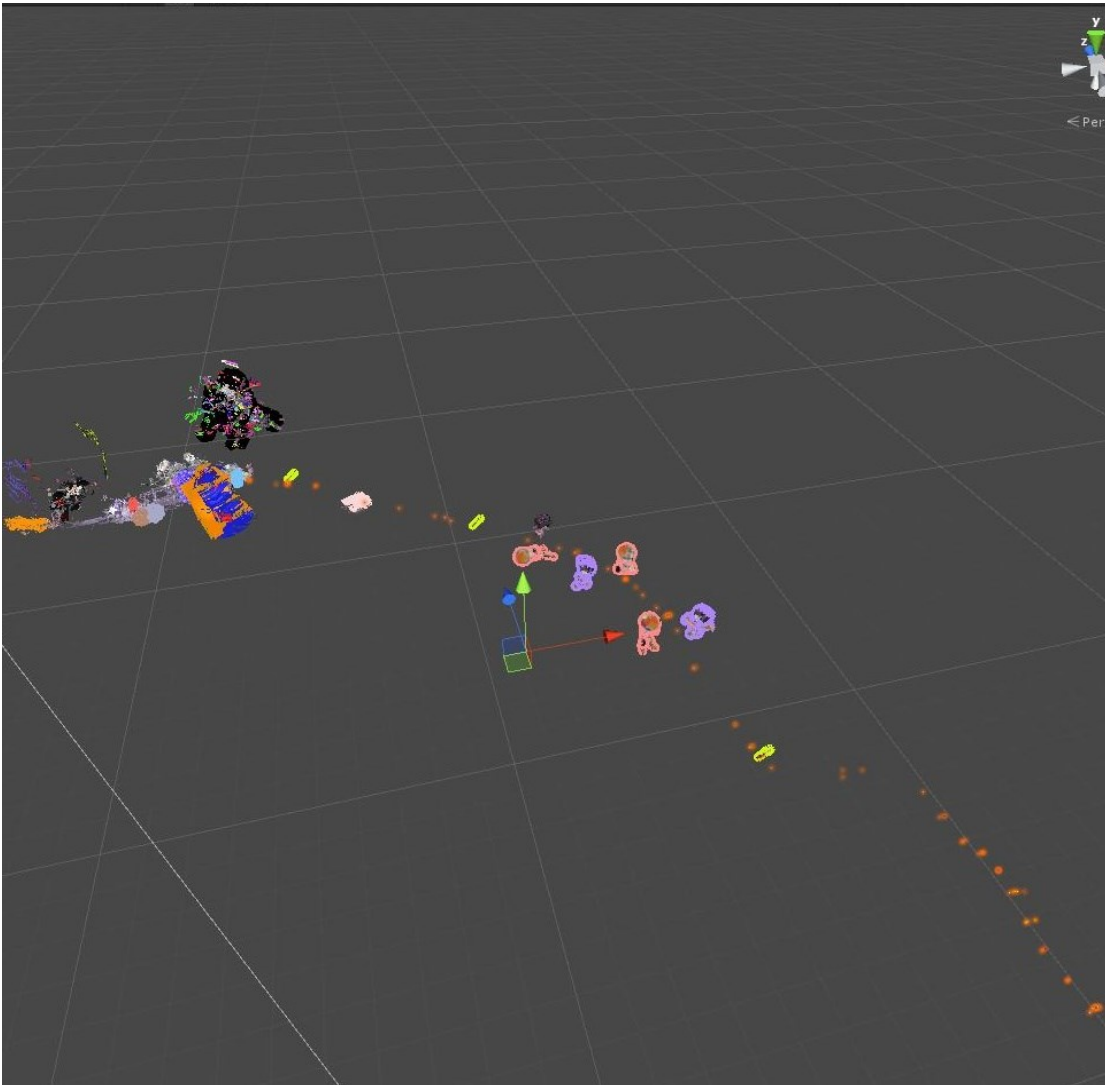


Figure 5.1.7. Aerial view of game level Pinkray, with a group of animated 3D text objects highlighted.

The complete narrative text is divided into 72 distinct animated 3D text objects painted and then animated. Figure 5.1.7 shows an aerial view of the game level "Pinkray". Despite multiple 3D scans, NPCs and architectural projects disseminated in the VR gamespace, 72 animated 3D text objects are highlighted orange as a curved line. It creates a sensible, lively, and permeable narrative path that guides players to navigate and fork to various NPCs to form their understanding of game-fandom in the spatial reading experience.

With such a basic setup to transform a piece of fanfiction into multiple animated 3D text objects, the player is encouraged to adapt to the immersive reading in VR that the narrative encloses and surrounds the player's embodiment rather than a popped-up text layer. Texts are not read linearly but comprehended as a 1:1 scale life-size narrative path being touched and penetrated. The player learns the deliberately fragmented meaning when navigating the space, forming an individualised experience.

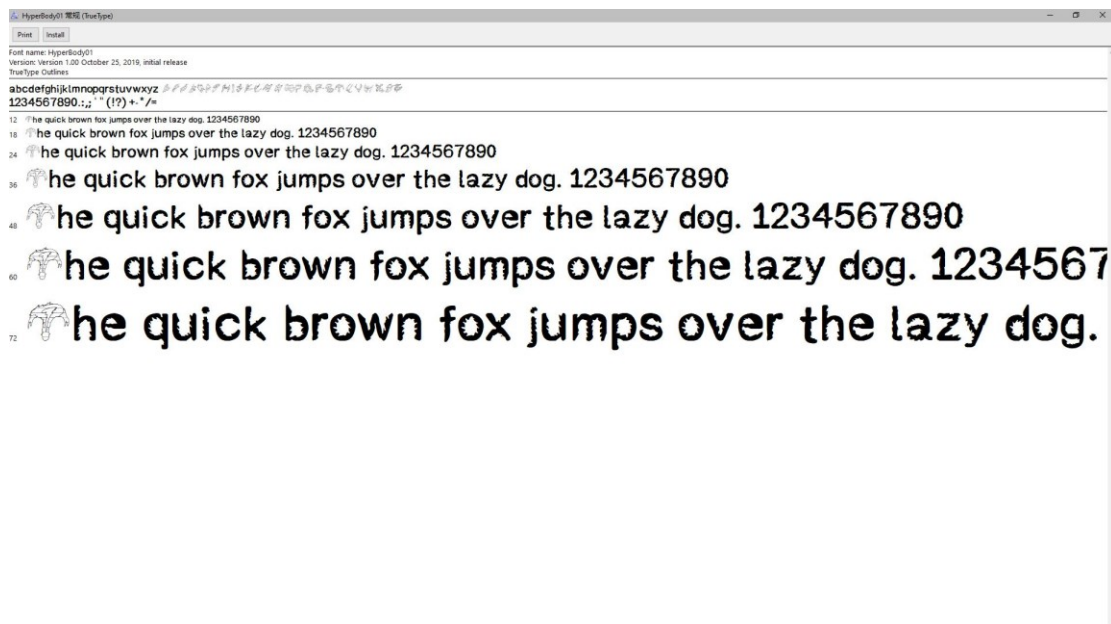


Figure 5.1.8. Preview of font HyperBody01.

Comparably, I design a font style (Figure 5.1.8) to show the dialogues of NPCs in the VR gamespace as standard text. For example, when the player approaches the Pinkray plush doll, the hidden dialogues as the standard text with font HyperBody01 will be activated (Figure 5.1.9).

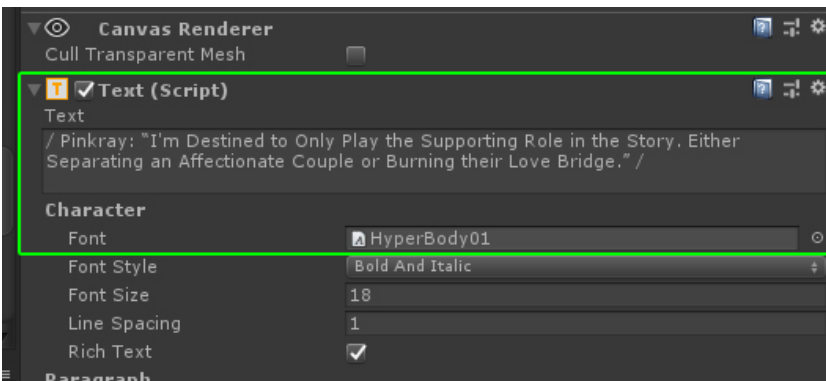
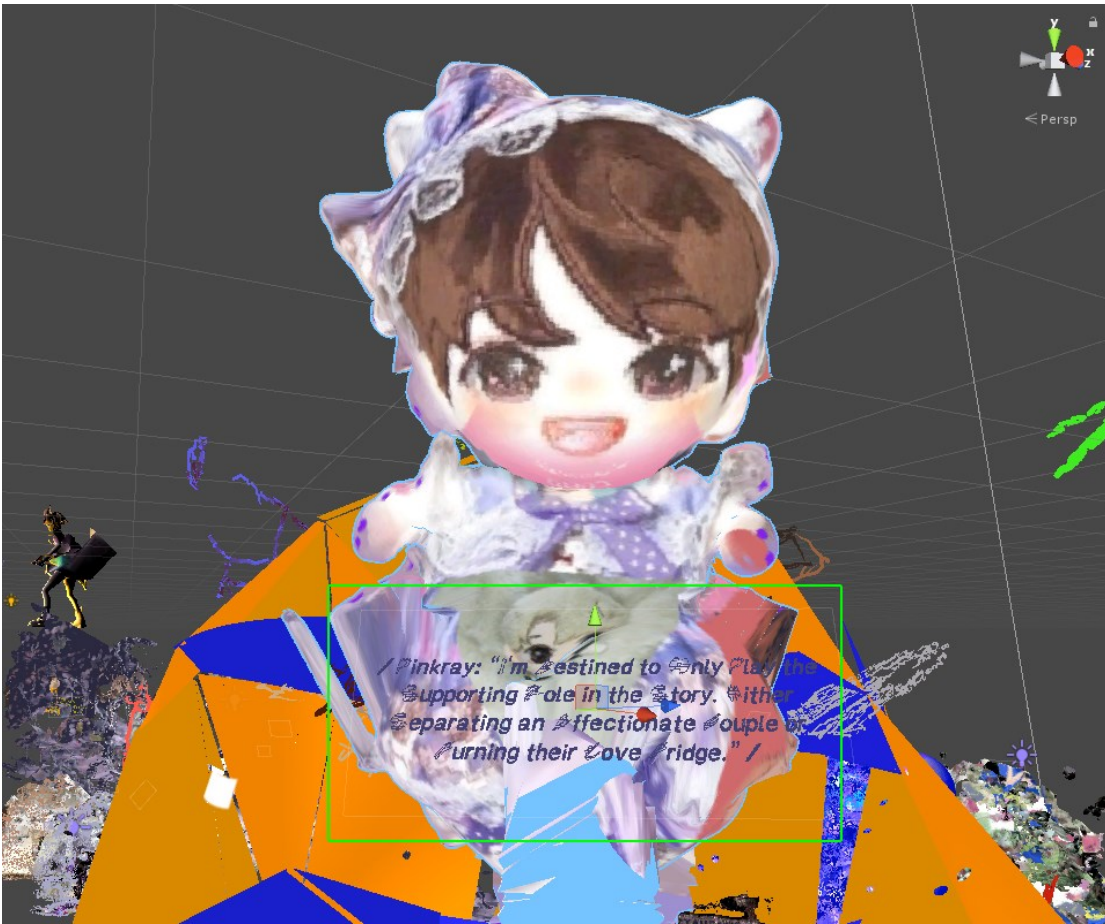


Figure 5.1.9. Properties of Pinkray1 text.



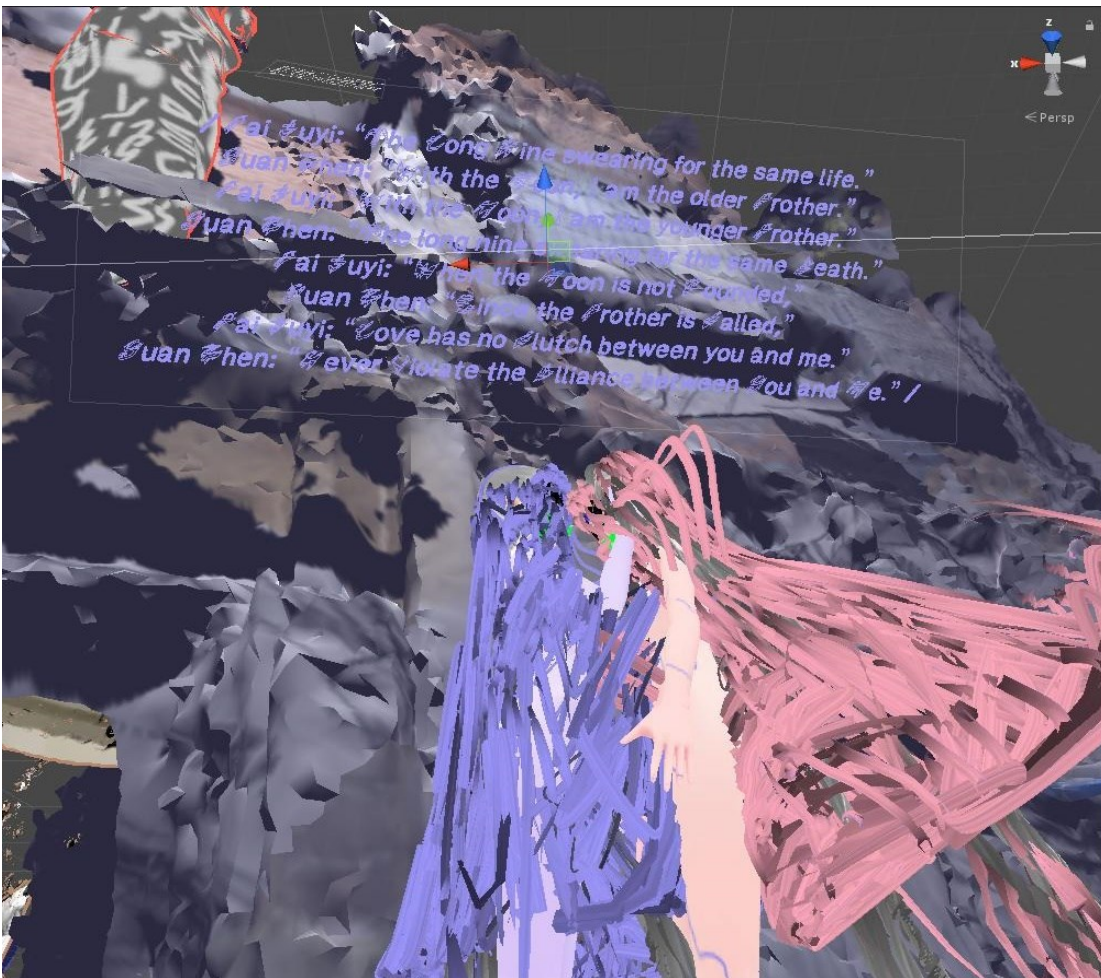


Figure 5.1.10. Properties of Baijuyi text.

Compared to the animated 3D text object, the dialogues of NPCs are shown as standard text objects (Figures 5.1.9 and 5.1.10). The standard text objects varied in rotation and scale are specifically intermediated between the NPCs and their adjacent 3D scans and architectural mods. These standard text objects are overlaid with characters' voices in Chinese Mandarin and English with American, British, Japanese and Russian accents. The contexts of the voice acting are based on Tianqi and Linn's reading experiences in Chinese BL novels, which will be specified in the later dedicated section of Audio.

In "Pinkray", the narration is achieved as the 3D animated text object and interactive standard text. Through the design of the 3D animated text object, the player is enclosed and surrounded by the narrative, in which a 1:1 scale life-size narrative path is touched and penetrated. Players comprehend the deliberately distorted meaning and form their understanding of the narrative.

Through the design of interactive standard text, the dialogue texts and sounds are contextualised with NPCs and 3D scans. The player's navigation expands and complicates the reading experience through texts and NPCs.

### 5.1.3 3D Text Objects, 2D Image, and Video in Seventeen/Sixty-One

"Seventeen/Sixty-One" is a VR visual novel game level that explores the reading experience through 3D text object, 2D image, 2D animation, and NPC. It is based on Tang Fei's short stories "1761" and "Spore", which I adapted, integrated and modified. The game level offers an alternative perspective on the relationship between body, modification, and archive and invites the player to experiment with narrative and scenario restructuring through an immersive VR reading experience. Ethnographic details on creating "Seventeen/Sixty-One" are available in Appendix A.

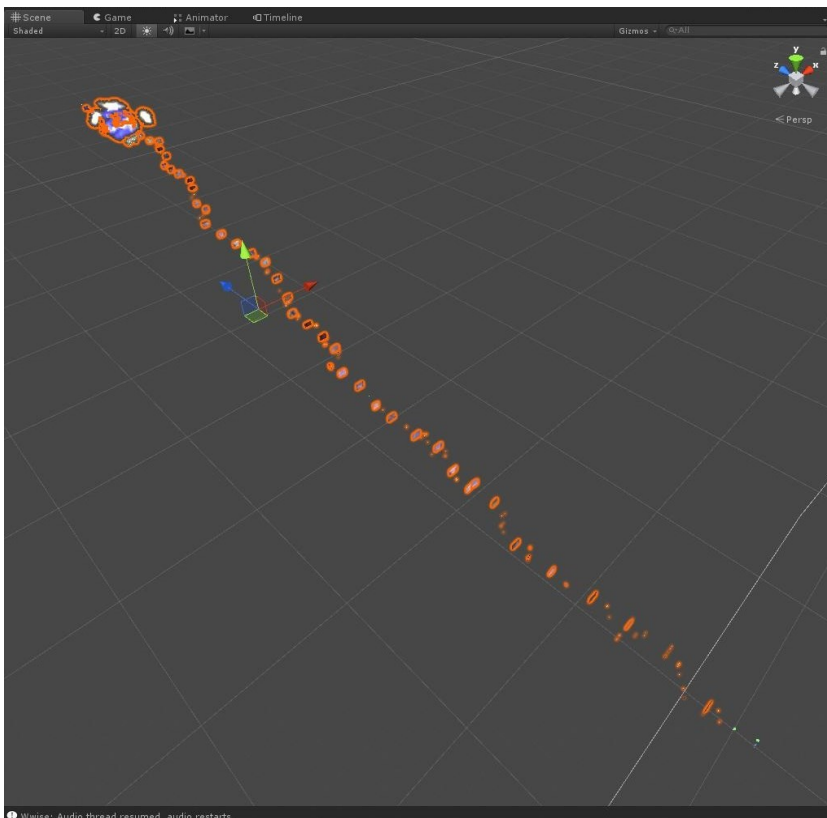


Figure 5.1.11. Aerial view of game level Seventeen/Sixty-One, with a group of the 3D text objects highlighted.

"Seventeen/Sixty-One" is designed as a continuous narrative path containing 44 orange sections highlighted in Figure 5.1.11. Each section includes a 3D text object and a 2D illustration or 2D animation. This slightly winding narrative path invites the player to permeate the space by going forward, backward, upward, and downward. The depth in spatial navigation is emphasised in the VR visual novel game.

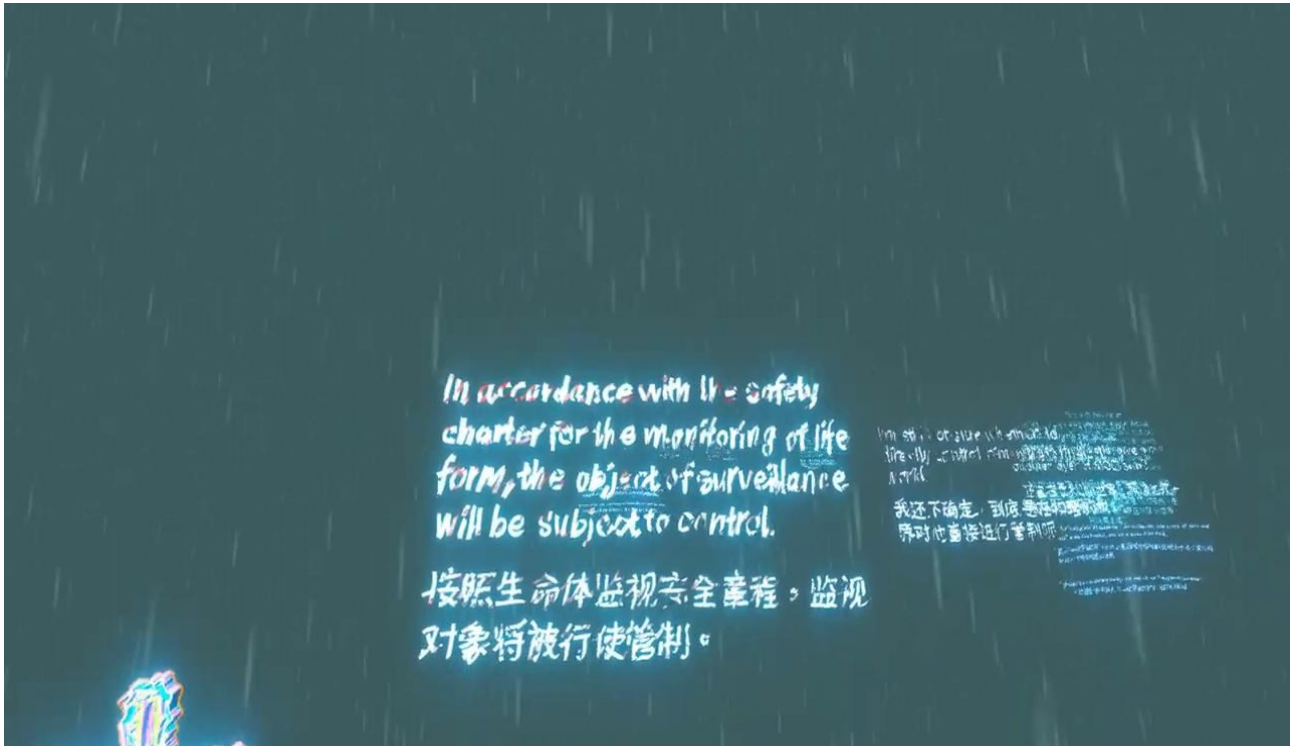


Figure 5.1.12. Seventeen/Sixty-One, gameplay screenshot, the 3D text object in the narrative path with dense fog effect, overlaid with other 3D text objects in the background.

"Seventeen/Sixty-One" creates a thick fog effect in which 2D illustrations, animations and 3D NPCs can only be seen within a short distance. Figure 5.1.12 shows a specific 3D text object as the player permeates through the narrative path:

*In accordance with the safety charter for the monitoring of life form, the object of surveillance will be subject to control.*

Unlike the animated 3D text objects painted in the software Oculus Quill in "Pinkray", I paint the 3D text objects in "Seventeen/Sixty-One" in the VR painting software Tilt Brush by Google. Tilt Brush helps me provide experimental handwriting styles and calligraphy to explore a spatial reading in



navigation experience. For example, Figure 5.1.12 text fits the regularised handwriting with a seen-through, penetrable, and reflective stroke order.

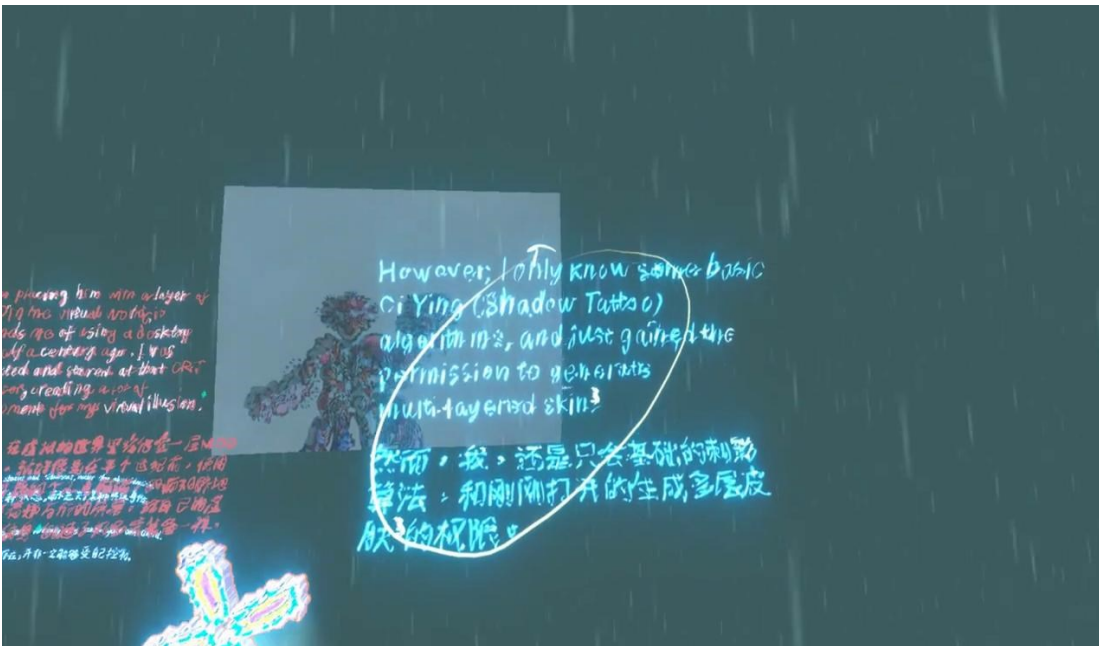


Figure 5.1.13. Seventeen/Sixty-One, gameplay screenshot, the 3D text object in the narrative path with dense fog effect, overlaid with 2D illustration in the background.

Figure 5.1.13 shows another 3D text object:

*However, I only know some basic Ci Ying (Shadow Tattoo) algorithms, and just gained the permission to generate multi-layered skin.*

According to the story and the protagonist's emotion, the handwriting tends to be more cursive, and an extra circle stroke stresses the critical terms "Ci Ying" and "Shadow Tattoo". A soft highlight material breaks the strokes and makes the sentence less readable. Only a circle and letter fragments can be seen if the player stays too far from this 3D text object. Players must navigate very close to reading specific terms, which allows different levels of detail and readability according to body-object distance.

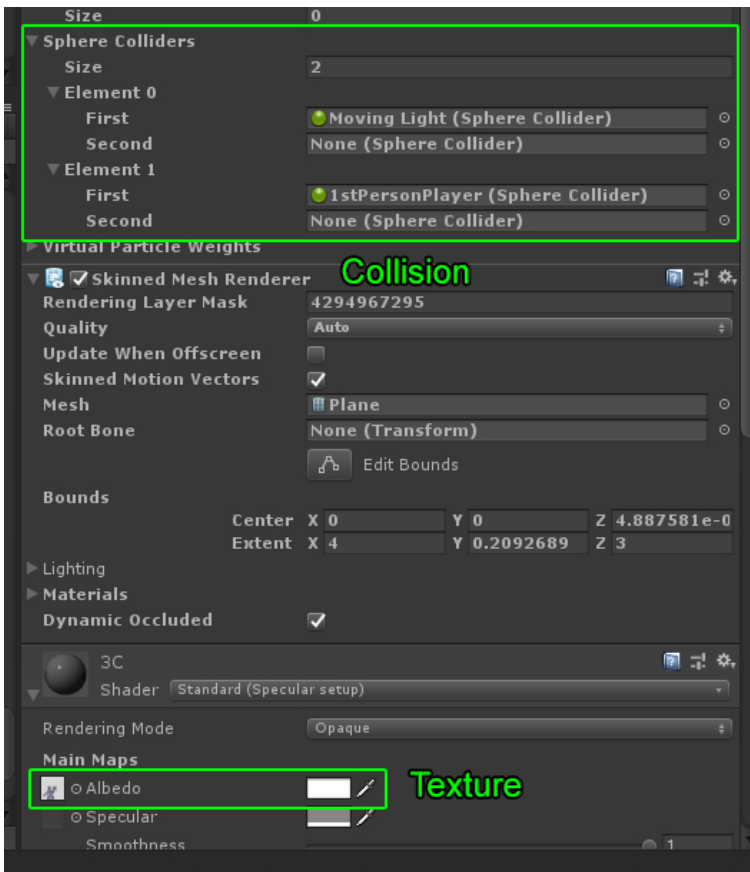
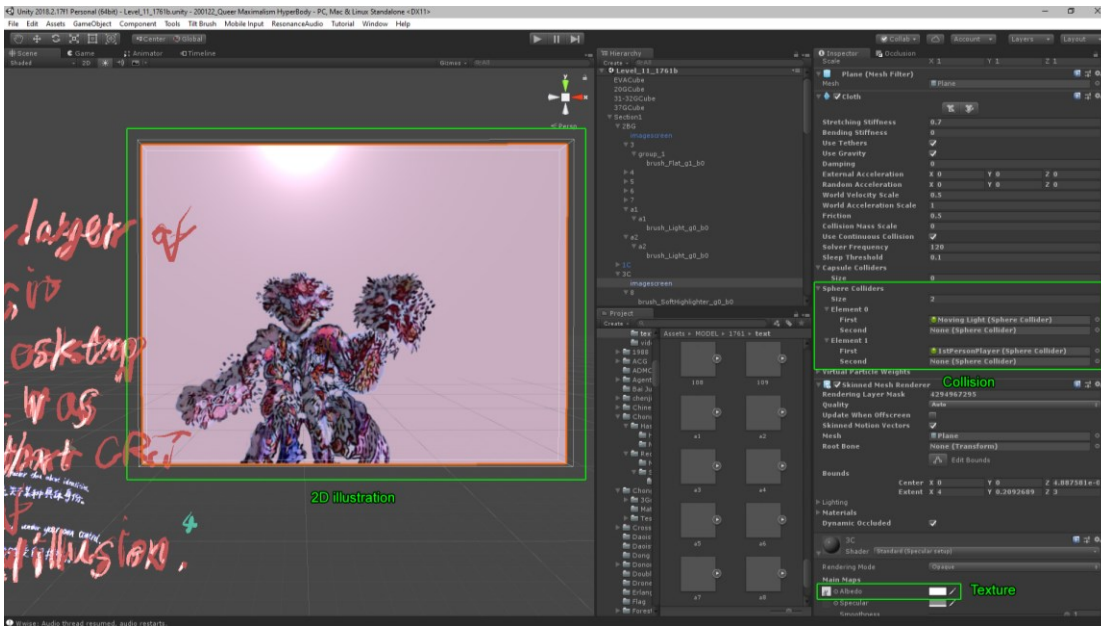


Figure 5.1.14. Properties of imagescreen as a 2D illustration.

Figure 5.1.14 specifies how a 2D illustration is achieved. Compared to the 3D text object, I use the cloth collision component with sphere colliders and insert the illustration (JPEG image) as texture.

The 2D illustration collision effect presents an experience of penetrating a thick-skin fabric. The player is confronted with a specular rectangular skin hanging in the air, waiting to be pushed by the VR controllers. Then, the player can shake the skin fabric and move through.<sup>33</sup> The unusual collision of a specular skin with a 2D illustration is the opposite of the non-collision 3D text object. However, in a standard VR game, 3D objects are intuitively designed as able to collide, and 2D objects are mostly attached to 3D objects as texture without collision components. This contrast blurs the boundaries between 2D and 3D objects and can trigger a distorted spatial experience. The player must reconsider the traditional skills, experiences and episteme of navigating, touching, and interacting with 2D and 3D objects, particularly in the VR gamespace.

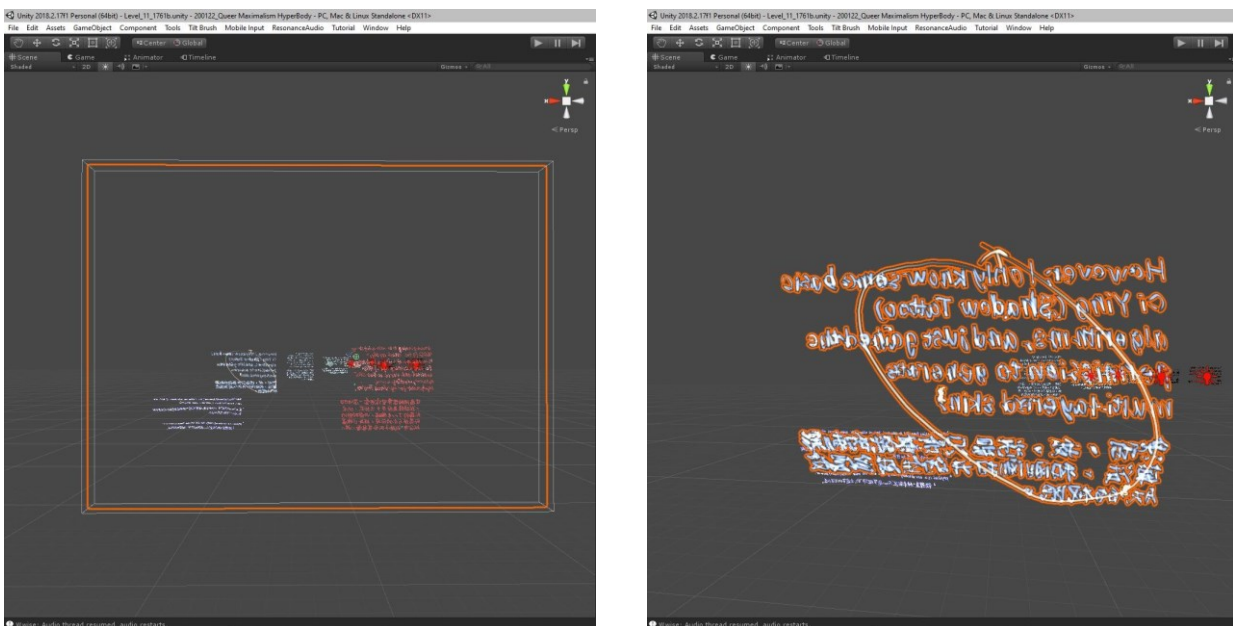


Figure 5.1.15. 2D illustration as a skin fabric, invisible in the back view (left) and 3D text object, visible in the back view (right).

Unlike the standard view of the 3D text object, the 2D illustration (Figure 5.1.15) is intentionally designed as single-sided, which means once a player penetrates a skin fabric, it is invisible when looking back. I design the 2D illustration as skin fabric can be collided to demonstrate the classic 3D object property in the game engine. However, the single-sided setting of 2D illustration breaks

<sup>33</sup> The collision effect can be seen from Qiang-002 - Seventeen/Sixty-one Game Level - Walkthrough.mp4 available on the storage media, from 5:04.

the rule and makes players confused and question whether a clear boundary between experiencing 2D and 3D objects is necessary. By replicating the idea, the 2D animation video is designed as a single-sided thick-skin fabric that can collide. Together with 2D illustrations and animations, the static and moving images entangled with 3D text objects can strengthen the experimental reading experience with the player's situatedness.

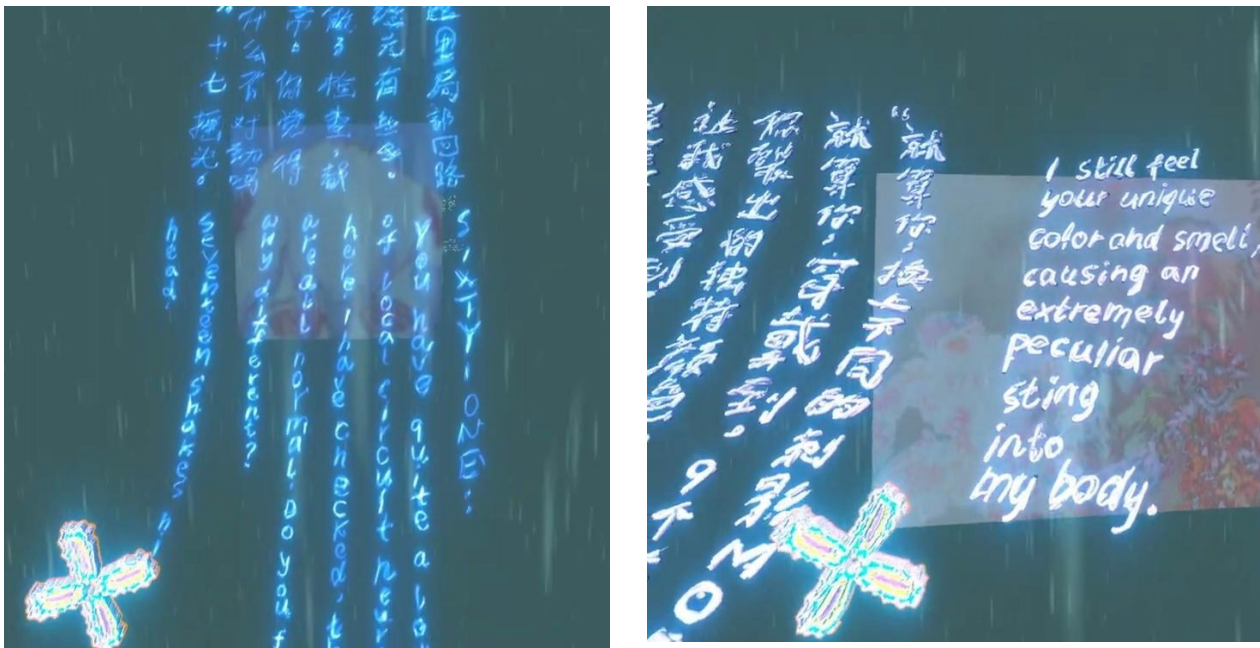


Figure 5.1.16. Seventeen/Sixty-One, gameplay screenshot, the 3D text object in the narrative path with dense fog effect, right-to-left and left-to-right vertical writings.

In the continuous narrative path, I create different 3D text objects with right-to-left and left-to-right vertical writing for both English and Chinese letters (Figure 5.1.16). With this odd and unconventional handwriting, the player slowly pays more effort to adapt to diverse readability, calligraphy, and handwriting strokes through the narrative path. In different orders of reading letters, players constantly move left, right, up, and down to dimensionally embody letters and comprehend narratives with the movement of their bodies and VR controllers. Alternative navigation emerges regardless of traditional VR skills and previous experiences in VR gamespace.

From the text, 3D text objects to gamespace in "Pinkray" and "Seventeen/Sixty-One", the culture, technology, and affection are continuously complicated and expanded by players that create

experimental reading experiences. The reconfiguration between text, gamespace, and player demonstrates a cosmotechnic of game-fandom narrative. The following section will reflect on my architectural background and its relation to VR gamespace making through mesh, texture, and scale. NPCs, 3D scans, and architectural mods will be elucidated.

## **5.2 Mesh, Texture and Scale**

I regard VR gamespace making as architectural design, which is connected with the various technical, technological, and cultural relationships but particularly informs architectural thinking to the environment for both virtual and physical realms. I explained my personal architectural experience in Chapter 1, Introduction, which is essential to support further analysis of the architectural design approach in "Pinkray". Beyond the conventional architectural realm, I want to analyse how the technical elements of mesh, texture, and scale can reflect an experimental architectural design approach. I have already described my architectural education and highlighted an architectural approach of speculative response in a picturesque, imperfect, and always incomplete territory. Within a posthuman performative context, my diploma project, "Health Aficionado Experimentation (Haexp)", was introduced and paved the path to discuss the mesh, texture, and scale in "Pinkray".

This section will describe the game level "Pinkray" based on my interview and collaboration with my architectural fellows Jingzhi and Aristo at the Architectural Association School of Architecture (AA). Aristo and Jingzhi's architectural projects "Line Shift" and "Parallel Neo Home" are involved (Figure 5.2.1). Aristo's "Line Shift" disrupts traditional architecture, offering a fluid, shifting 3D structure that inspires varied gaming experiences in VR. Jingzhi's "Parallel Neo Home" presents a physical-virtual blend, aiming to redefine conventional perceptions of home and space in a VR context. "Line Shift" and "Parallel Neo Home" are modded and crossed over between gamespace and architectural space, explicitly informing the mesh, texture and scale designs. Ethnographic details on modding two architectural projects are available in Appendix B. I clarified the notion of the bill of quantities in Chapter 3, Methodology will be used, and I will present specific NPCs and 3D scans in "Pinkray".



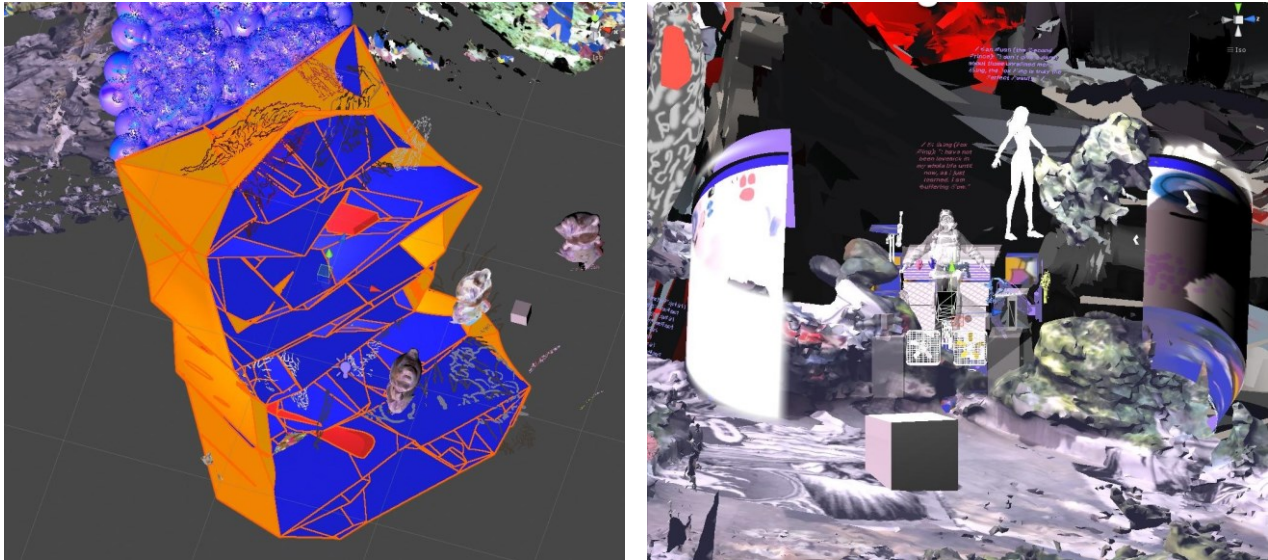


Figure 5.2.1. The mods of Line Shift (left) and Parallel Neo Home (right), crossed over with 3D scans and NPCs.

### 5.2.1 Architectural Form and Aesthetic in Pinkray

The ethnographic materials from Aristo and Jingzhi in Appendix B introduce the architectural projects "Line Shift" and "Parallel Neo Home" to interrogate and support my architectural design approach. Aristo and Jingzhi's architectural thinking disrupts traditional static architectural elements and challenges fundamental home notions, reaffirming the VR as a technological element to augment the affection in modding, crossover, and shipping. The player can create their personalised narrative and stories in a cosmotechnics of multi-fandoms.

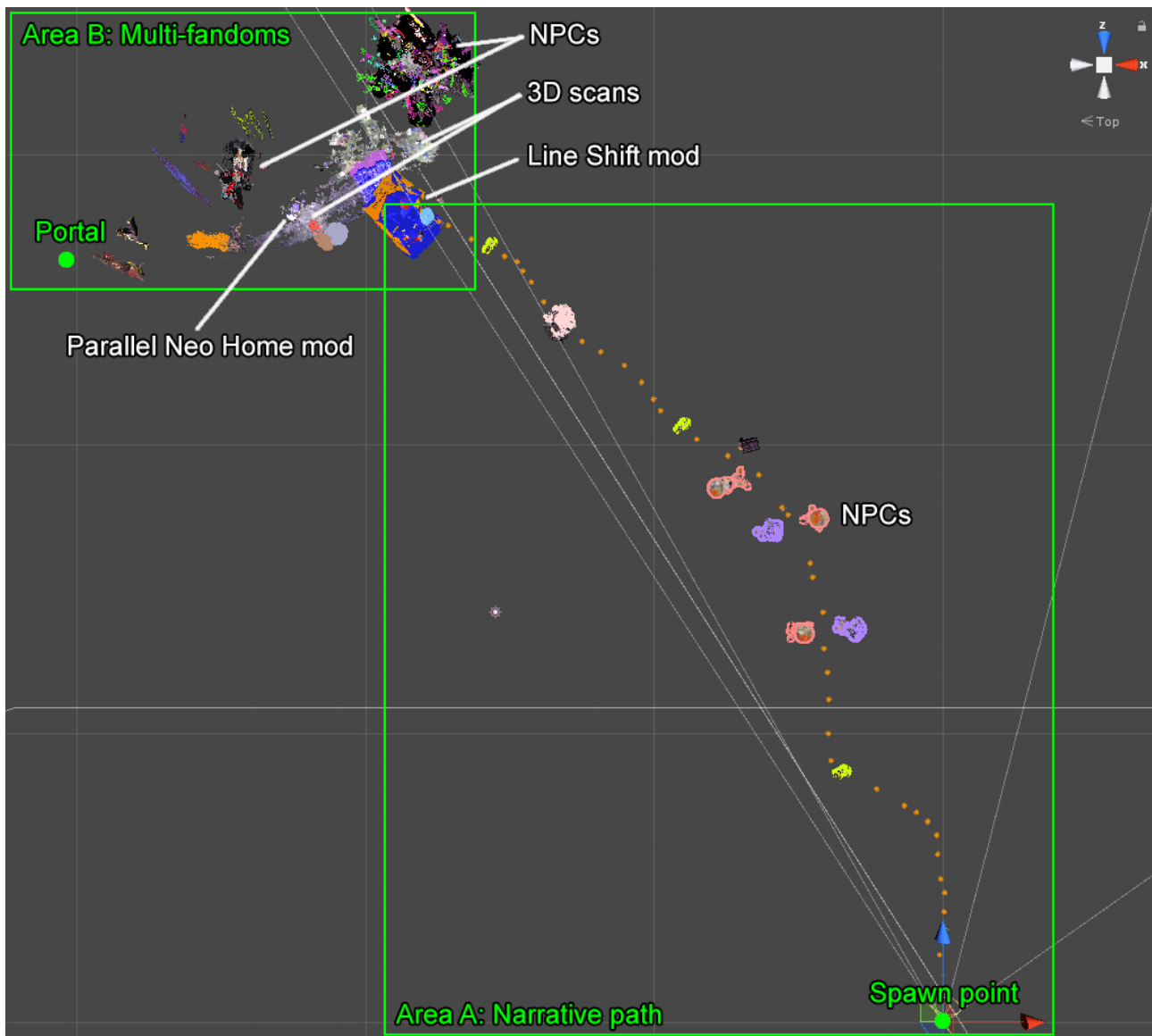


Figure 5.2.2. Top view of the game level Pinkray, area A: narrative path, area B: multi-fandoms.

Figure 5.2.2 describes the "Pinkray" architectural design approach combining linear and non-linear elements to create an experimental VR experience. Initially, the architectural plan presents a single, navigable narrative path (Area A) that provides an onboarding experience for players. This area, formed by animated 3D text objects and NPCs, guides players in understanding the VR environment's fundamental elements in reading experiences. Upon mastering these initial interactions, players are thrust into a multi-layered architectural complex of multi-fandoms (Area B). This area is an entanglement of architectural mods, NPCs, and 3D scans representing multiple fandoms. The linear narrative path dissolves, encouraging personal pathfinding and an unrestricted

exploration approach, embodying architectural non-linearity. This juxtaposition of linear and non-linear design allows for both guided and explorative gameplay, ultimately focusing on an unexpected and individualised VR experience. The ultimate goal, though unforced, is to locate a "portal" to access the next game level, further emphasising the importance of wandering and personal discovery in the VR gamespace. This approach demonstrates how architectural design can veer from prescribed pathways, allowing for a dynamic and experimental experience.

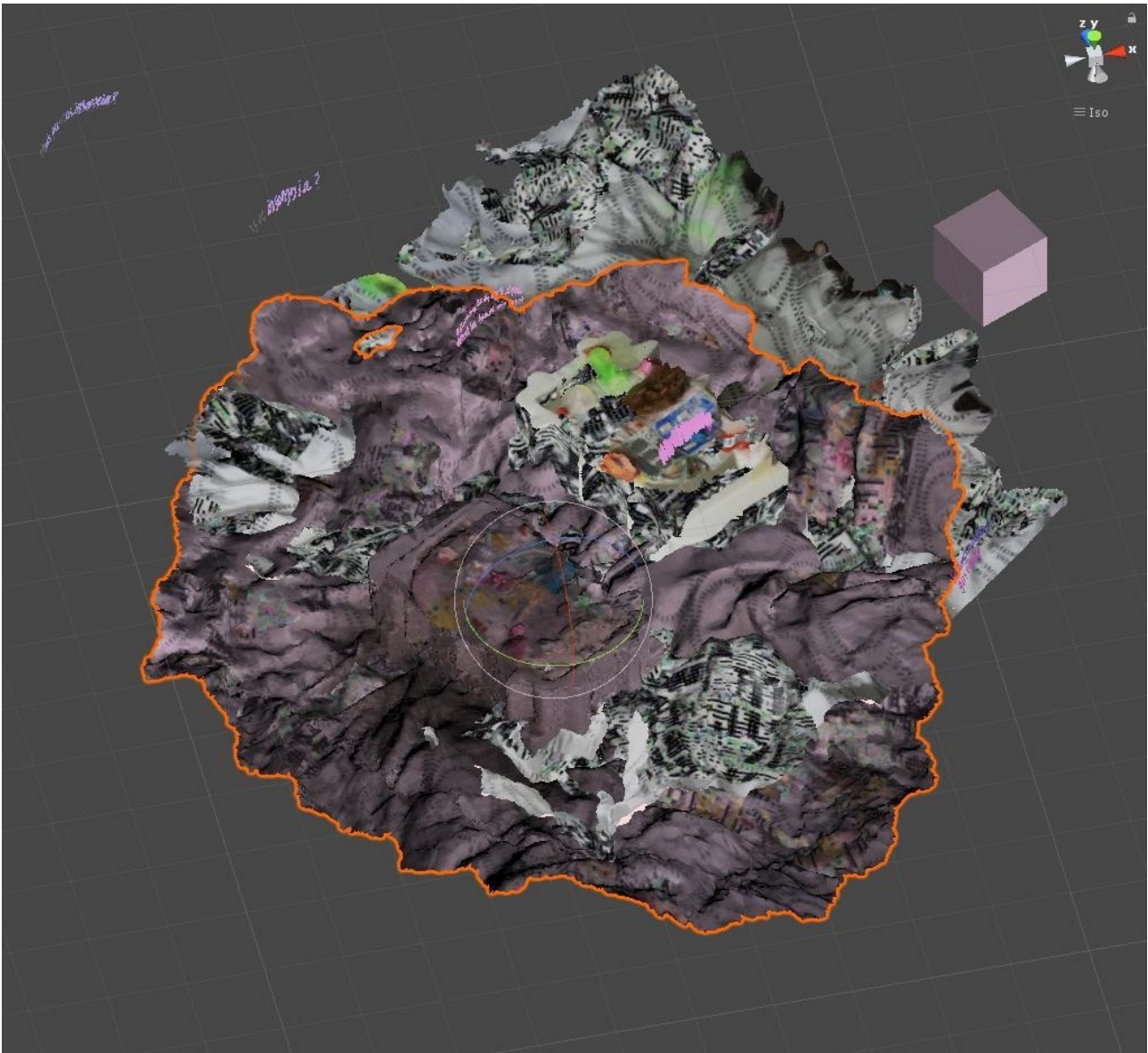


Figure 5.2.3. HyperSkin with distorted texture and a 1m x 1m x 1m cube, the isometric screenshot.



Isometric projection is often used in architectural and technical drawings where the same scale is used for each axis without perspective. To analyse the architectural form and aesthetic in "Pinkray", I shift the view from perspective to isometric and put a 1m x 1m x 1m cube on a real-life scale next to the "HyperSkin" 3D scan object (Figure 5.2.3). Isometric projection in VR gamespace provides an undistorted, equal-scale view of gamespaces, objects, and structures. This perspective enables a clear understanding of shape, proportion, and spatial relationships, unobscured by foreshortening. In "Pinkray", isometric projection and a real-life scale cube offer a detailed, objective lens for scrutinising game design elements like architecture.

In Figure 5.2.3, the meshes of "HyperSkin" are generated through the 3D scanning application. Specifically, I use Agisoft Metashape to make photogrammetry to intermediate real-life environments and objects in the VR gamespace. High fidelity and reliable information about physical objects and the environment being output from photogrammetry offers me plenty of opportunities to modify, crossover, and ship with an alternative aesthetic but still echo the real-life architectural qualities. I also make fast LiDAR 3D scanning through Polycam to record a specific 3D space instantly during outside activities. After the 3D scan through LiDAR and photogrammetry, various 3D assets of the real-world objects are imported into Unity as meshes. I deliberately keep the default setting of mesh material and distort the texture image. I avoid simulating a photo-realistic environment. On the contrary, I design the experimental VR gamespace as imperfect and incomplete, encouraging players to form unexpected spatial experiences and intermediate between physical and virtual space through mesh, texture, and scale settings. The architectural "ruins" encapsulate the audio-visual structures that exhibit a sense of decay, rawness, unmediation, and incompleteness while retaining their inherent beauty.

Comparing the scale of a 1m x 1m x 1m cube with "HyperSkin" meshes, I use this monumental scale setting to create a giant structure that provides an unusual sensation to the player. When the player approaches the "HyperSkin", the conventional experience of recognising and navigating the object and space is distorted by massive and surreal reconfigurations. The player will reconsider their embodiment with large objects in the VR gamespace beyond a player-centred environment. An incomplete and imperfect mesh, texture, and scale reconfiguration can position the player into an unexpected relationship between scales, bodies, and architectural spaces.

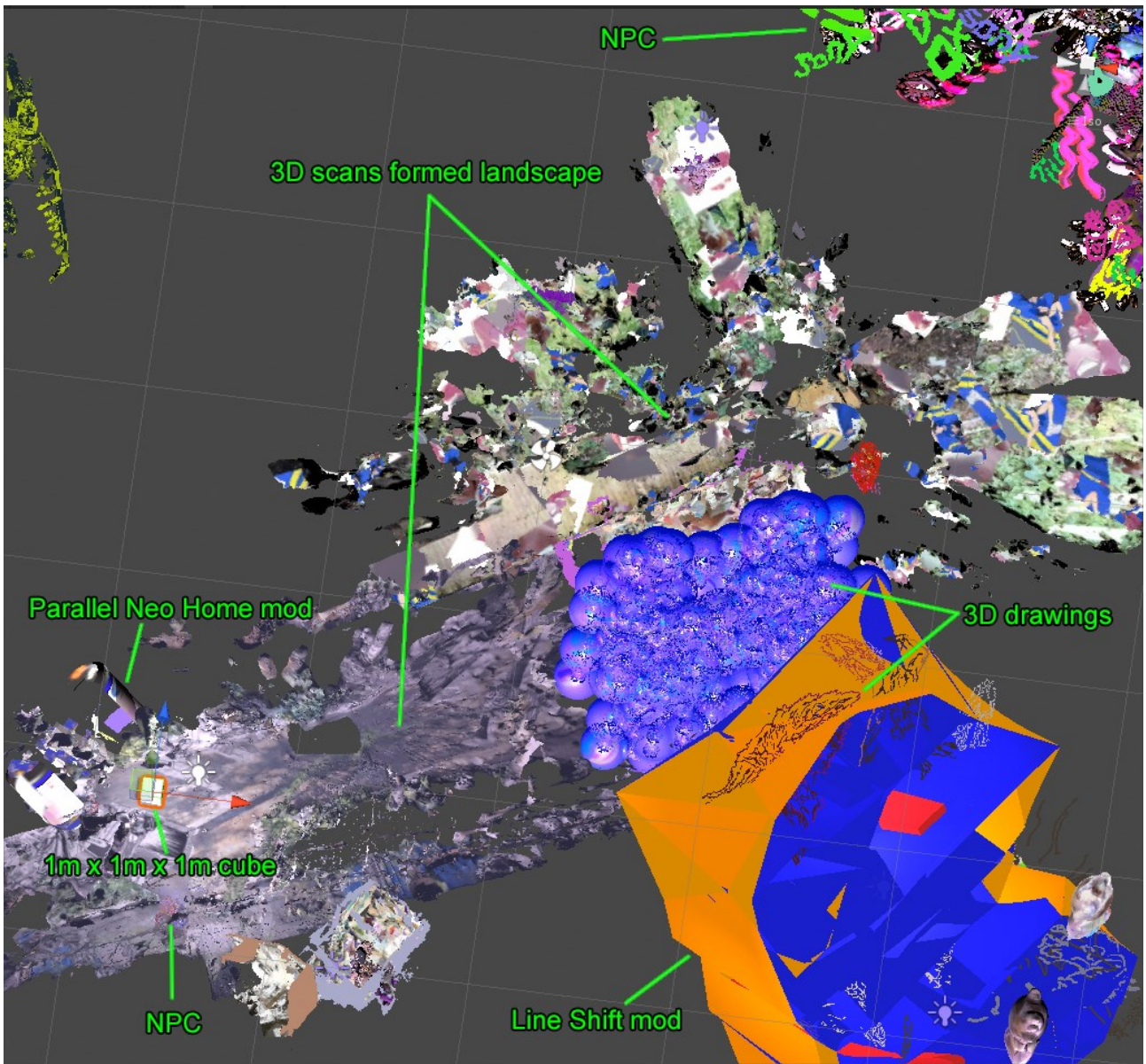


Figure 5.2.4. Design of the area B: multi-fandoms, the isometric screenshot.

In Figure 5.2.4, the architectural mod of "Line Shift" is an entrance to the multi-fandom area and links to the narrative path. Comparing the scale of a 1m x 1m x 1m cube, the area of multi-fandoms is a town size. To address Aristo's ideas of highlighting multiple transitions and interventions of game-fandom, the architectural composition and arrangement of 3D drawings, NPCs, architectural mods, and 3D scans are irregular, oblique and picturesque.

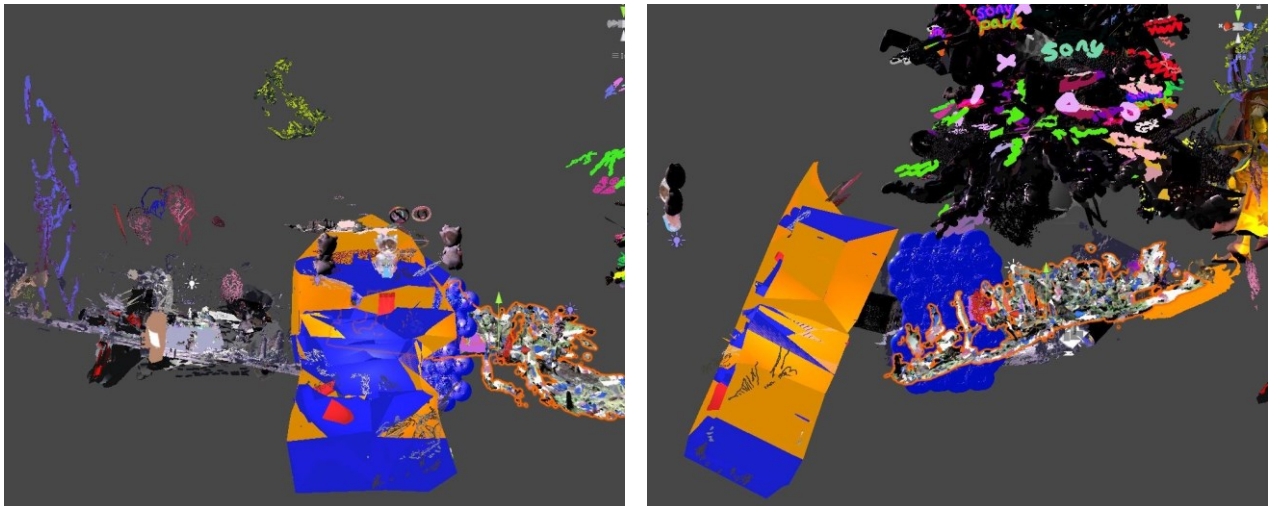


Figure 5.2.5. Elevational views of the multi-fandoms, the isometric screenshot.

Two elevational views demonstrate an oblique and picturesque design in Figure 5.2.5. The movement is regular, flat, and slow when the player first navigates along the permeable narrative path. Instead, confronted with the architectural mod of "Line Shift", the player enters the multi-fandoms area and constantly moves left, right, up, and down to adapt their embodiment without a horizontal place. Pathfinding is a core component in a goal-directed manner for standard game-making. The player must identify a path from an origin to a goal; avoiding obstacles and being efficient in the destination is crucial. However, in an oblique and picturesque design, there is no hint of any standard path, goal, or destination. Each 3D drawing, NPC, architectural mod, and 3D scan are incompletely and imperfectly composited without collisions in the large area. Rather than arriving at a destination efficiently, adding dense fog and rainfall effects, multiple gaps, and glitches, players can drift, detour, and trigger unexpected experiences through a personal path. The architectural "ruins" allow players to explore their navigation path through which multiple transitions and interventions via architectural mods, multi-fandom crossovers, and ships can be reconfigured with the player's situatedness.





Figure 5.2.6. Pinkray, gameplay screenshot, 3D scans Aura (left) and Caravan Green (right) crossed over with NPCs in rainfall effect.

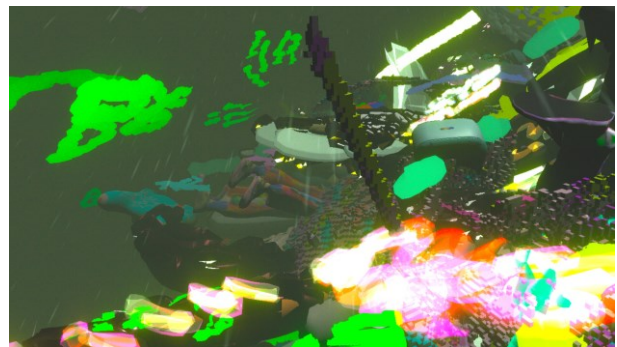
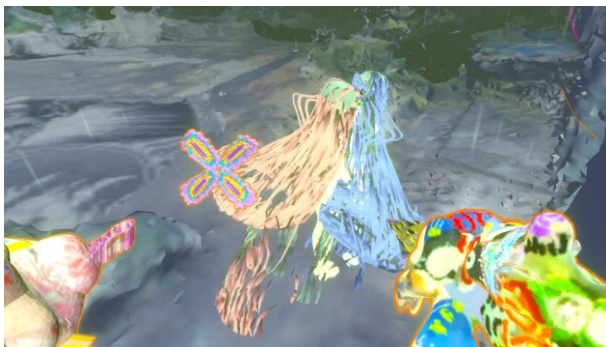


Figure 5.2.7. Pinkray, gameplay screenshot, NPCs Baijuyi (left) and Sony Monster (right) in rainfall effect.

In the area of multi-fandoms, two 3D scans of the environment "Aura" and "Caravan Green" (Figure 5.2.6) are regarded as a continuous, incomplete, imperfect, and picturesque landscape that is modified with distorted textures and crossed over with multiple NPCs, architectural mods, and 3D drawings. Specifically in the gameplay, the 3D scan landscape shows a highly abstract, misty, and broken landscape pouring with rain; the existing geographical and cultural contexts of 3D scans are dramatically altered into a void of paradox and unknown. The landscape has a spectral effect on the player's situatedness and cultural context through the slow navigation of up and down, left and right. The experience of navigating architectural space and landscape is shifted into a nomadic diverting, path-forking, and unexpected touches with NPCs, architectural mods, and 3D drawings.

Figure 5.2.7 shows two NPCs, "Baijuyi" and "Sony Monster", ranging from correct architectural scale to massive scale. The NPC "Baijuyi" include two abstract and nude feminine bodies kissing

each other with affective dialogues. In contrast, the massive NPC "Sony Monster" with a highly maximalist style is a tribute to the gaming communities of Sony PlayStation. "Sony Monster" patrols above the landscape through the entire area of the multi-fandoms.<sup>34</sup> While exploring the landscape, the player can follow the NPC "Sony Monster"'s patrol for pathfinding. Sometimes, players might accidentally move through the vast body mesh layers and be wrapped in maximally coloured polygons.<sup>35</sup> Through the population of multiple unparalleled scaled NPCs in the landscape, the player has to make decisions at specific locations to form a highly individualised path through the area of multi-fandoms. This malfunctioning "ruins" of the VR gamespace offers multiple levels of situatedness for each player to explore and form an affective narrative via the modding, crossover, and shipping of multiple texts, 3D drawings, bodies, architectures and 3D scans.

### 5.2.2 Bills of Quantities

Through the bill of quantities shown in Appendix F, the speculative, experimental aspects of VR gamespace making connect to the technical and technological configurations in the game engine Unity editor. "Pinkray" contains 39 items, including four texts, six drawings, 16 bodies, two architectures, nine 3D scans and two miscellaneous elements. These items range from standard text, 3D text, 3D painting, NPC, player embodiment, architectural mod, 3D scan of landscape, 3D scan of building interior, light, to rainfall effect, which technically and technologically forms the areas of the narrative path and multi-fandoms. In the meantime, animation, audio, dialogue, and quantity differed in specific items that also inform a complex and speculative network of multi-fandoms. They reflect on my digital ethnographic materials from Emma, Tianqi, Linn, CheeseTalk, Aristo and Jingzhi and expand to broader ACGN game-fandoms.

Through the bill of quantities for "Pinkray", I would like to address how an architectural design approach can contribute to the experimental design in the game engines. From text, image, and video to mesh, texture, and scale, they are not independent entities but are defined by the relations they form within the cosmotechnics. The VR gamespace can break the rule and be designed for more than a player-centred world constantly becoming or being personas, characters,

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<sup>34</sup> The animation effects can be seen from Qiang-001 - Pinkray Game Level - Walkthrough.mp4 available on the storage media, from 5:50.

<sup>35</sup> The moving through effects can be seen from Qiang-001 - Pinkray Game Level - Walkthrough.mp4 available on the storage media, from 6:00.

technologies, things, and animals. The architectural design approach can shift various technological questions to interrogating posthuman subjectivity and its realities and possibilities (Wakkary 2021, 5). Specifically, from my analysis of the visual novel to my experimental reading and architectural design, I seek to critically imagine alternatives that provoke new knowledge about the player, agency, power distribution, and ethics. When the VR gamespace is played, texts, drawings, bodies, architectures, and landscapes are transformative and not separate from technology (Wakkary 2021, 20); they emerge as cosmotechnics.

### **5.3 Collision and Fog**

Shifting from visual novel and architectural design contexts, collision and fog must be analysed through indie game aesthetics. Jan-Noël Thon (2020, 1-2) proposes a theoretical framework that systematically distinguishes between indie games' audiovisual, ludic, and narrative aesthetics. The design of a game's visual and auditory components, which include spatial viewpoints, visual styles, pictorial materials, sound design, music, and voice acting, is referred to as audiovisual aesthetics. Ludic aesthetics are concerned with how players engage with the game, including its mechanics, objectives, and overall gameplay experience. Finally, narrative aesthetics refer to the story or stories that a game tells and the tactics used to portray them, which may include nonlinearity and mediated access to the subjectivity of game characters. The framework expands on previous debates about indie game aesthetics, focusing exclusively on visual design. Distinguishing these three aesthetic characteristics is crucial to understanding their complicated interrelationships. Furthermore, audiovisual, ludic, and narrative emphasise the importance of recognising the diversity of indie game aesthetics beyond nostalgic pixelated graphics and 8-bit sounds. Indie aesthetics are best conceptualised as a discursive construct considering production and reception discourses (Thon 2020, 2).

Based on previous architectural forms and aesthetics studies, I will analyse fog, rainfall and miscellaneous settings for audiovisual aesthetics. The later Audio section will also clarify the character voices, remixes, and sound effects. For ludic aesthetics, I already elucidated the ideas of flatgame in the Literature Review and non-collision in the Methodology chapters. Narrative aesthetics are presented in the previous Text, Image, and Video section.

According to the bills of quantities in Appendix F, most of the items ranging from text, drawing, body, architecture, and 3D scan in "Pinkray" are configured without collision detection except

specific text triggers (Item 1) and portal triggers (Items 8 and 9). Unlike the standard 3D object interaction setting in Unity, I intentionally remove the Rigidbody and Collider components.

In Unity, the physics engine simulates the physical interactions between objects in the game world. The physics engine calculates the forces acting on objects, such as gravity and collisions, and determines how those forces affect the object's movement and behaviour. An object without a Collider or Rigidbody may not interact with the physics engine. In this case, the object would not block the player's movement, and the player could pass through it as if it were not there. However, other forces, such as wind, gravity, or custom physics systems, may influence the object's position and movement. Regardless of wind, gravity, and other custom physics systems, without Rigidbody and Collider, the player can move through various objects (items) as if they were not there in the non-collision VR gamespace. The actions of moving through various items of text, drawing, body, architecture, and 3D scan provoke experimental and intra-active experiences instead of classic interaction between player and object. On the other hand, the miscellaneous settings (Items 38 and 39 in Appendix F) present the configurations of fog and rainfall, which further support the non-collision VR gamespace.

### **5.3.1 Collision**

In the chapter of Literature Review to explain game-fandom, the indie game designers LLaura McGee and her colleagues propose the notion of flatgame. I also introduced the non-collision physics and voidscape notions in the Methodology chapter. I will build on a non-collision 3D context in the "Pinkray" VR gamespace.

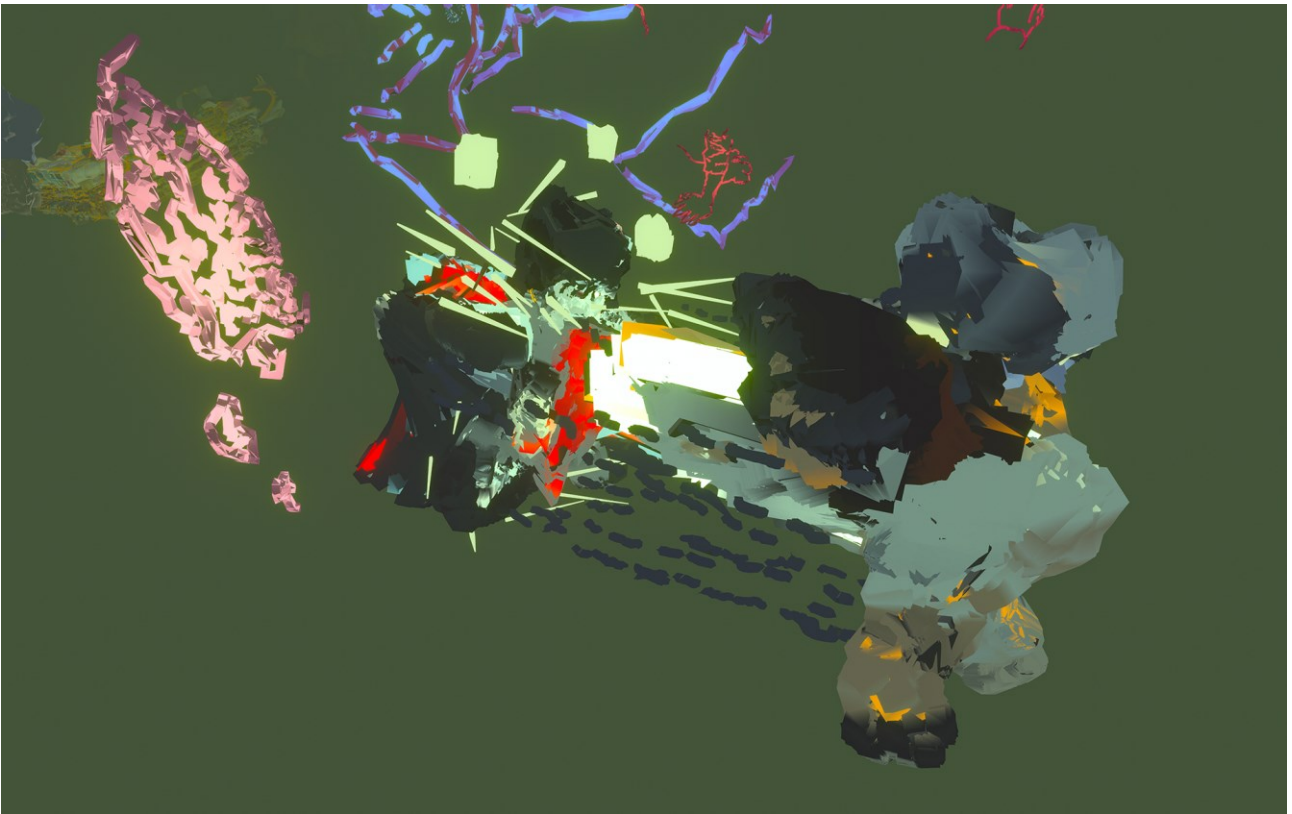


Figure 5.3.1. Pinkray, VR game screenshot, NPCs Luo Ji (left) and Shi Qiang (right).

In Appendix C, based on the digital ethnographic materials from CheeseTalk, I introduce male-male Luo Ji/Shi Qiang ship in the "Three-Body" fandom. On Luo Ji/Shi Qiang Minecraft 3D models, I recreate "Luo Ji/Shi Qiang" NPCs (Item 22) in "Pinkray". The flatness and fusing of Luo Ji/Shi Qiang NPCs not only provoke a nonhuman-centred ship scattering across the VR gamespace but are always becoming or being players, personas, characters, technologies, and things. I use "Luo Ji/Shi Qiang" NPCs to interrogate the raw combination of movement, art and sound, highlighting the affections through the narrative. Based on the flatness of the original Minecraft 3D model textures (Figure 5.3.1), "Luo Ji/Shi Qiang" NPCs contain only movement and animation without other interactions, especially no collisions. The precise and rigid human figures are distorted, and the 3D and 2D body fragments inform the notions of architectural "ruins". From a broader perspective, non-collision is vital to analyse the reconfigurations between text, drawing, body, architecture, 3D scan, and player, which a cosmotechnic emerges.



A series of gameplay experiences between the voids and the positive spaces in "Pinkray" will be presented. I will analyse multiple gameplay screenshots with timestamps<sup>36</sup> and refer to specific items listed in the bills of quantities (Appendix F).



Figure 5.3.2. Pinkray, gameplay screenshots from 0:32, 0:38, and 0:40, player controllers (Item 11) and NPC Laike (Item 17) within the positive space and the void.



Figure 5.3.3. Pinkray, gameplay screenshots from 03:12, 03:16, and 03:39, player controllers (Item 11), the architectural mod of Line Shift (Item 27), and the 3D scan of Sharjah (Item 36) within the void.

Figure 5.3.2 shows a nine seconds navigation experience when the player's left and right hands VR controllers (Item 11) reconfigure with the NPC "Laike" (Item 17) within the area of the narrative path in "Pinkray". As I intentionally remove Rigidbody and Collider components on the NPC "Laike", the player can easily fall from the front into the back side of the mesh, showing a mirrored skin texture of "Laike". Because of the comparably small scale, the player controllers can continuously touch different parts of the NPC and freely shift between the void and the positive space. I add sound effects in the void; they will be activated when the player controllers approach specific areas of the void. Through the audio-visual navigation experience between the player and NPC, the player has to reframe their understanding of architectural scale, interior and exterior. The

<sup>36</sup> The screenshots with timestamps between the voids and the positive spaces are made from Qiang-001 - Pinkray Game Level - Walkthrough.mp4 available on the storage media.

existing boundaries between the player, NPC, and the surrounding environment are obscured and mystified by fog and rainfall.

Figure 5.3.3 shows a 28-second navigation experience. The player quickly falls into various gaps, intersections, and polygonal overlaps, creating an incomplete, imperfect and picturesque entanglement of player controllers (Item 11), the architectural mod of Line Shift (Item 27), and the 3D scan of "Sharjah" (Item 36). During the gameplay, this picturesque entanglement dissolves existing boundaries and constantly reconfigures the voids and the positive spaces.

### 5.3.2 Fog and Rainfall



Figure 5.3.4. Silent Hill, video game, the protagonist Harry Mason walks through the fog world in search of his adopted daughter, developed and published by Team Silent, Konami, 1999.

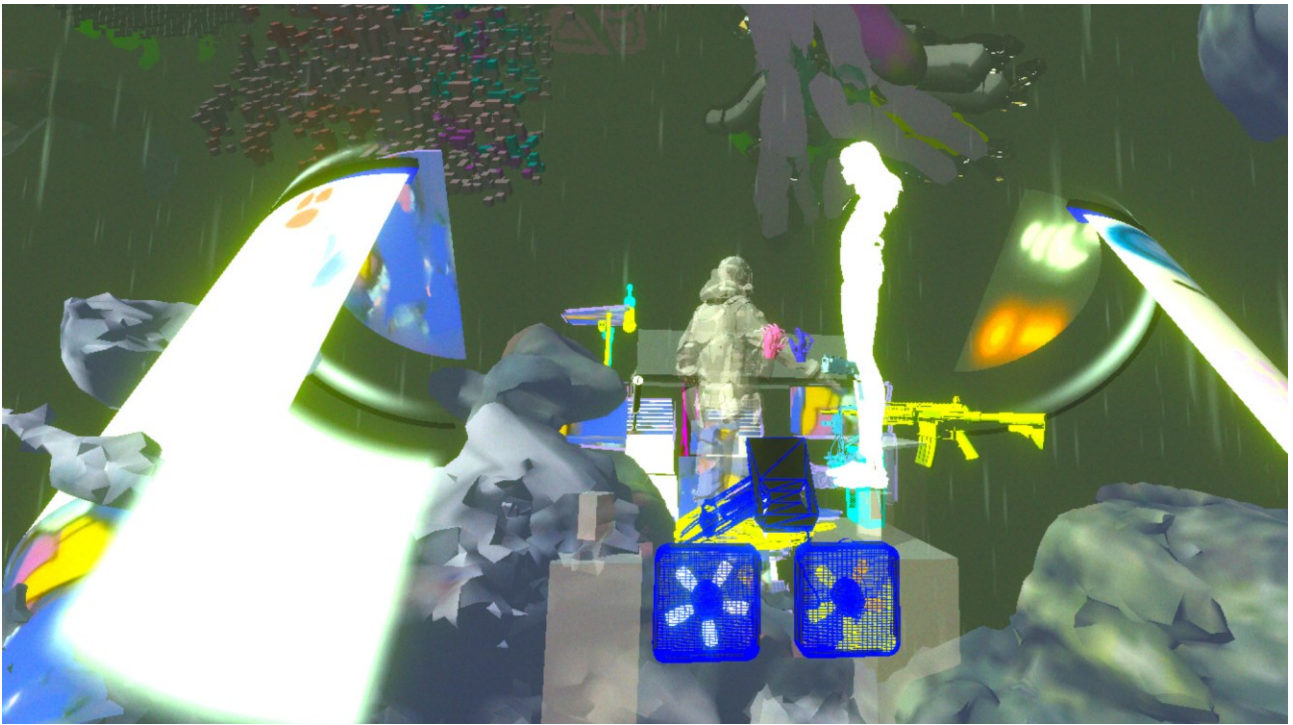


Figure 5.3.5. Pinkray, gameplay screenshot, the mod of Parallel Neo Home crossed over with 3D scans and NPCs in fog and rainfall effect.

*Silent Hill* is a phenomenal survival horror game developed in 1999; the fog world is one of its signature features that takes the horror genre into uncharted territory. Conceptually, the fog world is designed as a supernatural phenomenon enclosing the gamespace and blurring the boundaries between dream and reality (Figure 5.3.4). In the dense fog, unconscious bodies, objects, and monsters emerge (Toyama 1999). Technically, Francesca Reyes (1999) argues that the dark fog effects and lighting contribute to the gamespace's graininess and explicitly create an atmosphere of dilapidation and decay. The excessive use of fog, obscurity, and grainy textures is intended to hide the PlayStation hardware's inadequacies.

Similarly to the navigation experience in "Pinkray", the fog in *Silent Hill* removes the player's awareness of surroundings and various unexpected scenarios can be triggered through the narrative path. Between the technical and conceptual use of fog, Xav de Matos (2012) indicates that the technic of distance fog (obstructs distant objects and loads better quality graphics as players approach them) in *Silent Hill* not only responds to processing power issues of the game console but also create a brilliant mystery gamespace through the narrative.

Compared to "Pinkray" with dense fog and rainfall effects, I learn from the fog world in *Silent Hill*, flatgame notions in indie game development, limited uses and raw combinations of movement, art and sound in Unity, which results in an entangled "ruins" (Figure 5.3.5). The configuration of fog and rainfall within the "HyperBody" VR gamespace is designed to manage the rendering of high-polygon 3D models, considering the processing power for dual-screen rendering replicating the binocular vision of human eyes. It also helps blur and tune the boundaries between the negative and positive spaces that further contribute to the world-making of cosmotronics and a non-player-centric multi-fandom world.

## 5.4 Audio

For making sound decisions in game audio, Gwen Guo (2020, 287) states that game audio is both creative and technical, artistic and functional, which should deliver non-visual aesthetics, world-making, and feedback to the players. Although visual, audio, and gameplay are three core components of game development, most game studios only implement sound in the middle or even the end of the production cycle. Adam DeRoss (2020, 9) also argues that sound design and music creation in game development sometimes take a second seat to visual, tactile, and procedural features in contemporary game design. For music and sound design, the conceptualisation of audio should be considered in parallel with visual and procedural components. In gameplays, listening in the gamespace is more than just a sensory experience and expands to multimodal practice via vibrations and resonance; the sound is both heard and felt (Ceraso 2014).

It is vital to give players access to an immersive and captivating gamespace where they will use multimodal listening practices to extract the most meaning from the soundscape. Players' immersiveness can be significantly impacted when they connect particular sounds or musical pieces with particular characters, settings, actions, or narratives. Concurrently, hearing those same sounds or musical pieces outside the gamespace with the player's situatedness will instantly evoke specific affective associations with the game (DeRoss 2020, 10). Designing engaging and alternative sonic experiences can generate rhetorical meanings and affective associations. In game studies research, more auditory rhetoric and associations, like visual, textual, and procedural aspects of games, should be explored (DeRoss 2020, 50). Sound design with rhetorical meanings and affective associations in game studies is still vastly unrecognised as a topic of inquiry.

Back to my experimental design of audio-visual VR gamespace, the conceptualisation of audio in "Pinkray" is closely connected to the digital ethnographic materials from Linn and Tianqi (Appendix

D). Through interactive interviews about Chinese BL novels, Linn and Tianqi did voice acting, contributed a series of dialogue sounds based on their favourite BL novels, and assigned them as character voices to multiple NPCs in "Pinkray". Based on the concepts of character voices to the multi-fandoms, the experimental design intersects between audio and visual that advance together. Based on the flatgame notion, I retain the limited uses and raw combinations of movement and art to audio in Unity and the sound engine Wwise. It results in an unmediated, untuned "ruins" of VR gamespace. From the design process of character voices and remixes to voidscape effects in "Pinkray", I will interrogate meanings and affective associations in multi-fandom.

#### **5.4.1 Character Voices, Remixes and Voidscape Effects**

Based on the bill of quantities for Unity (Appendix F), I expand it to a new bill of quantities for the sound engine in Appendix G, which provides specific audios identified in "Pinkray". The visual (Appendix F) and audio (Appendix G) items generate the architectural "ruins" through the integration between Unity and the sound engine Wwise. Appendix G includes 49 audio items that include 40 character voices<sup>37</sup> (from Audio 1 to 40), two remixes<sup>38</sup> (from Audio 41 to 42), four voidscape effects<sup>39</sup> (from Audio 43 to 46) and three miscellaneous (from Audio 47 to 49).

In the character voice category, multiple dialogues and quotes are from Linn and Tianqi's favourite BL novels, their collections of Chinese classic poetry, and my game-fandom collections. They form the scripts. The scripts are further edited as a series of character dialogues referring to multiple game-fandom ships for Linn and Tianqi's voice acting. Because Linn and Tianqi's voices are all in Chinese, I use a text-to-speech tool to produce corresponding voices in English. The character voices are Chinese and English with Mandarin, Japanese, American, British, and Russian accents. According to the rhetorical meanings and affections within the dialogues, Linn, Tianqi, and I assigned them to specific NPCs in "Pinkray". As the scripts are based on game-fandom quotes and collections, the players can likely hear those same sounds or voices in audio drama and fanvids outside the gamespace. When the players navigate to the NPCs and listen to the voices, a

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<sup>37</sup> Character voices before implementing in the sound engine Wwise can be listened to in the Qiang-006 - Pinkray Game Level - Character Voices folder available on the storage media, see List of Audio-Video Materials on page 7-8.

<sup>38</sup> Remixes before implementing in the sound engine Wwise can be listened to in the Qiang-007 - Pinkray Game Level - Sound Remixes folder available on the storage media.

<sup>39</sup> Voidscapes before implementing in the sound engine Wwise and miscellaneous can be listened to in the Qiang-008 - Pinkray Game Level - Voidscapes and Miscellaneous folder available on the storage media.

multi-fandom cross-over between audio and visual is triggered beyond the VR gamespace and evokes specific affective associations.

The "Addiction 1990" (Audio 41)<sup>40</sup> and "Pinkray Remix" (Audio 42)<sup>41</sup> include field recordings and music. As Appendix G shows, "Addiction 1990" is made as ambient sound for the area of multi-fandoms (Figure 5.2.4) in "Pinkray". With a highly speculative approach, I remix the song "Heroic Asia",<sup>42</sup> the 1990 Asian Games theme song. Because it was the first Asian Games held in Beijing, China, it can inform a notion of Chinese political reform, the rise of pop music in mainland China and collaboration with Hong Kong and Taiwan. I also use another 1990s song, "Have a High, Then Die",<sup>43</sup> which was the theme song of the Chinese TV series 1994 of the same name. It informs a mundane daily life with ordinary and radical love in Beijing. Based on the 1990s theme, "Addiction 1990" is a lo-fi, glitchy, nostalgic remix that speculates the 1990s Chinese urban spaces. Geographically, both songs also connect to the 3D scans of residential buildings (Items 29 and 30) I made in my residence in Beijing in 2018. "Addiction 1990" is a dark, gritty track with a slow, steady beat and a heavy bassline. The vocals are deep and soulful, and the lyrics are delivered with passion and conviction.

"Pinkray Remix" (Audio 42) also takes a very personal approach to tinker with various field recordings and music. Rather than being nostalgic, "Pinkray Remix" includes mainland Chinese meme songs, Chinese pop, and animation music.<sup>44</sup> The field recordings range from Hong Kong Taxi's radio, karaoke in Beijing, an old recycling worker's loudspeaker in Beijing, and the voice of my short poem. "Pinkray Remix" is more upbeat and danceable. The vocals are still present but are more subdued, allowing the instrumental to take centre stage. The instrumental mixes trap and house music, heavily emphasising the bassline. The overall sound is catchy and energetic and will get the player moving. With such a highly speculative selection of sources, "Pinkray Remix" is

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<sup>40</sup> Addiction 1990 before implementing in the sound engine Wwise can be listened to in the Qiang-007 - Pinkray Game Level - Sound Remixes folder available on the storage media.

<sup>41</sup> Pinkray Remix before implementing in the sound engine Wwise can be listened to in the Qiang-007 - Pinkray Game Level - Sound Remixes folder available on the storage media.

<sup>42</sup> Heroic Asia can be listened to via: <https://youtu.be/h4jJqebrxzw> or <https://youtu.be/Vr5pxmU24B8>.

<sup>43</sup> Have a High, Then Die can be listened to via: <https://youtu.be/dG3L9YOUX50>.

<sup>44</sup> The music used for remix include the meme song Love River 8-bit Version (<https://www.bilibili.com/video/BV1UE411X7RM>), Modern China is too Complicated by Dead J (<https://soundcloud.com/shaoyanpeng/09-modern-china-is-too>), Ei Ei, the Idol Producer Theme Song (<https://youtu.be/FA9NIGksOyA>), Bye Bye Disco by New Pants (<https://youtu.be/kUNv9rBCOTk>), and Capturing Enemies in the Air in the animation Black Cat Detective (<https://youtu.be/6SFluMNaOMQ>).



deliberately made with technical flaws, which is my vision of contemporary Chinese urban soundscape.

Following the speculative approach, I continue to work on sound effects of distortion, glitchy and abstraction and produce four items (from Audio 43 to 46 in Appendix G) to be used in the negative spaces (voids) in "Pinkray". I called them "voidscape" effects to enhance audio-visual navigation experiences between the positive spaces and the voids triggered by the player, NPC, architectural mod, and 3D scan. Based on integrating remixes and voidscape effects in "Pinkray", I aim to provoke further the cosmotechnics that emerged from positive spaces and the voids. Concurrently, the remixes and voidscape effects can also support affective associations and generate new meanings of multi-fandoms.

Based on the audio files of character voices, remixes, and voidscape effects, I will clarify and integrate the sound engine Wwise implementation in Unity.

#### **5.4.2 Wwise: Randomisation, Spatialisation, and Effects**

Audio processings include complete 3D spatial sound, real-time mixing and mastering, hierarchies of mixers, snapshots, and preconfigured effects. For the audio implementation, I continue the flatgame notion and concentrate on the rawness of sound for the audio implementation. The aesthetic requires efficient use of limited audio, fast results, dynamic outputs without complicated scripting, and flexibility for expansion. The native Unity audio features remain predefined and not powerful enough to inform my audio-visual aesthetic unless extra time-consuming coding for various game engine scripts can be made. Therefore, a middleware like Wwise is tested and used in the whole design of "HyperBody". Wwise (Wave Works Interactive Sound Engine) features an audio authoring tool and a cross-platform sound engine that is free for academic users and is frequently used by AAA and indie developers (Guo 2020, 296). It relieves programmers of audio implementation's technical and creative complications that guarantee the resources are utilised effectively. The internal project structure is independent of the game engine, allowing multiple development methods. Notably, the audio design with Wwise support can provide a fast and complete test of audio implementation even ahead of the game's functionality (May 2019). Through the Wwise features studies, I found that randomisation, spatialisation, and effects can achieve multiple dynamic experiences. Based on "Pinkray", I will describe the audio implementation in Wwise through randomisation, spatialisation, and effects.

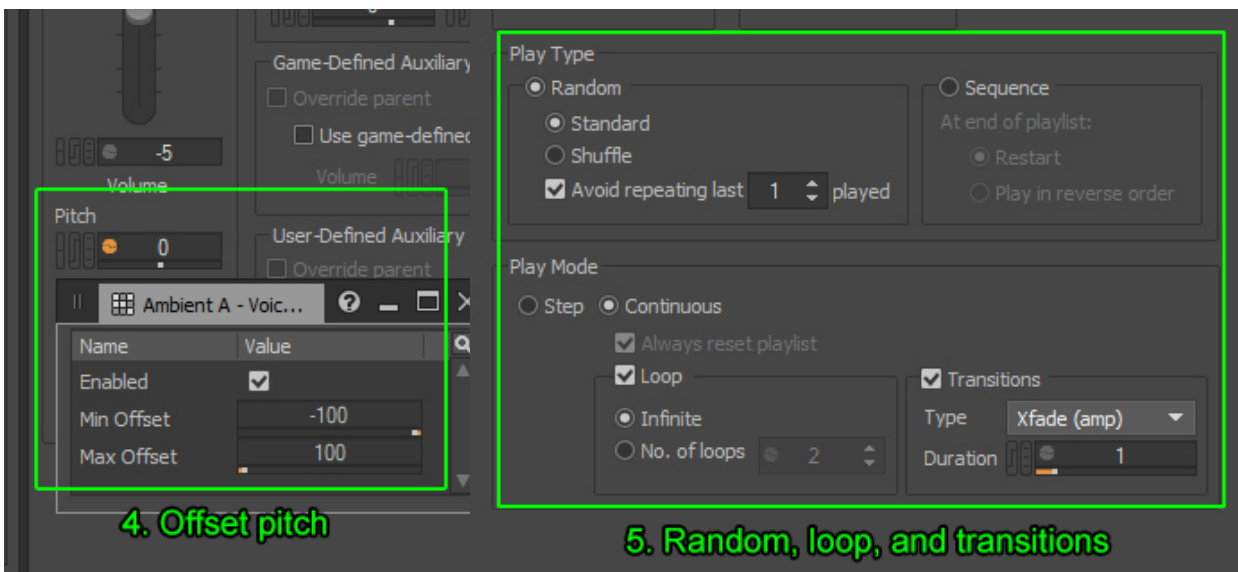
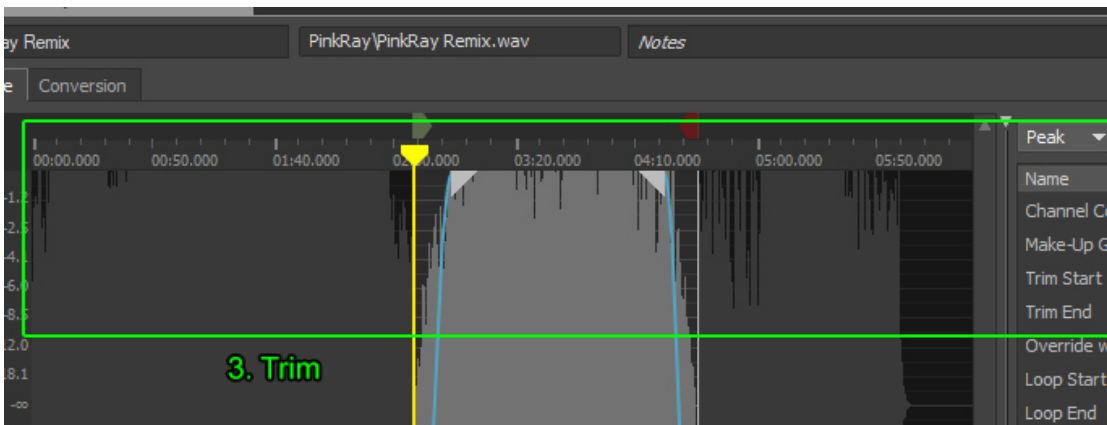


Figure 5.4.1. Randomisation settings, Ambient A Random Container, the screenshot of the Wwise project.



I focus on the basics of controlled randomisation in Wwise, in which a series of audios can be played back randomly for all situations. For example, in Figure 5.4.1, I create four children duplicates of Pinkray Remix (step one) and adjust the weight to tune the chance of the specific children to be played (step two). I trim four children differently and generate four sections of Pinkray Remix to be played back (step three). I randomise the voice pitch (step four) and set the random type with continuous loops and transitions (step five). The randomisations of values and properties influence volume, filters, and pitch, leading to a more diverse range of audio without increasing memory requirements during gameplay. Each time players occupy the same area in the VR gamespace, they experience a distinct and dynamic sound that adapts in real-time according to the gameplay. Based on Pinkray Remix with randomisations, players can have more energetic, danceable, and catchy sonic experiences with varied repetitions and distortions in real-time gameplay.

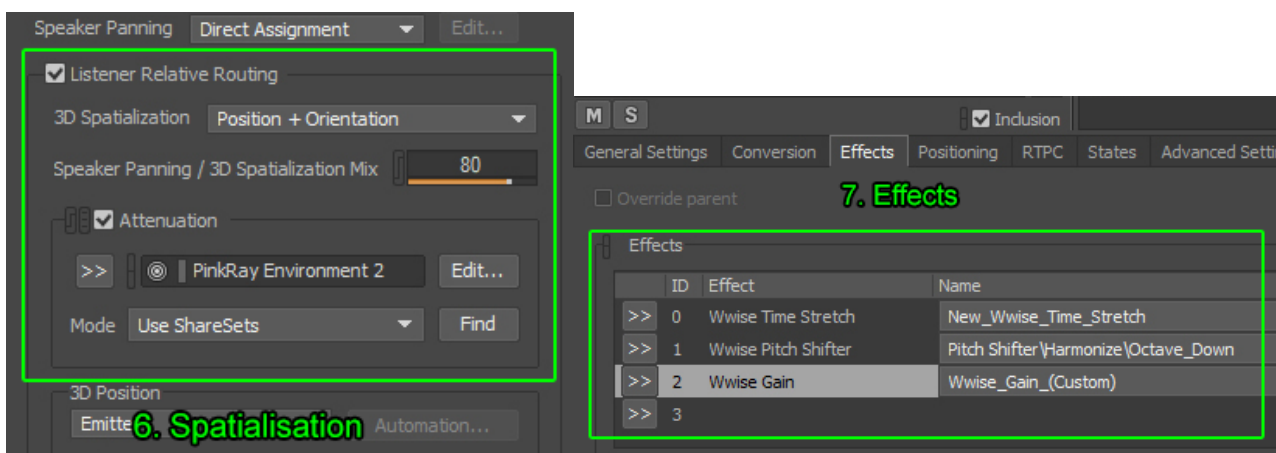


Figure 5.4.2. Spatialisation (left) and Effects (right) settings, Ambient A Random Container, the screenshot of the Wwise project.

Figure 5.4.2 shows the details of the Spatialisation and Effects settings. The 3D Spatialisation with position and orientation is selected. 3D spatialisation mix values blend the original sound and its spatialised version (step six). I also experiment with various effects to tune the spatial audio-visual experience (step seven). The term "speaker" in Wwise represents the virtual counterpart of physical speakers to control the spatial distribution of sound in a game. In the VR gamespace, the player's movement will be reflected by randomised sounds being heard through a specific speaker, and the sounds also rotated concerning the relative orientations.

I apply these design settings of randomisation, spatialisation, and effects to all remixes, character voices and voidscape effects. Character voices have varied soundscapes by randomisation parameters, creating dynamic layers of rhetorical meanings and affections. The spatialisation of voices provides cues about NPC locations and orientations that influence player decisions. Sound effects, such as reverberation, delay, and time-stretch, modify sonic characteristics to suit narrative contexts, inducing specific affective responses to different NPCs. Various character voices in "Pinkray" create a dynamic, immersive auditory experience deeply intertwined with gameplay, actively shaping the VR gamespace and impacting player perception and engagement in real-time.

The voidscape effects in Wwise create varied auditory experiences through their distinct characteristics. Footstep1 (Audio 43) uses high-pitched, evenly spaced crunches to evoke the sensation of peculiar locomotion or wandering. Footstep2 (Audio 44) employs low-frequency sine waves of changing amplitude, exuding a warm, mellow tonality and a regular rhythm for a smooth, comforting audio texture. In contrast, Footstep3 (Audio 45) is characterised by a faster tempo and brighter timbre, evoking excitement or urgency. Conversely, Footstep4 (Audio 46) offers a more subdued experience, with its muffled sound, slower tempo, and darker tonality contributing to a calm or relaxing ambience. These voidscape effects shape the gameplay experience, engaging the player between the positive and void spaces.

#### **5.4.3 Affections in Audio-visual Gamespace**

Based on the description of audio-visual experiences, the affections are highlighted in the non-collision VR gamespace. With each customised gameplay from Linn, Tianqi, CheeseTalk, Emma, Jingzhi, and Tang Fei, the affective immersion and embodiment intermediate between gamespace and the real-life environment through meaningful conversations.

For audio design in the gamespace conceptualised from voice acting by Linn and Tianqi, I use the basics of randomisation, spatialisation, and effects from Wwise to support player awareness inside and outside the VR gamespace. It is intentionally incomplete and unsaturated. The quality of character voices, remixes, and voidscape effects is glitchy, speculative with flaws, and imperfect. However, this picturesque audio-visual VR gamespace "Pinkray" forms multi-fandom cosmotechnics and provokes affective relationships through modding, cross-over, and shipping.

In "Pinkray", the concept of individual objects will not be prominent during each VR gameplay session. Instead, the experience focuses on a more immersive world, emphasising relationships

and interconnectedness among various NPCs, 3D scans, architectural mods, culture, technologies, and affections rather than on distinct objects with well-defined boundaries. Although the audio is technically processed as objects and configured with randomisation, spatialisation, and effects, the notion of the object will not exist during each VR gameplay. In "Pinkray", the audio design with Wwise-Unity integration aims to explore, affirm, and celebrate relationships (Small 2011), which can contribute to the world-making of cosmotechnics in multi-fandom.

## 5.5 Chapter Summary

In this chapter, in order to shift the lens of game-fandom and reintegrate my research and practice into computational art, two game levels, "Pinkray" and "Seventeen/Sixty-One" in "HyperBody", are described from technical and technological perspectives. The ethnographic materials from Tang Fei, Aristo, Jingzhi, CheeseTalk, Linn, and Tianqi are also addressed. They correspond to text, image, video, mesh, texture, scale, collision, fog, and audio.

The Text, Image and Video section introduces the digital ethnographic materials of Tang Fei's Chinese science fiction. Investigating texts, images, and videos in "Pinkray" and "Seventeen/Sixty-One" can provide an experimental reading experience for the VR player. The agents of texts, illustrations, animations, bodies, and players emerge as intra-actions in the VR gamespaces. In the Mesh, Texture, and Scale section, I address an architectural approach to design "Pinkray" as picturesque, imperfect and always incomplete. During my interview and collaboration with Jingzhi and Aristo, we modify their architectural projects between gamespace and architectural space. Through bills of quantities (Appendices F and G), the VR gamespace needs to be designed for more than a player-centred world. In the Collision and Fog section, I refer back to the ideas of flatgame and voidscape to connect my experimental architectural design and indie game design approaches. I highlight the limited uses and raw combinations of movement, art and sound that result in an architectural "ruin". A non-collision, misty, and rainy VR gamespace will contribute to the cosmotechnics and a non-player-centric multi-fandom world. In the section of Audio, I conceptualise from voice acting by Linn and Tianqi under the interactive interviews about Chinese BL fandoms. I further use the basics of randomisation, spatialisation, and effects from Wwise and integrate them with Unity. In "Pinkray", the audio design with Wwise-Unity integration celebrates relationships and contributes to the world-making of cosmotechnics.

## 6. Evaluating VR Gamespace

This chapter begins with a pivotal research question: what combination of quantitative and qualitative methods can be used to evaluate the experimental VR experience, and how can these insights extend our understanding beyond the scope of game and fandom?

Based on evaluation methods in Chapter 3 Methodology, I will evaluate "HyperBody" as an experimental prototype in which the VR game workshop, questionnaire, group discussion, and in-depth interviews are included. This chapter will use a mixed method combining quantitative and qualitative data to evaluate the VR gamespace by continuing the iterative structure. The navigation data (the in-game XYZ coordinates 45 frames per second), gameplay footage, questionnaires, ethnographies, thematic, and discourse analysis are included (Table 3.2).

Dependent Measures	Stages		Research Tools	Category	
Behaviour	1	Offline VR gameplay workshop	During the VR gameplay	Navigation paths and hotspots data, gameplay footages	Quantitative and qualitative
Reflection			Immediately after the VR gameplay	Questionnaires	Quantitative
Non-standard design choices on cultural context, game mechanics, and VR navigations	2		Group discussion	Ethnography and thematic analysis	Qualitative
Audio-visual scenarios, situatedness, queering notions	3	Online In-depth interviews (post-VR gameplay)		Thematic and discourse analysis	Qualitative

Table 3.2. Summary of the metrics for evaluating VR gamespace of "HyperBody", previously introduced in Chapter 3 Methodology.

Grounded in the research question regarding using both quantitative and qualitative methods to evaluate experimental VR experiences and their implications on game and fandom studies, this chapter employs a mixed-method approach for examining the VR gamespace in "HyperBody". The evaluation leverages various methods, including VR gameplay workshops, questionnaires, group discussions, and in-depth interviews. The objective is to discern the impacts of non-standard design choices based on cultural context, game mechanics, and VR navigation and to illuminate how these choices manifest queer VR experiences. The evaluation process incorporates navigation data, gameplay footage, and questionnaire responses. Additionally, it delves into the

ethnographic aspects of group discussions and employs thematic and discourse analysis on interview data. This comprehensive assessment responds to the research question. It aims to extend our understanding of VR experiences beyond traditional game and fandom contexts.

I will analyse data collected from participants' navigation paths, hotspots, and recorded gameplay sessions. The questionnaire results will be examined. I will then elaborate on the ethnographic study of the group discussion after the VR gameplay. Lastly, I will use thematic and discourse analysis to examine the in-depth interview data.

## **6.1 Participants and Workshop Procedure**

I recruited ten participants (P. A to P. J) from mainland China, Hong Kong, Taiwan, and European backgrounds (Table 6.1.1). They are master's students, PhD candidates, or professionals in various areas, including architecture (P. A, P. B), contemporary art (P. C, P. D, P. E), VR games (P. F, P. G, P. H, P. I), and UX research (P. J) - their VR expertise range from professional to beginner.

The ten participants encompass mainland China, Hong Kong, Taiwan, and European backgrounds and form an interdisciplinary architecture, art, VR game, and UX structure. For both the VR gameplay workshop and in-depth interviews, half of the participants in the group are very young practitioners in their fields, under the age of 27, who can bring more creative and pioneering feedback. The other half of the participants are in their 30s and 35s and are already more established researchers who can bring more thoughtful and critical feedback. Except for P. J, with a European background, the rest of the group can speak Chinese and English and have long experience studying and practising in mainland China and Western countries. Their participation and feedback are inherently cross-cultural. This cross-cultural, interdisciplinary, and multilingual group can provide a contextualised understanding of technology and initiate a cosmotechnic dialogue in the gameplay of "HyperBody".

Participant	Cultural background	Profession	VR device	Navigation path colour code	Playtime by game level				Total playtime
					Pinkray	Garden Portal	Vampire Squid	Typhoon Lionrock	
A	Hong Kong	Architecture	Oculus Quest	bright yellow <span style="color: yellow;">█</span>	2 min 30 sec	2 min 50 sec	/	/	5 min 20 sec
B	Mainland China with UK permanent residence		Oculus Quest	red <span style="color: red;">█</span>	9 min 40 sec	/	3 min 40 sec	/	13 min 20 sec
C	Hong Kong	Art	Oculus Quest	blue-violet <span style="color: purple;">█</span>	5 min 40 sec	/	3 min 10 sec	/	8 min 50 sec
D	British citizenship born in Mainland China		Oculus Quest	cyan <span style="color: cyan;">█</span>	14 min	/	3 min 10 sec	/	17 min 10 sec
E	Mainland China		Vive Pro	green <span style="color: green;">█</span>	7 min 30 sec	1 min 20 sec	2 min 30 sec	/	11 min 20 sec
F	Mainland China	VR and game	Oculus Quest	pastel pink <span style="color: pink;">█</span>	5 min 10 sec	8 min	/	/	13 min 10 sec
G	Mainland China		Oculus Quest	magenta <span style="color: magenta;">█</span>	2 min 55 sec	4 min 45 sec	4 min 20 sec	2 min	14min
H	Mainland China		Vive Pro	turquoise <span style="color: cyan;">█</span>	9 min 20 sec	3 min 5 sec	/	/	12 min 25 sec
I	Taiwan		Vive Pro	orange <span style="color: orange;">█</span>	3 min	6 min 20 sec	/	2 min 10 sec	11 min 30 sec
J	Poland	UX	Vive Pro	blue <span style="color: blue;">█</span>	4 min 5 sec	2 min 30 sec	2 min 30 sec	/	9 min 5 sec
<b>Average</b>					6 min 23 sec	4 min 7 sec	3 min 13 sec	2 min 5 sec	11 min 37 sec

Table 6.1.1. Participants' cultural background, profession, VR device used, assigned colour codes, and playtime.

Table 6.1.2 shows that except for P. C and P. J claim to be beginner in VR experiences, the rest of the group demonstrate their professional VR expertise. P. D, E, F, and H claim to be active members of ACGN fandoms; the rest of the participants hardly engage with either fandoms or VR gaming communities.

Participant	I consider my experience with VR technology to be ... (0: never interfered to 4: advanced VR creation)	I consider myself an active member of the VR game community and/or a VR gamer. (0: Not at all to 4: Extremely)
P. A	3	0
P. B	3	2
P. C	1	1
P. D	4	4
P. E	4	4
P. F	4	4
P. G	3	2
P. H	4	4
P. I	4	2
P. J	1	0

Table 6.1.2. VR Experience and Engagement results.

I use the idea of cosmotechnic to explore a new framework combining technological development, different theories of digital culture, and the quest for multiple cosmotechnics from the perspective

of the East. By evaluating the "HyperBody", selecting participants is crucial to creating a cultural and technological dialogue between the East and the West.

The workshop needs to consider UX research in VR. As VR gaming is still niche, user testing, according to Tabea Daunus (2019), has yet to establish standard procedures in the VR development industry. Compared to the advancement of VR technology, the study of UX in VR requires being explored mainly through two perspectives: problems with VR devices and technology and concerns with the research methodology (Kim, Rhiu, and Yun 2019, 906). For UX research in VR, the practitioners and designers must consider the physical environment, safety, hardware, hygiene, and privacy in preparation. During the VR gameplay, the factors of unfamiliarity with the technology, motion-sickness, facilitation, and recording should be examined. After the gameplay, the post-interview is important (Falmann 2018; Lloyd 2019; Singh 2021).

The "HyperBody" VR gameplay workshop took place in Goldsmiths' VR Lab for an entire afternoon. "HyperBody" was ready to play in one Vive Pro and one Oculus Quest VR headset arranged next to each other. A projector was used to display the gameplay on a large screen. Another space with tables and chairs was ready for the group discussion. A camera and tripod kits were set behind two VR headsets. Importantly, two computer chairs with swivel and tilt functions were placed, and participants could sit on them to play "HyperBody", which was easy and comfortable to navigate in different directions in the VR gamespace. Considering COVID and hygiene, I bought plenty of antibacterial and disinfectant cleaning wipes and surgical masks during each participant's gameplay session. Before each session, both VR headsets' facial interface, face cover pad, and lenses were cleaned. For ethics and privacy, each participant signed the consent form. All participants knew their VR gameplay, navigation paths, group discussion, and in-depth interviews were recorded. The data collected from the questionnaire was used for academic analysis. The video recordings, navigation paths, and questionnaire responses were stored offline on my external hard drive. They will eventually be destroyed once the "HyperBody" project is complete.

The workshop started with five minutes to introduce myself, "HyperBody" practice, and workshop ethics and procedure. I deliberately presented the game with minimal information (how to play in VR and safety). The participants were given carte blanche to creatively engage in different game levels without pre-registered ideas of queerness, identity, game background, and goal. Participants only knew that "HyperBody" is a cross-disciplinary VR experience between art, architecture, game, and fandom before the gameplay. The more comprehensive cultural and technological contexts behind "HyperBody" were introduced to the participants later in the in-depth interviews stage.



There were a total of five sessions of gameplay. Vive Pro and Oculus Quest participants played different "HyperBody" game levels for up to 15 minutes in each session. As an additional note (Table 6.1.1), I made an exception for P. D to play for 2-3 more minutes because she was overly interested and fully immersed in the "Pinkray" game level. P. A has motion sickness with the 3D game and had a short overall playtime, and the two complemented each other's playtime. A 3-minute change-over was set between sessions. All participants completed their questionnaires online via desktops or smartphones after the gameplay. After the five sessions, all participants were invited for a 30-minute group discussion, and pure water was available. Participants enjoyed the VR game experiences and agreed to join the in-depth follow-up interviews.

When participants were ready, I asked them to wear the VR headset and hold both VR controllers, using thumbsticks (Oculus controller) or trackpads (VIVE controller) to move in the direction they faced. To avoid motion sickness, pressing thumbsticks or trackpads slightly, moving slowly and adjusting the speed were recommended. I also worked as a chaperone to care for two participants in each session. I noted verbal and non-verbal clues and focused on what the participants looked at and how they interacted. I made sure they did not get tangled up in cables. I aimed to provide a VR experience without distractions and concurrently provided necessary prompts or support, such as switching game levels, adjusting headset tightness, and answering participants' instant comments. The recorded sessions included participants' in-game behaviours and gameplay on PC monitors.

Ten participants played four "HyperBody" game levels, including "Pinkray", "Garden Portal", "Vampire Squid", and "Typhoon Lionrock". The spatial configuration and path design of "Seventeen/Sixty-One" closely mirror those of "Pinkray". Therefore, participants were not required to engage with "Seventeen/Sixty-One", as their experience navigating "Pinkray" would provide a sufficient understanding of the VR game structure and mechanics. I recorded each game level's navigation paths (XYZ coordinates 45 fps). Each participant completed a questionnaire (details in Appendix J) with seven sections: VR Experience and Engagement, VR Related Ill Effects (optional), Game Experience Core Module, Post Game Module, Research Question Evaluation, Game Elements, and Comment (Optional). Lastly, the group discussion was recorded and transcribed with a thematic analysis using the NVivo<sup>45</sup> software.

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<sup>45</sup> QSR International is the producer of NVivo, which is a computer software package designed for qualitative data analysis. <https://lumivero.com/products/nvivo/>.

## 6.2 Navigation Paths, Hotspots, and Footages

Based on the previous chapter describing VR gamespace, the "HyperBody" VR gamespace, derived from a multifaceted architectural approach that intersects with indie game design, encompasses digital ethnographic materials and audio integration through Wwise-Unity. This VR gamespace invites participants to an immersive experience, distinguished by a misty, rainy environment resonating with the aesthetic of "ruins" and a non-collision environment that drives cosmotechnics and a non-player-centric multi-fandom world. Intending to evaluate this complex design, I considered both intended navigations, shaped by the game design framework, and unexpected player engagements that stem from the diverse elements of texts, images, 3D scans, NPCs, and architectural mods.

The designed navigations in "HyperBody" led the player through intrigue, discovery, and affective connection with the game-fandom, embedded with cultural, technological, and affectional elements. I anticipated the participants' deviations and unexpected paths, influenced by their personal gaming strategies, emotive responses, and interpretive play. The collected data from navigation paths, hotspots, and gameplay footage combined with the responses from the questionnaires provided a comprehensive understanding of the unconventional VR experiences within "HyperBody".

Based on these evaluations, I identified areas of success and potential improvements in creating an engaging and affectively resonant VR gameplay. More importantly, this mixed-methods evaluation approach allowed me to explore how experimental VR design and unconventional gaming experiences can extend our understanding of game and fandom studies.

During the workshop, participants starting level in "HyperBody" were randomly selected from "Pinkray", "Garden Portal", "Vampire Squid", or "Typhoon Lionrock" to provoke non-linear narratives. All participants played game level "Pinkray", and because of a maximum of 15 minutes of each gameplay session, seven played "Garden Portal", six played "Vampire Squid", and only two played "Typhoon Lionrock". "Typhoon Lionrock" is a highly speculative and complex game level about my reflection on Chinese cosmotechnics. This level was designed as an easter egg; only the gameplay footage will be reviewed. Navigation paths and hotspots in "Pinkray", "Garden Portal", and "Vampire Squid" are examined.

## 6.2.1 Pinkray

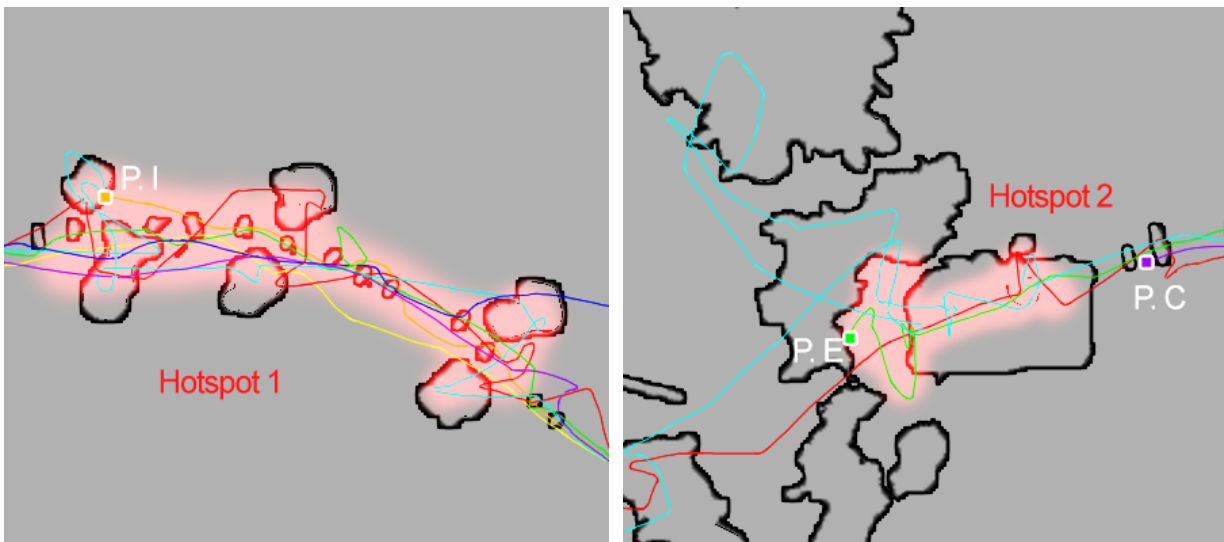
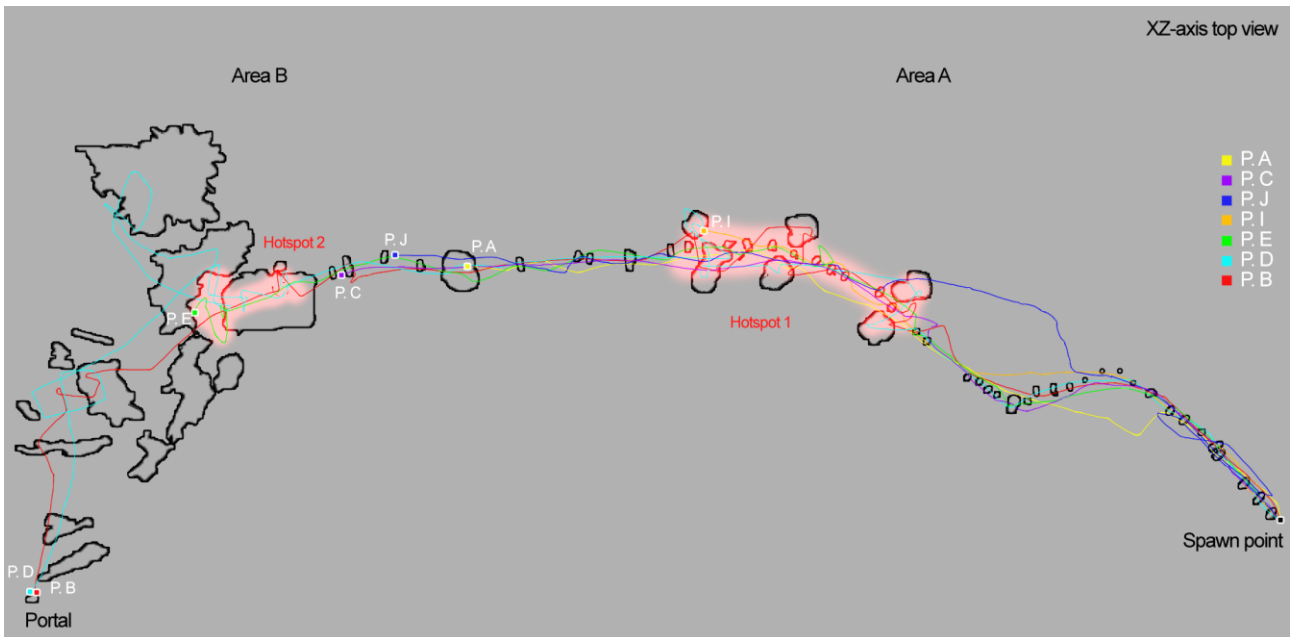


Figure 6.2.1. P. A (bright yellow ■), P. C (blue-violet ■), P. J (blue ■), P. I (orange ■), P. E (green ■), P. D (cyan ■), P. B (red ■) navigation paths and hotspots on the X-Z axis top view, Pinkray, area A: narrative path, area B: multi-fandoms.

All participants played "Pinkray" (Table 6.1.1). Given the similarity in navigation paths and playtimes between P. F and P. H with P. C, and P. G with P. I, I excluded the specific discussion on P. F, P. H, and P. G's paths for brevity. Seven distinct paths were analysed from P. A, B, C, D, E, I, and J while engaging with "Pinkray". While the structure of "Pinkray" is technically simple, it features two primary areas: Area A hosts the narrative path formed by Pinkray/Katto fanfiction, and

Area B embodies multi-fandom elements like 3D texts, NPCs, 3D scans and architectural mods (Figure 6.2.1). Detailed navigation paths for each participant in each game level are available in Appendix H.

P. A's rapid traversal resulted in the briefest engagement of 2 minutes and 30 seconds, focusing primarily on the narrative path. In contrast, P. C exhibited slower navigation, immersing herself in the narrative and NPCs, extending into Area B before concluding her session in 5 minutes 40 seconds. P. J initially struggled with the VR navigation, walking backwards before regaining control and exploring both the narrative path and multi-fandom elements, completing the session in 4 minutes and 5 seconds.

P. I and P. E both navigated slowly, with P. I thoroughly engaged with the narrative and NPC dialogues, while P. E showed specific interest in the Line Shift mod within Area B, moving in and out of the structure with considerable curiosity.

P. D and P. B offered the most extensive exploration of the VR gamespace. P. D, particularly immersed in the experience, spent up to 14 minutes exploring every aspect, including NPCs with hidden sounds and multi-fandom elements. She also found the portal and moved to the next game level. Similarly, P. B explored most of the gamespace and found the portal, with notable interest in the 3D scan "HyperSkin" (Item 34 in Appendix F) and the "Luo Ji/Shi Qiang" (Item 22) NPCs.

Based on the "Pinkray" navigation paths and hotspots video,<sup>46</sup> hotspot 1 showed some participants were curious and enjoyed the unusual audio-visual experience of non-collision physics by navigating through the front, the positive side, and the back, the negative side of NPCs (Item 17 Laike and Item 25 White Cat Monitor in Appendix F). In hotspot 2, the abstract architectural experience (Item 5 Alien Z3 and Item 27 Line Shift) made participants indulge.

### **6.2.2 Garden Portal**

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<sup>46</sup> Qiang-009 - Pinkray Game Level - Navigation Paths and Hotspots.mp4 is available on the storage media.

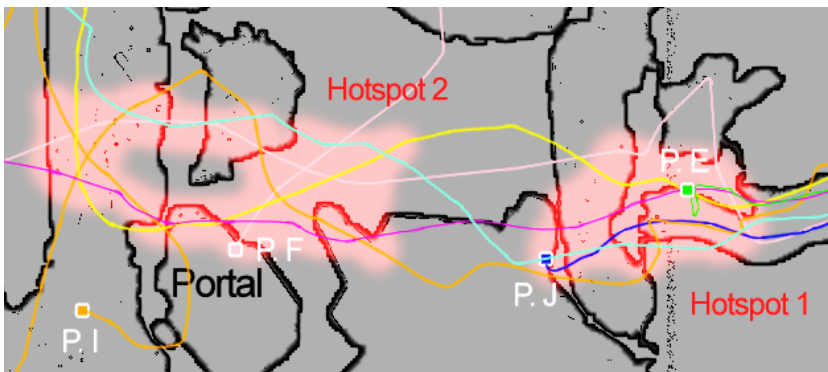
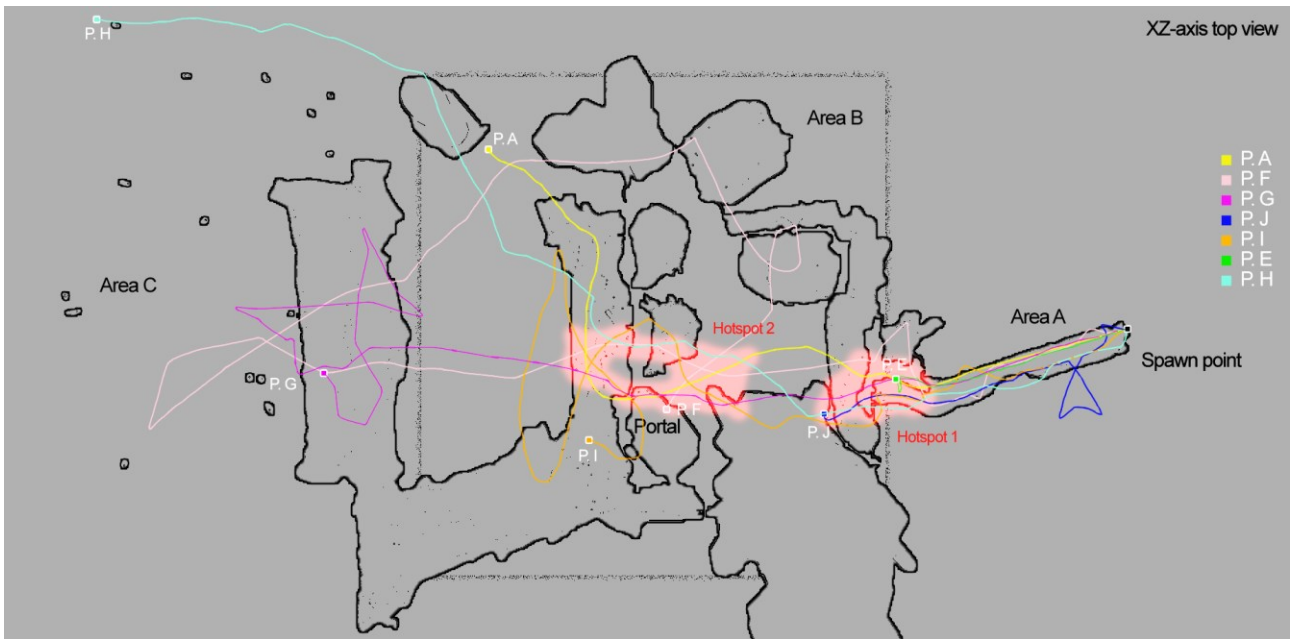


Figure 6.2.2. P. A (bright yellow ■), P. F (pastel pink ■), P. G (magenta ■), P. J (blue ■), P. I (orange ■), P. E (green ■), and P. H (turquoise ■) navigation paths and hotspots on the X-Z axis top view, Garden Portal, area A: staircase, area B: walled garden, area C: outside walled garden.

As Figure 6.2.2 shows, seven participants, including P. A, E, F, G, H, I, and J, experienced the "Garden Portal". The playtime spans from 1 minute 20 seconds to 8 minutes. "Garden Portal" is a basic game level including 3D scans of the staircase and inside and outside the walled garden (Areas A, B, and C).

The navigation paths within "Garden Portal" demonstrated distinct gameplay patterns among the participants. P. A, in a swift manoeuvre, navigated through the staircase (Area A) into the walled garden (Area B) within 2 minutes and 50 seconds. P. F displayed a more explorative approach, delving into various 3D scans and NPCs inside and outside the walled garden, eventually finding

the portal. This explorative tendency was mirrored in the gameplay of P. G and P. I, who showed a particular interest in the garden boundary's detailed examination.

In contrast, P. J initially found the controls challenging, particularly managing direction and collisions. However, these hurdles were eventually overcome, and she entered the walled garden via the staircase. Due to a time constraint, P. E's experience was limited, clocking in at only 1 minute and 20 seconds. His trajectory involved traversing the staircase and hovering around the walled garden entrance without fully entering.

An unusual gameplay experience was exhibited by P. H, who ventured inside and outside the walled garden and explored the staircase extensively. Notably, from time stamps of 1 minute to 1 minute 30 seconds, she journeyed downwards after entering the walled garden. She unearthed hidden space in its underground, indicating an adventurous approach to the VR gamespace.

In hotspot 1,<sup>47</sup> participants were surprised by the sudden impact of a non-collision transition from the Area A staircase into the Area B walled garden. They continued to explore and were tempted by the black-and-white aesthetic of ruined walled garden 3D scans and floating architectural objects (hotspot 2).

Participants formed different understandings of non-collision features before creatively engaging with the underground, inside, and outside of the walled garden.

### **6.2.3 Vampire Squid**

"Vampire Squid" presented a more abstract spatial experiment, blending 3D scans into the cosmos to generate a vast, intricate VR gamespace. This complexity led to a shorter average playtime of 3 minutes 13 seconds, compared to "Pinkray" at 6 minutes 23 seconds and "Garden Portal" at 4 minutes 7 seconds. Out of six participants who engaged in this game (P. B, C, D, E, G, and J), each carved out distinctive routes, reflecting their individual spatial understandings (Figure 6.2.3).

P. G notably ventured into distant areas, while P. C, P. J, and P. B made expedited progress to intermediate areas populated with 3D scans and NPCs. Conversely, P. D and P. E demonstrated more localised explorations, fixating on the details of specific 3D scans in the initial areas.

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<sup>47</sup> Qiang-010 - Garden Portal Game Level - Navigation Paths and Hotspots.mp4 is available on the storage media.

These divergent paths converged in several hotspots of activity.<sup>48</sup> At hotspot 1, the allure of non-collision abstract objects drew participants into the 3D scanned space within the initial area. Hotspot 2 gained interest due to the engaging abstract aesthetic of the spatial mapping wireframe texture. Lastly, in hotspot 3, participants navigated through non-collision architectural "ruins". They made their way to abstract NPCs situated within the intermediate area.

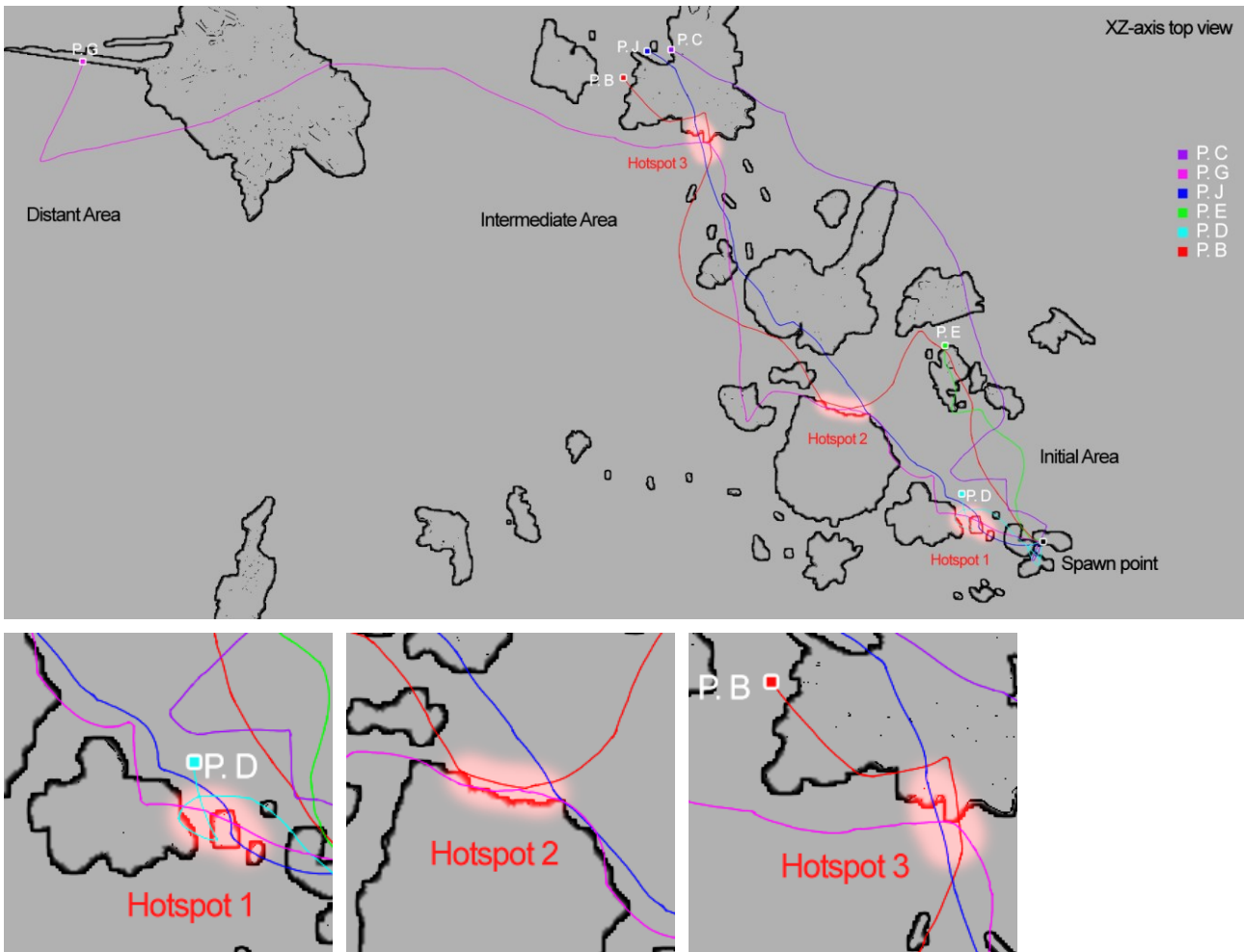


Figure 6.2.3. P. C (blue-violet ■), P. G (magenta ■), P. J (blue ■), P. E (green ■), P. D (cyan ■), and P. B (red ■) navigation paths and hotspots on the X-Z axis top view, Vampire Squid.

In summary, a thorough analysis of three distinctive game levels of "Pinkray", "Garden Portal", and "Vampire Squid" has revealed intriguing patterns in navigation paths and hotspot interactions.

<sup>48</sup> Qiang-011 - Vampire Squid Game Level - Navigation Paths and Hotspots.mp4 is available on the storage media.

"Pinkray" drew all participants, displaying various exploratory styles and playtimes. The level contained a vibrant mixture of narrative and multi-fandom elements, sparking curiosity and thorough investigation in some participants. In contrast, others adopted a more expedited, goal-oriented approach. The allure of non-collision physics and abstract architecture emerged as critical activity hotspots.

"Garden Portal" presented a more spatially restricted environment, with gameplay encompassing a staircase and walled garden. Participants showcased varied navigational strategies; some focused on quick navigation, others on a more detailed garden exploration. These divergences led to distinctive encounters with non-collision transitions and underground discoveries.

Lastly, "Vampire Squid" offered an abstract, expansive VR gamespace that incited shorter, intense exploratory sessions. Each participant carved an individual path, from distant expeditions to focused local investigations. Common points of interest emerged as hotspots, including abstract objects, wireframe textures, and architectural "ruins".

Across all three game levels, the player's intentions, affections, curiosity, and interpretive engagement contributed to the variability in navigation paths and interactions with hotspots, providing a multifaceted understanding of player experience in experimental VR game navigation.

#### **6.2.4 Gestures and Movements**



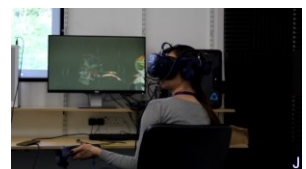
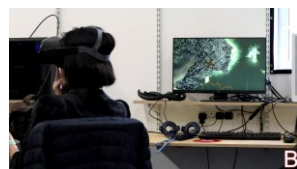
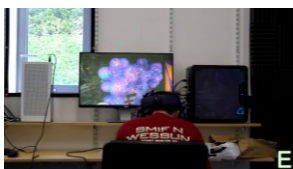
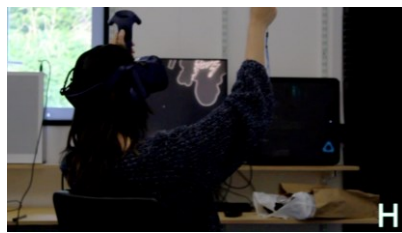


Figure 6.2.4. Ten participants' gestures and movements, gameplay footage.

I selected game footage from each participant; their behaviours and gestures can indicate successful VR feedback, critical glitches and non-working elements in the experimental VR gamespace (Figure 6.2.4). Detailed VR gameplay footage for ten participants is available in Appendix I.

P. A exemplified adaptability in the non-collision environment, positively interacting with the sensation of falling despite her usual motion sickness in 3D games. In contrast, P. B experienced difficulties with the VR headset compatibility with her glasses, potentially leading to discomfort and navigational challenges. However, most participants accepted such technical issues as inherent to the experimental nature of "HyperBody"; these were not the focal point of the study. The full-body engagement was evident in the navigation strategies of P. C, P. D, and P. I, who incorporated head rotation, vertical hand movements, and rotation of swivel chairs. It contrasted with the more localised hand movements of P. E and P. H. P. F and P. G creatively used the swivel chair to facilitate expansive directional changes, while P. J maintained consistent navigation gestures, potentially impacting her interaction with non-collision features. These diverse embodied experiences offer insights into the multifaceted interplay between VR experience, gesture and movement.

In a standard VR experience, players typically navigate environments using handheld controllers and limited body movements. For example, they may use the joystick on the controller to move their character and use a button to interact with objects. While this can create a sense of immersion, it can also feel limited and disconnected from the player's body.

In contrast, the gameplay of "HyperBody" encouraged participants to use their entire bodies to navigate through the experimental VR gamespace. Participants could engage more creatively and immersively by using gestures that involved whole-body movement, head rotation, and even vertical movement of the hands with controllers. Using a swivel chair allowed more movement and rotation within the VR gamespace. This more effective use of body movement in "HyperBody" created a greater sense of presence for the participants, as they felt more "inside" the game.

In this section, I present ten participants' navigation paths and hotspots in "Pinkray", "Garden Portal", and "Vampire Squid" game levels. I also analyse all participants' gameplay footage. All participants formed creative connections to the game levels and dedicated their playtimes to specific areas involving texts, NPCs, 3D scans, and especially sound effects. The portal and underground gems were also discovered. From hotspots, participants were highly engaged with various unusual audio-visual experiences of non-collision physics. They were particularly intrigued

by abstract NPCs and 3D scans in an architectural "ruins" aesthetic. Although bothered by motion sickness, difficulty focusing, or understanding non-collision features, they swiftly adapted to the glitches. Using their entire bodies to engage in "HyperBody", they became highly immersed in the VR gamespace.

### **6.3 Modified GEQ questionnaire**

According to Kent L. Norman (2013), very few frameworks are available to quantify player experience, despite the gaming industry emphasising UX for a while. IJsselsteijn and his team built a multipurpose framework, the Game Experience Questionnaire (GEQ), that is most used. I will use GEQ as the basis for the questionnaire design. VR games differ from traditional games in the perception of reality, player satisfaction, level of immersion, and cybersickness (Longina 2019, 11-12), which must be considered when evaluating player experience. As "HyperBody" is for single-player without a social component and competition, GEQ's Core Module and Post Game Module will be used.

The GEQ Core Module consists of 33 items that aim to evaluate the gaming experience of players through seven different dimensions. These include Competence, Sensory and Imaginative Immersion, Flow, Tension/Annoyance, Challenge, and Negative and Positive affect. The questionnaire rates players' experience while playing; a 5-point Likert scale ranging from "0 - not at all" to "4 - extremely" is a basis for their responses. This tool allows game researchers to gather valuable insights into players' gaming experiences. The GEQ Post Game Module with 17 items aims to capture players' post-game feelings and experiences especially applicable to experimental research (IJsselsteijn, de Kort, and Poels 2013, 4). Positive Experience, Negative experience, Tiredness, and Returning to Reality are four dimensions. Both modules' scores are computed as the average value of their items. Appendices J and K present a detailed overview of the questionnaire design and results overview.

#### **6.3.1 Questionnaire Design**

Modifying the original GEQ framework, the assessment for "HyperBody" expands to seven modules (Appendix J). These modules include VR Experience and Engagement (results in Table 6.1.2), VR Related Ill Effects (results in Table 6.3.1), Game Experience Core Module, Post Game Module, Research Question Evaluation, Game Elements, and Comment. The comprehensive

results from the Game Experience Core Module, Post Game Module, Research Question Evaluation, and Game Elements can be found in Appendix K.

Research Question Evaluation Module is designed to reflect key research questions during the "HyperBody" practices. It is crucial to ask participants if "HyperBody" is experimental and how it might connect to immersion. In detail, specific features of non-collision, misty, and rainy are addressed to find how these can relate to creative and affective thinking. This section also transitions to more nuanced factors in the Game Elements Module.

Game Elements Module assesses the overall experience within VR gamespace. It includes twelve items: Motivation closely connected to fan studies, game studies, and VR productions; Engagement in experimental gameplay, Challenge the ideas of what VR gamespace can be; Affection/Emotional attachment to animations, comics, games, and novels; Story/Narrative in experimental gameplay; Theme and Setting; Interactions and Control; Audio; Text; NPC; 3D scan; and Architectural Aesthetics. Regarding original GEQ scoring, the Game Elements Module score is computed as the average value of their items in four dimensions: Multi-fandom, VR, Gamespace, and Architecture.

### **6.3.2 Interpretation of Results**

Participant	I Felt													
	Blurred vision	Boredom	Difficulty concentrating	Difficulty focusing	Dizziness	Drowsiness	Eyestrain	Fatigue	General discomfort	Headache	Nausea	Other	Sore/aching eyes	Tired eyes
P. A	0	0	0	0	1	0	0	0	1	1	1	0	1	0
P. B	0	0	0	0	0	0	0	0	0	1	1	0	0	0
P. C	0	0	0	1	0	0	0	0	0	0	0	0	0	0
P. D	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P. E	0	0	0	0	0	0	0	0	0	0	0	1	0	0
P. F	0	0	0	0	0	0	0	1	1	0	0	0	0	0
P. G	1	0	0	0	1	0	0	1	1	0	0	0	0	0
P. H	0	0	0	0	0	0	0	0	0	0	1	0	0	1
P. I	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P. J	0	1	0	0	0	0	0	0	0	0	0	0	0	0

Table 6.3.1. VR Related Ill Effects (Optional) results, 1: Symptom Present and 0: Symptom Not Present.

VR Related Ill Effects (Table 6.3.1) module is optional. P. D and P. I had no ill effects during gameplay. P. A indicated nausea, dizziness, headache, and general discomfort because of her motion sickness with 3D games. P. B's nausea and headache related to her wearing glasses and IPD (interpupillary distance) configuration in the VR headset. Compared to P. D playing 17 minutes without any ill effects, P. G indicated dizziness, general discomfort, fatigue, and blurred vision with her long playtime of 14 minutes. P. J only claimed to have boredom because of difficulty managing non-collision navigation. As "HyperBody" is supposed to be an experimental VR production, VR related ill effects can specify various glitches and non-working elements in VR technics and gameplay mechanics. These effects can also relate to very personal reasons. Because none of the participants particularly pointed out the issues during group discussion and in-depth interviews, I think the results are acceptable for an experimental VR production. I will instead analyse in-depth different participants' emotions and feelings in different game levels rather than further clarifying abstract ill effects.

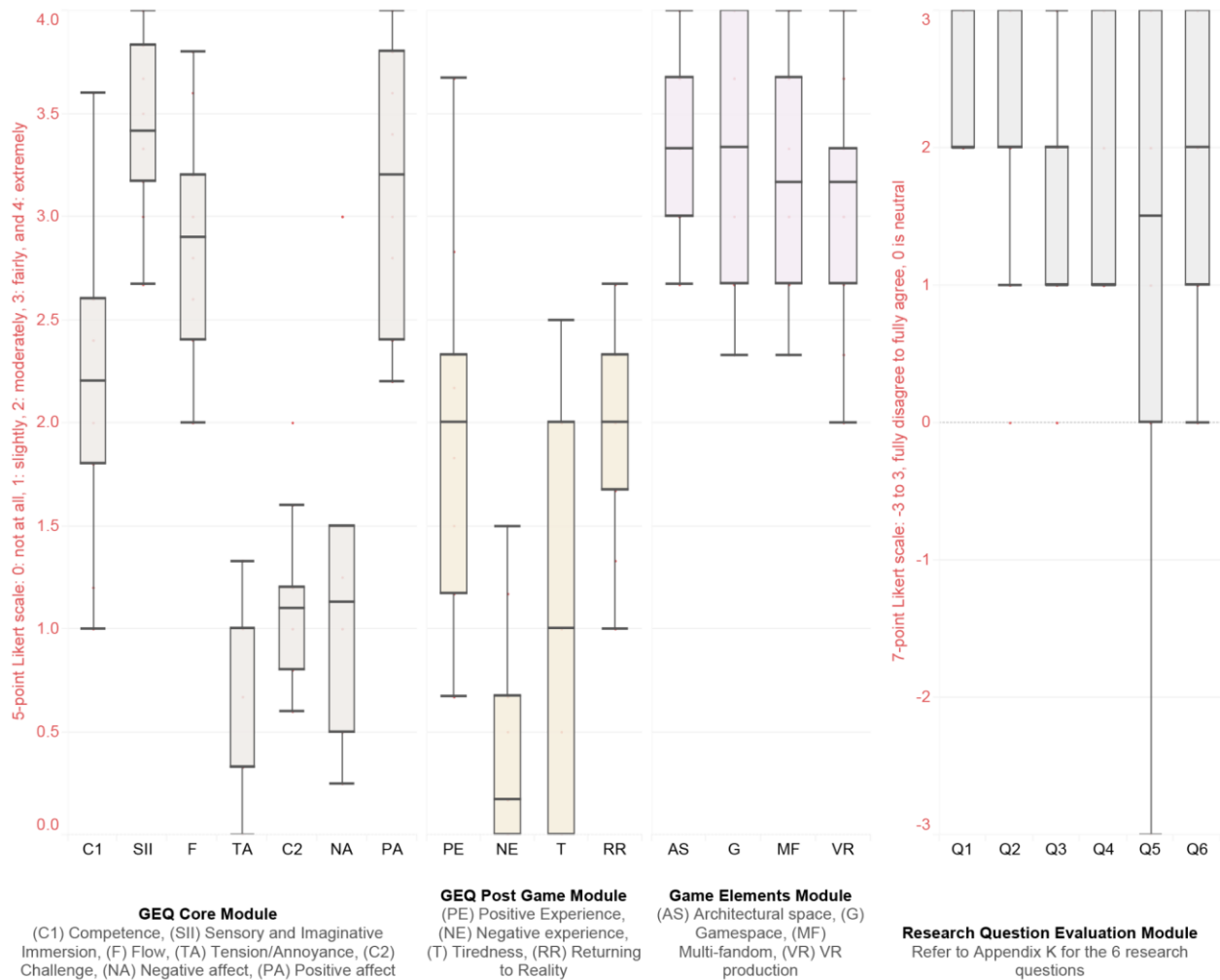


Figure 6.3.1. Questionnaire results from GEQ Core, GEQ Post Game, Game Elements, and Research Question Evaluation Modules.

The questionnaire results from the Game Experience Core Module, Post Game Module, Research Question Evaluation, and Game Elements suggest that "HyperBody" delivered an overall positive VR gaming experience, with high sensory and imaginative immersion, moderate challenge, and low tension, fitting neatly with the design intention of providing an experimental VR gamespace (Figure 6.3.1, more details in Appendix K). Notably, the participants' ability to adapt to the gameplay reflects the navigational freedom and uncommon experiences fostered by the game's mechanics, underscoring the varied, non-linear navigation paths and hotspots. The balanced competence score aligns with the variation observed in the gameplay footage analyses, demonstrating players' diverse strategies in navigating and interacting within the VR gamespace.

Post-game evaluations echoed this positive sentiment. However, the variable tiredness levels suggest a nuanced relationship between the game's immersive qualities and physical demands, likely tied to individual differences in gameplay strategies and the experimental nature of "HyperBody". These variations underscore the transformative potential and affective intensity of the VR experience in "HyperBody".

The positive reception towards "HyperBody"'s experimental VR elements and the sense of "being there" affirm the success of the game's design in creating an immersive and affective VR gamespace. The intriguing non-collision and atmospheric "ruins" settings reflect the experimental use of VR technology, contributing to participants' unusual navigation experiences and creative thinking. Moreover, the high scores in the Game Elements Module, particularly for multi-fandom, VR production, gamespace, and architectural space, indicate the game's successful integration of fan studies, game studies, and VR technology while achieving its intended research objectives. This synthesis of elements embodies the rich intersections of culture, technology, and affect explored in "HyperBody". Nevertheless, addressing areas causing negative emotions could further enhance the VR experience.

The questionnaire results verify the analysis and speculations based on navigation paths, hotspots, and gameplay footage. A different mode of immersion and play is addressed; participants recognised that "HyperBody" is experimental and are captivated by the VR gameplay, fandom visuals, and its unconventional architecture. During the next group discussion session, I will identify non-standard design choices on cultural context, game mechanics, and VR navigations.

## **6.4 Group Discussion**





Figure 6.4.1. Group discussion footage.

After the VR gameplay and questionnaire, I gave all participants a 10-minute break, let them sanitise their hands after using the VR and drink enough water. I prepared many A4 printed papers with colour images of NPCs, 3D scans, various scenes, and maps from different game levels (Figure 6.4.1). I also projected the "HyperBody" gameplay videos onto the projector screen. These preparatory works supported game-level playback and prompted participants' reflections on various perspectives of "HyperBody". I continued my ethnographic method and took detailed notes on what and how they communicated and any nonverbal cues that may be relevant. I encouraged the participants to share their feedback on "HyperBody" and discuss favourable and unfavourable perspectives.

I actively joined the group discussion and observed the participants' behaviours, gestures, and facial expressions as they discussed the game. As a researcher and coordinator, I participated in the group discussion. I elaborated on specific issues related to "HyperBody"'s cultural and technological background (the group discussion transcript is in Appendix L). Before the VR gameplay, I gave the participants carte blanche to creatively engage with the different game levels without any pre-registered ideas or assumptions regarding queerness, identity, game background, or goals. Based on my transcript and notes, I captured initial themes and perspectives from the



conversation. The group discussion session was used to lay the groundwork for in-depth interviews. The thematic analysis approach was used to identify non-standard design choices on cultural context, game mechanics, and VR navigations.

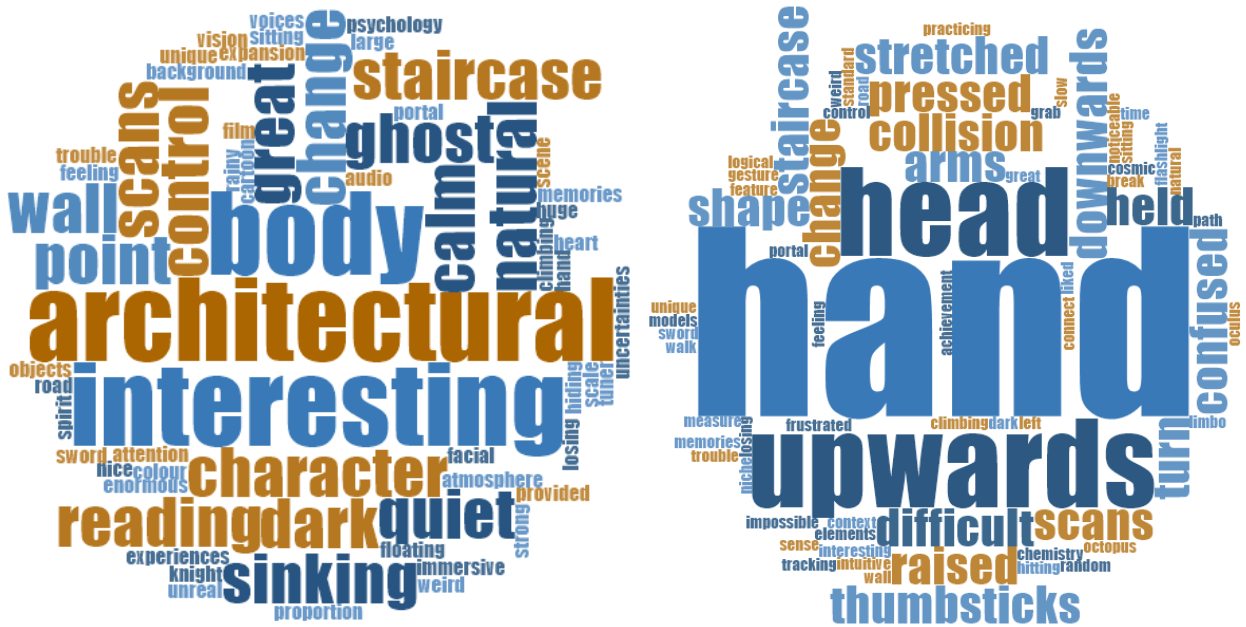


Figure 6.4.2. Code clouds of Personal Feelings (left) and VR Game Mechanics (right). Code size shows the frequency it was mentioned during the group discussion.

In scrutinising the initial thematic analysis of transcripts and video footage, it is evident that personal feelings and VR game mechanics emerged as core themes shaping the participants' experiences with "HyperBody" (Figure 6.4.2). These resonated across a spectrum of sensations, from ethereal calmness akin to "being like ghosts" to the flux of "sometimes falling and sinking", all set within the captivating "architectural" and "audio" space. In turn, these sentiments exemplify the rich, affective experiences engendered through the fusion of game design intention, carefully crafted navigation paths and hotspots.

The VR game mechanics theme, characterised by the "difficulty of navigating" in a "ghost form" and the "non-intuitive" manipulation of controls, throws into relief the intricate interplay between the technological capabilities of VR and the culturally specific context of ACGN fandoms. Regardless of their prior familiarity with these fandoms, participants perceived the distinctive navigation

approach as "interesting" and instrumental in fostering an embodied experience through the invention of "hand gestures" and new body relationships within the VR gamespace.

It is impressive that participants' interpretations and experiences with "HyperBody" were significantly shaped by their disciplinary backgrounds. P. J, coming from a UX background, voiced frustration with the complex, non-collision navigation approach, calling for more "intuitive and standard VR interaction and movement". Conversely, participants with a VR gaming background appreciated the unconventional "ghost form" navigation and even desired more complex "movement, interaction, and hand gesture development". Participants from architectural and art backgrounds celebrated the non-collision approach to movement and the creative potential of 3D scans, respectively, while articulating the importance of the narrative. These diverse perspectives underline the potential of "HyperBody" as an experimental VR game that transcends traditional boundaries, offering a rich, multidimensional experience that evokes a spectrum of participant responses.

The group discussion provides more individual feedback than the questionnaire and demonstrates the unusual navigation experiences that can provoke creative and affective thinking. Rich emotional attachments and critical feedback come from the body, space, and VR game mechanics. Participants were keen to know more narratives and cultural and technological contexts of "HyperBody". In-depth interviews with ten participants are needed to have more comprehensive thematic and discourse analyses.

## **6.5 In-depth Interviews**

Compared to the offline VR gameplay workshop, I conducted a one-hour interview with each of the ten participants online. The online interview can provide a comfortable and relaxing experience based on each participant's time and location preferences. All participants agreed to spend more time sharing their individual experiences in "HyperBody" because the previous group discussion only lasted 30 minutes. The group discussion has built a foundation for a thorough examination. The in-depth interviews aim to identify how experimental gamespace designs and VR experiences in "HyperBody" communicate with the different participants and how can "HyperBody" manifest the queering notions.

### **6.5.1 Interview Procedure**

The whole in-depth individual interview sessions were also recorded. During the interview, I used around five minutes to debrief the previous VR gameplay workshop with the results and stated objectives of this interview. I specifically introduced the design background of ACGN fandom and gaming community in 10 minutes. In contrast to the VR gameplay workshop, I created an initial cultural and technological context for everyone before asking questions.

I stressed the significance of cultivating nuanced relationships with the participants through online in-depth interviews. This approach allowed me to delve deep into the ethical, ontological, and epistemological dimensions of their experiences, positioning their cultural context within the cosmotechnics of game-fandom. The "HyperBody" VR gamespace catalysed these discussions, prompting participants to reflect on how affections, relationships, materialities, and technologies are both influenced by and contribute to the shaping of cosmotechnics.

My method incorporated seven non-mandatory interview questions, each designed to elicit specific incidents or scenarios from the VR gameplay, with a keen focus on the participants' stories and emotional landscapes. This approach ensured that the discussions were anchored in the participants' experiences, creating multiple layers of insights.

In line with the principles of interactive interviews in the Methodology Chapter, my position as an aca-fan played a crucial role in establishing a sincere, non-hierarchical interview environment. This stance facilitated an affective connection with the participants, encouraging them to share their thoughts, feelings, and experiences, especially concerning gender and identity. The non-mandatory questions served as a starting point, a spark to ignite the conversation, to foster an unrestricted, reflective, and grounded dialogue in the specific scenarios of the "HyperBody" VR experience. I tried to enhance the quality of our interactions by providing more in-depth information about games, fandoms, and related art and technological theories. I took the time to understand their interests and cultural and academic backgrounds, which allowed me to provide more personalised and relevant introductions. No pre-existing thoughts on queer, body, and identity were established to limit discussions between the author and participants.

Ten participants and I engaged in an online, in-depth conversation typically supported by three to five questions. The conversation took approximately 40 minutes to complete. The questions are:

1. During the previous group discussion, were there any doubts, difficulties or other issues that you did not fully understand? If so, could you elaborate on these issues now?

2. Did the VR game "HyperBody" provide you with a significantly different experience compared to other VR games you have played? If so, can you describe a specific incident or scenario?
3. How did you perceive the "HyperBody" ACGN game fandom context in terms of cosmotronics?
4. How did the specific aesthetics of the VR navigations in "HyperBody" impact your gameplay experience?
5. Did the ACGN game fandom context help provoke different understandings of culture, technology, and affection based on your cultural situatedness? If so, can you describe a specific incident or scenario?
6. In your opinion, how did the experimental, non-collision, misty, and rainy VR gameplay in "HyperBody" communicate with you as a player?
7. In your opinion, how did the experimental VR gamespace in "HyperBody" manifest queering notions? Furthermore, how do you envision the manifestation of queering notions in future experimental VR games?

Multiple perspectives unfolded through discussing "HyperBody" experiences, encapsulating the complexity of cosmotronics and queering notions. During the interviews, I shared my screen and provided necessary gameplay images and videos for various cultural and technological references (Figure 6.5.1). Lastly, I used five minutes to wrap up and summarise participants' essential notes and ideas addressed in our discussions. The interactive nature of the interviews ensured that the conversation was fluid, adapting to the participants' references and experiences.

My immersive approach to an aca-fan facilitated a nuanced understanding of participants' situatedness, sparking different perspectives and discussions. This approach enabled a thorough exploration of "HyperBody", revealing its potential to serve as a medium for critical discussion and reflection on queer identities, experimental VR gameplay, and the intricate relationship between game and fandom.

The interview was structured around two propositions,

1. "HyperBody" provides an experimental VR gamespace for the queering process, which allows players to "relearn" the cultural, technological, and affective specificities within and beyond gaming and fandom practices.

- "HyperBody" integrates fan studies, game studies, architecture, UX, VR games, and computational art. It creates a cosmotechnic dialogue that queers interdisciplinary fields and serves as an experimental framework for creating, describing, and evaluating experimental VR productions.

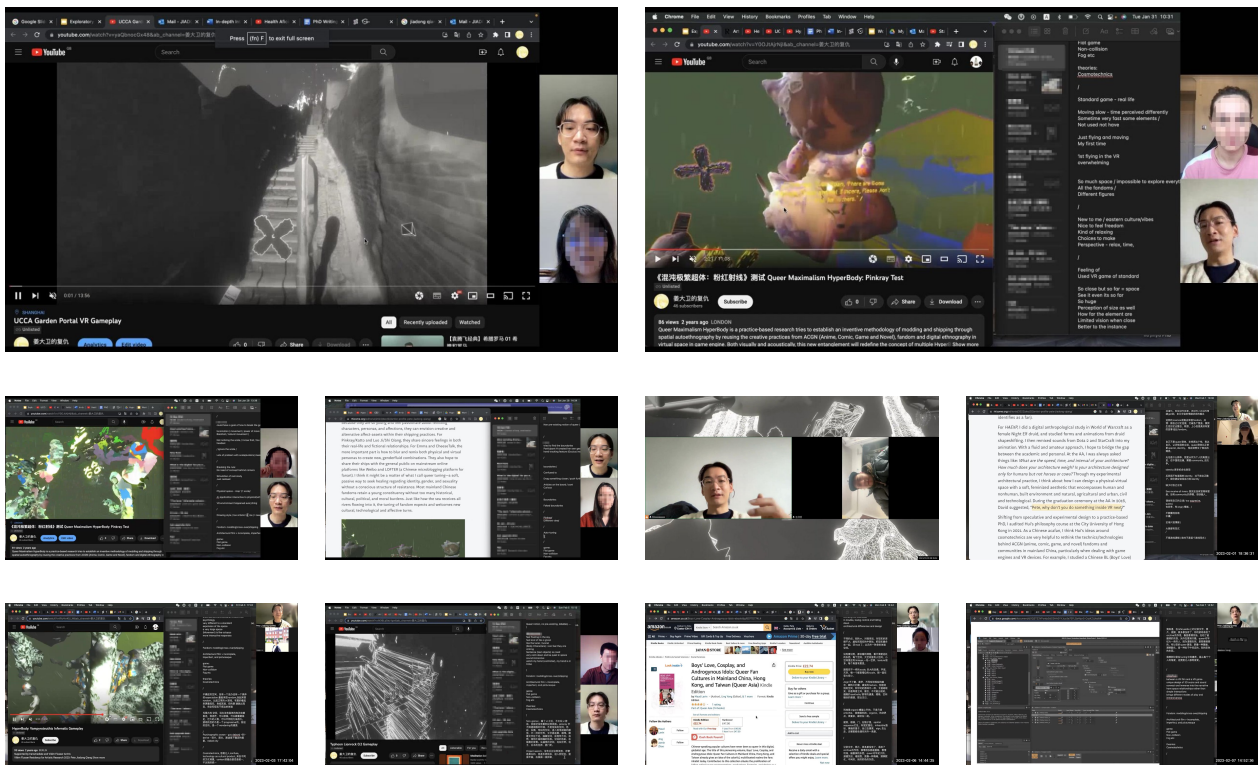


Figure 6.5.1. Online in-depth interviews, ten participants screenshots, describing their personal experiences in different game levels.

### 6.5.2 World-making: Thematic Analysis

Ten participants' in-depth interviews were transcribed (Appendix M) and analysed thematically using an inductive approach. The codes were categorised into themes without preconceptions or theory guiding the process. I used NVivo software to facilitate coding and analysis.

Participants imagined and created a world through various means, such as audio-visual experiences and art and technological theories in the VR gamespace (Figure 6.5.2). They engaged in affective turns during world-making, adapting to glitches and fine-tuning the queerness within

and beyond ACGN game fandom. Most importantly, participants used simple and basic words to give concrete forms to experiences, theories, affections, and queer notions that make a bridge to my abstract concepts and iterative structures. They ranged from fandom, visual novels, indie game design, misty, rainy configurations, and architectural aesthetics of "ruins" to the theoretical framework of cosmotechnics.

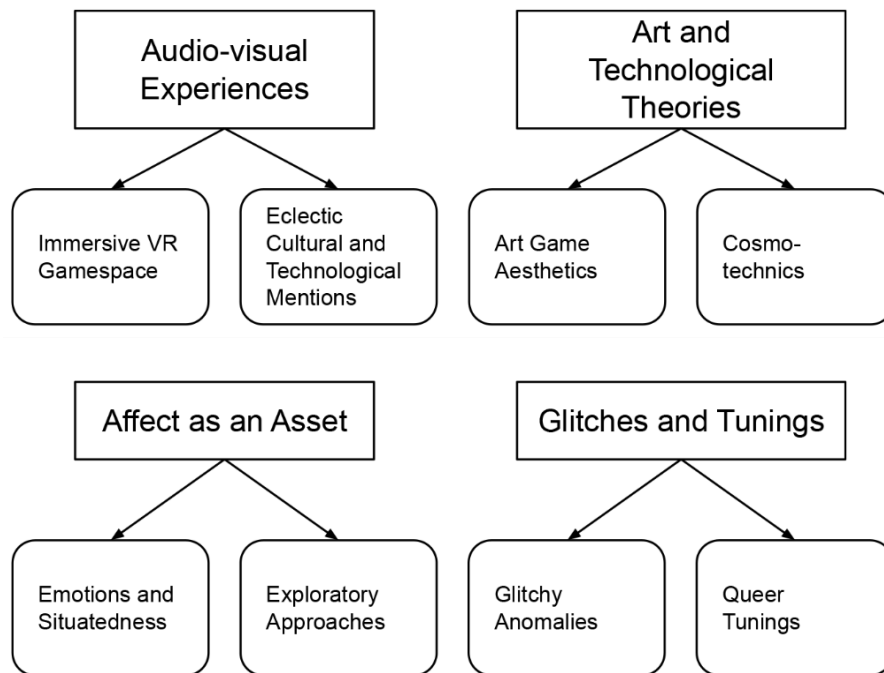


Figure 6.5.2. Themes and sub-themes.

The audio-visual experiences theme uncovers the significant emphasis placed by the participants on the immersive encounters. The power of the experimental VR gamespace, described as something akin to "cloud textures, floating, fluid with white noise", engenders a transformative shift in the participants' emotional states. The gamespace becomes a mechanism to reorganise and reconfigure emotions and affections. This experiential dimension is amplified by the layered descriptions provided by participants, such as feeling like "a dream of a huge black wall" or the "ghost of floating", pointing towards a surreal, otherworldly experience. Furthermore, the notion of "The Naked City" indicates a psychogeographical approach to the gaming experience. The participant draws upon Guy Debord's concept, an advocate of the situationist movement, to describe "HyperBody" as an architectural space that exposes raw, unmediated experiences. This

theme reveals that the experimental VR gamespace has the potential to subvert conventional spatial experiences by providing a space for unscripted and unfiltered experiences.

The theme of art and technological theories is robustly articulated through participants' responses, offering insight into how art and technology converge in their experiences. Descriptions of the "art game"'s aesthetic, like "very dark and gothic rock" and the "combination of cartoon and reality, a gap aesthetic", create a distinct imaginative space where the boundaries between reality and fiction blur. The transition from game levels "Pinkray" and "Vampire Squid" to "Garden Portal" and "Typhoon Lionrock" is read as a shift from an overwhelming explosion of information to a "state of embodied incompleteness". This finding opens the quest for a more embodied, holistic form of knowledge in the world-making process. The theme also explores participants' engagement with philosophical theories. Participants' responses affirm the cosmotechnic from Yuk Hui, recognising the "spatial fusion", "pluralistic, decentralised, and not mono-hegemonic". The game emerges as a platform where these diverse technics and cultures merge, creating an "organic, spiralling" representation of technology.

In the affective turns theme, participants described how their emotional states and memories played a role in their engagement with the game. Participants' narratives highlighted the role of affect in immersing themselves in the VR gamespace, with comments such as "trying to focus on the lyrics and the quotes" and "connect with my own memories", suggesting how emotion was intimately tied to engagement and interpretation of the game's narrative and aesthetics. They help us connect more deeply with the game narratives and prompt our emotional responses, creating meaningful and personalised experiences. It implies a crucial area of focus in game-fandom studies: the affective turn, where the emotional responses to gameplay become as critical as cognitive processes in understanding player-game entanglements. It reinforces Hansal and Gunderson's (2020) contention about the value of affections in research, requiring further exploration of emotion-driven methodologies.

The theme of glitches and tunings provides a multifaceted perspective explicitly focusing on the challenges and subsequent adaptations triggered by technical glitches and design limitations. However, it goes beyond merely cataloguing functional issues. Instead, it uncovers participants' resilience and creativity in manoeuvring through the VR gamespace and their ability to embrace and accommodate the game's inherent inconsistencies.

The "glitches" are characterised by several aspects, like "inaccurate scaling, disrupted spatial sequences, and overwhelming information", to name a few. While these might conventionally be

viewed as barriers to an immersive gaming experience, the participants' accounts reveal a nuanced narrative. The glitches are stimuli that actively push participants to explore and adapt to the experimental VR gamespace.

In the context of "HyperBody", the novel phrase "auto-tune"<sup>49</sup> appears to refer to the automated adjustment or calibration of game-fandom elements. The participants' comments, such as "extravagant colours but also shapes" and "a state of looseness, relaxation, and enjoyment", suggest that this "auto-tuning" creates an environment that is adaptable, fluid and shapeable to the participants' actions. It is not merely a technical function but an experiential one that shapes the participant's navigations in the VR gamespace.

The most intriguing aspect of this theme is its exploration of the "queer tuning" concept through "auto-tune". Unlike the conventional understanding of "queerness", often associated with notions of rebellion and counter-culture, the participants interpreted queerness in "HyperBody" as a soft, passive approach to addressing themes of identity, gender, and sexuality. It proposes queer tuning as a receptive process of seeking healing and self-expression, embodying a gentle, unstructured form of resistance.

One participant mentioned that playing the game led to a better understanding of queerness, indicating that the game could serve as an experiential tool to communicate and explore queer concepts. The VR gamespace became a transformative platform where participants could experiment with and express their queerness, subtly and indirectly. One participant said it is about "tuning your own position instead of being too aggressive".

The theme of glitches and tunings illustrates more than just the participants' encounters with technical issues and their subsequent adjustments. Instead, it provides an in-depth exploration of how the experimental VR gamespace serves as a transformative platform, enabling participants to understand and express complex concepts like queerness in an immersive and unconventional manner. It goes beyond the scope of conventional gaming experiences to open new realms of affective and intellectual engagement. It shows how the VR game can be an essential tool for cosmotechnical understanding and self-expression, driving imagination in building and intra-acting in the virtual world.

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<sup>49</sup> Auto-tune is used in the music production process to control vocal recordings and alter the pitch and tone of the singer's voice. In memes and fandoms, auto-tune remixing is sometimes employed to produce sarcastic or humorous renditions of well-known songs or audio snippets.



### 6.5.3 Queer Tuning

By further navigating specific notions of auto-tune and queer tuning, I came across four themes: embracing complexity, subtle integration, breaking boundaries, and expressive freedom (Figure 6.5.4). These themes encapsulate the diverse and transformative experiences of participants.

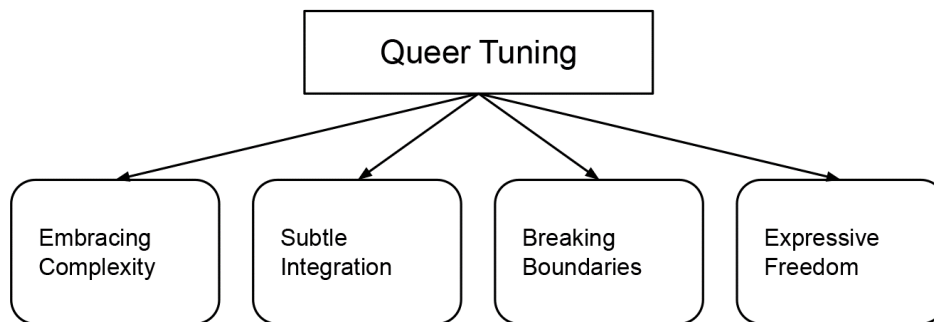


Figure 6.5.3. Queer Tuning themes.

#### Embracing Complexity

The complexity of auto-tune and queer tuning was depicted through the "HyperBody" experiences of ten participants. Participant H discussed her relearning through the Pinkray/Katto narrative and provided an initial insight:

*I believe auto-tune is a good idea related to your queer tuning because you created a gamespace with corrections and adjustments of various pitches and tones; you also remixed them together and brought them to a new level of your world. I think this is also like using your understanding of different technologies and forming multiple cosmos.*

The auto-tune notion set a foundation for understanding the multiplicity of queer tuning within the VR gamespace. Expanding upon this, Participant F articulated the experimental dimensions, asserting that:

*When I go inside your game, it is immersive. So I have a very different experience and experimental mode of play; I guess it could be related to queer.*

The participant acknowledged the role of "HyperBody" in facilitating a relearning process, hinting at the transformative power of queer tuning:

*But I think it's great from your workshop and gamespace, I was not informed with pre-existing notions of queer or am I belonging to queer or not. But after playing the game, if you explained it to me a bit, I would understand it; that's good compared to a stereotype of queer analysis and practice.*

Participant B further delved into the subtleties, emphasizing that:

*I feel that when deeply immersed in the environment, naturally, the queerness emerges; it's not necessarily queer with obligated slogans; it's a soft experience.*

The participant described the experience:

*For example, your guiding texts (Pinkray texts) and floating objects (NPCs and 3D scans) will trigger your rethinking and automatically associate; the space is a fandom, seems to be about love, and the overall large environment and objects are a kind of cloud textures (floating, fluid) with white noise, you absorb like a sponge.*

### **Subtle Integration**

The gentle and inclusive nature of queer tuning was elaborated upon by Participant E, who observed that:

*What interests me is that your work is not driven by a rebellious (resistance) theme. Instead, in order to advance the development of the game, you hope to make more diverse people accept your concept, so it is more gentle.*

*I think it's similar for the concept of auto-tune, it presents in a soft and relaxed manner, making the work highly accepted, even though it may not belong to the queer group. When playing your game, you don't become fully aware, but you see that you are gradually accepting this culture and effect of tuning.*

Participant E believed that "HyperBody" can gradually cultivate an understanding and acceptance of queer notions.

Participant A reflected on the game's archival role, preserving narratives that may be at risk of erasure. The participant stated:

*I know that many fandom contents, including text, photos, and videos, on Lofter and Weibo have been deleted. Your game serves as an archive, preserving what has been forbidden, like a cyber graveyard. In Hong Kong, queer is not always easily accepted by older generations due to moral obligations. Your queer tuning is more like a metaphor, having a subtle and indirect influence, existing in an intermediate state, along with other colourful things.*

Participant I added a personal touch to this theme:

*Because of friendly environment, and willing to invite me into this colourful world, it doesn't feel uncomfortable, it doesn't require you to seem like you have to be like that (being a typical queer), to have a specific goal so you can relax.*

The participant described the specific experience:

*I feel like reading a person's story, but not a very specific love story; I think of playing in an amusement park, a couple, a breakup scenario, love letters, or a mixed memory between myself and space.*

*It's a sea of curiosity and then exploration, looking for clues, resonance and reflection. This sense of fragmentation, of letting one feel for oneself, of building one's own relationship with the person, I find queer tuning a state of looseness, of relaxation, of enjoyment.*

## **Breaking Boundaries**

Participant C backed the importance of individual expression and gender fluidity, emphasising the necessity of breaking down community barriers. The participant asserted:

*I don't feel there should be barriers to being or not being queer; there are no community boundaries, and it should be possible to integrate quickly.*

*And then to tune your own position instead of being too aggressive, to fight, to have angry emotions. I don't think your work is logical in terms of game design and definitely not part of a certain game paradigm.*

Participant D expanded on it and imagined an alternative space for self-exploration and acceptance:

*In the game, the labels disappear, there is no bondage, the body is purposeless, non-collision, and one can forget about one's body. I have queer friends who may dislike their bodies, and perhaps in the virtual world, can better face themselves, an existence parallel to the real world. Finding a new body relationship in the real world and the virtual world.*

### **Expressive Freedom**

Participant J brought attention to "HyperBody"'s rich aesthetic choices, noting the extensive use of colour and extravagant design to express freedom and diversity. The participant highlighted:

*I didn't have a vibe or, stereotypically like male or female like environment. And it's like basically how you played with colours. It shows so much freedom and so much diversity as well. It's kind of extravagant thing (excessively elaborate and spending much more than necessary for an experimental tuning).*

In contrast, Participant D was more intrigued by black and white game levels and clarified:

*For example, the black and white levels, they are not elaborate, they are ruins, like the 3D scans of the Crystal Palace, which were not originally black and white, what colour they were before, would leave me with more imagination, black and white gives me: no limits, span of time, in the past or future space concurrently.*

Finally, Participant G echoed the broader societal context, emphasising the need for tangible and experimental expressions of queerness. The participant reflected on the limitations of the mainland China context and stated:

*Based on my experiences in mainland China context, I don't think queer actually exists because like everything is established, like the female and male, the sexuality and the patriarchal society.*

*So it's all like invented by people in the past. Something (queer) people imagined. So it's actually great to make queer ideas concrete and useful, like in an ideal world (like VR gamespace); I think you can just be anything you want and like.*

*We need this concept (queer) to get rid of the traditional things, yeah. So we need to make something experimental to express the queerness in VR game.*

In summary, the thematic analysis provides a multifaceted understanding of "HyperBody", unearthing the rich, complex, and nuanced relationships between participants, the game, and the immersive environment it creates. This interplay involves sensory experiences, affective engagement, philosophical explorations, and identity negotiation. The findings from this analysis could serve as a stepping stone towards a more nuanced understanding of the potential and impact of unconventional VR games, drawing attention to the intricate web of affective, philosophical, technological and cultural processes in player-game entanglements.

#### **6.5.4 Discourse and Space**

As mentioned, all participants are multilingual, except P. J; the rest can speak Chinese and English, and their feedback is inherently cross-cultural. In contrast to group discussion conducted in English, the in-depth interviews were primarily conducted in Chinese (except P. J), including specific English terms related to queerness, VR game mechanics, aesthetics, and architectural terminologies. This Chinese-English mixed interview facilitated exhaustive conversations about feelings, emotions, and situatedness.

Compared to thematic analysis, it is crucial to study further how language was used to construct and convey cultural meanings and produce or reproduce identities based on the experiences in the VR gamespace. Regarding discourse, space, and place, Elizabeth Keating (2015, 245) argues that speakers often use space to provide shape and personality to intangible ideas and emotional conditions and convey their intended meaning effectively.

Through writing, graphs, and charts, space can serve as metaphors to symbolise time perception, depict emotional complexities, and establish the place of an individual within the intricate network of relationships (Keating 2015, 245). Physical space is frequently employed as a creative tool to give tangible form to abstract ideas. In-depth interviews are aimed at how experimental space in "HyperBody" communicates with participants and how it can manifest the queering notions. Based on Keating's analysis, I need to clarify how the alternative ideas of space in VR games can be dissected through the study of discourse. Connected to VR gamespace and cross-cultural participants, Keating (2015, 256) suggests further investigating a spatial understanding of context

and human agency. Additionally, the notions of place, identity, and community belonging should be highlighted when individuals and communities are relocated or displaced.

I adopted Keating's space and discourse framework to analyse in-depth interview transcripts in NVivo. I coded the data based on linguistic features and cultural and technological contexts. I examined the relationships between different features and their implications for meaning-making. As Figure 6.5.4 shows, I developed four categories: grammar space, intertextual space, narrative space, and space and place. Through a spatial understanding, I highlighted participants' physical-virtual places, identities, and communities within a world of queer tuning. In "HyperBody", the complex affections and cross-cultural references can contribute to developing cosmotechnics of game-fandoms.

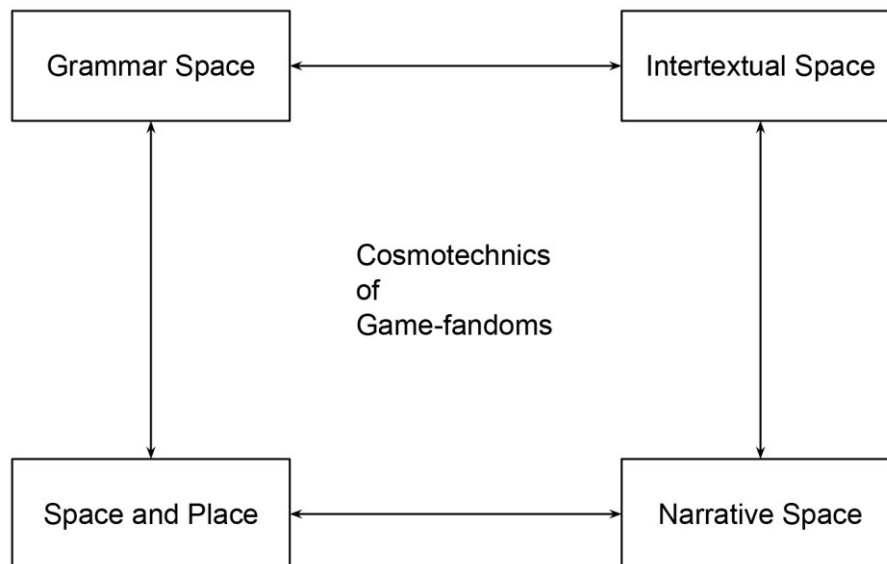


Figure 6.5.4. Space categories.

In this examination of discourse analysis within a VR gaming context, the interplay between the categories of grammar space, intertextual space, narrative space, and space and place emerges as a complex matrix that fosters the participants' physical-virtual places, identities, and communities. The world of queer tuning, which participants navigate, is thus understood as an intertwining space of language, culture, narrative, and architecture.

Grammar space analysis underscores the importance of participants' linguistic structures in conveying their VR experiences. The bilingual background of P. A, which informs the perspective of an aesthetic "like a paint palette being overturned" and "a world in a grain of sand and a heaven in a wild flower", illustrates the significance of language as a tool for expressing the complexities of VR space. The reference to Chinese Buddhist contexts to explain spatial experiences reflects how linguistic choices become an instrument for encapsulating cultural and philosophical nuances within VR game discourse. These linguistic constructs, as demonstrated by other participants' expressions – such as the conceptualisation of the cosmotechnics as "a sea of curiosity" or the understanding of aesthetics as "more like a drawing style" – provide a framework for decoding the aesthetic and technological nuances of the VR gamespace.

The intertextual space confirms participants' cultural and technological connections as instrumental in shaping their interpretations of VR gaming experiences. Participants interweave varied cultural threads from music, film, and architecture to create complex meaning within the VR context. P. G's connection of gothic rock with the game space, or P. C's comparative exploration of the film "Lost in Translation" with the Pinkray/Katto narrative path demonstrates how participants actively correlate their cultural inputs with their VR experiences, constructing a distinctive intertextual space.

Narrative space reveals an essential element of the VR gaming experience – the absence of linearity and the freedom to explore. The participants' testimonies show how this unstructured narrative allows them to engage in the VR gamespace in a personalised, exploratory manner. The absence of predefined goals and "wandering around" allow them to shape their experiences within the game, whether it is the pleasure of "progressive feel", as expressed by P. C, or the lack of distinct direction, as noted by P. D and P. A.

The analysis of space and place further reinforces the sense of agency and freedom experienced by participants. The architecture of the cosmotechnic, with its "uncertainty", "chaos", and "no clear boundaries," contributes to an unconventional aesthetic that prompts and enhances exploration. Participants' perceptions of the object scale as "different from reality" or "misplaced" add another layer of ambiguity and intrigue to their experience, potentially stimulating deeper engagement with the VR gamespace.

Through the lens of discourse analysis, the amalgamation of grammar, intertextuality, narrative, and spatial aspects gives rise to participants' cross-cultural and interdisciplinary identities and their subjective understandings of experimental VR experiences. This analysis underscores the

importance of the cosmotechnics of multi-fandom in shaping the participants' experiences and their interpretations within the VR gaming context, specifically in the realm of queer tuning.

### **6.5.5 Relearn, Cosmotechnic Dialogue, and Queering**

Through a foundation built by previous group discussion, I conducted in-depth interviews identifying how experimental gamespace designs and VR experiences in "HyperBody" communicate with ten participants and how "HyperBody" can manifest the queering notions. Then, the interview data were studied through thematic and discourse analysis.

Using thematic analysis, I demonstrate that ten participants imagined and created a world through various means, including audio-visual experiences and art and technological theories. Participants engaged in affective turns during the world-making process. They adapted to glitches and fine-tuned the queerness within and beyond ACGN game fandom.

In the audio-visual experiences theme, they addressed immersion, sound, multiple concepts, storytelling, and 3D scans, which defined "HyperBody" as an art game to reorganise and reconfigure emotions and affections. They appreciated the fusion of cultural backgrounds and architectural aesthetics in the theme of art and technological theories. The cosmotechnic was approved and underlined spatial fusion, pluralism, and decentralisation. In affective turns theme, enhancing motivation and generating insightful questions were underscored. Participants experienced emotional connections and nostalgia relating to narrative, NPCs, and shipping atmospheres in the world-making process. Affective experiences enabled deeper immersion, while multidisciplinary game-fandoms encouraged textual poaching and archival preservation. Participants adapted to non-working elements and tuned queerness within the VR gamespace, although they experienced scale, spatial sequence, and information overload challenges. Queer tuning emerged as a soft, passive way of seeking healing, inviting new cultural, technological, and affective turns. Participants appreciated the passive and indirect influence of queer texts, bodies and spaces.

I used discourse analysis to highlight the cross-cultural and multilingual aspects. Based on Keating's ideas about space and discourse, I proposed four categories: grammar, intertextual, narrative, and space and place. I argue that complex affections and cross-cultural references can help create game-fandoms' cosmotechnics.



Via grammar space in Chinese and English, the interview used metaphorical language and descriptive adjectives to explore unconventional and queer experiences. Participants from diverse backgrounds shared perspectives on aesthetics, spatial experiences, and cultural references. Linguistic structures helped articulate the intricacies of the VR gamespace, blending aesthetics and technology. Moreover, participants delved into intertextual ACGN game fandom in "HyperBody". References included gothic rock music, film, and architecture. This intertextual space facilitated cross-cultural interactions, generating meanings in the cosmotechnics of multi-fandom.

Participants engaged with the unconventional narrative structure from narrative space, featuring no set goals or linear paths. They experienced subjective feelings and navigated the unscripted space, forming creative relationships with objects, NPCs, and ships. To space and place, participants realised the architectural aesthetics in "HyperBody" help cultivate cosmotechnics.

Thematic and discourse analysis verify my propositions:

1. In the world-making process via "HyperBody", participants "relearn" the cultural, technological, and affective specificities within and beyond gaming and fandom practices. The specificities include audio-visual experiences, art and technological theories, affective turns, and glitches and tunings.
2. "HyperBody" participants are cross-cultural and multilingual, integrating fan studies, game studies, architecture, UX, VR games, and computational art. They create a comprehensive cosmotechnic dialogue that queer tunes interdisciplinary fields and serves as an experimental framework for creating, describing, and evaluating experimental VR productions.

## **6.6 Chapter Summary**

In this chapter, to perform an in-depth evaluation of "HyperBody", I followed an iterative method combining quantitative and qualitative data according to the Methodology chapter. I recruited ten participants from diverse backgrounds, including architecture, contemporary art, VR games, and UX research. The participants' cross-cultural, interdisciplinary, and multilingual nature facilitated a cosmotechnic dialogue in VR gameplay. Ten participants joined my VR gameplay workshop session and the following in-depth interview session.

The VR gameplay workshop focused on UX research in VR, particularly addressing device-related issues and preparation for the physical environment, safety, hardware, hygiene, and privacy. Participants engaged in "HyperBody" VR gameplay, followed by questionnaires and group discussions. The study examined various navigation paths, hotspots, and gameplay footage to understand how participants adapt, form creative connections, and engage with game elements through body movements, leading to a high level of immersion in the VR gamespace. A modified questionnaire based on the original GEQ structure was used to measure the experience in VR and investigate specific experimental features and research questions. Group discussions were conducted to provoke creative and affective thinking. In-depth interviews were conducted online, exploring participants' experiences in "HyperBody" and its potential for queering interdisciplinary fields. Thematic and discourse analyses were applied to examine world-making processes, cultural and technological meanings, and practices emerging from the interviews.

A quantitative and qualitative evaluation framework was developed to assess unconventional VR productions, progressively analysing participant behaviours, reflections, non-standard design choices, and cultural context. I employed navigation data, hotspots, gameplay footage, questionnaires, and ethnographic, thematic, and discourse analyses to inform a creative and iterative toolkit. This evaluation framework can help bridge the gaps between quantitative and qualitative methods in VR productions, investigate affective experiences, and how participants can more creatively engage with experimental VR gamespace. I encourage a cross-disciplinary method between VR, game design, architecture, and fandom studies.

## 7. Discussion

Based on a cross-disciplinary approach, this thesis explores the entanglements of game-fandom in the digital context of ACGN (Anime, Comics, Games, and Novels) fan and game studies. I reference Karen Barad's posthumanist principles and Yuk Hui's cosmotechnics to create cosmotechnics in the VR game "HyperBody" as an intra-action of culture, technology, and affection within and beyond game-fandom. I establish a diffractive structure for creating, describing, and evaluating "HyperBody". The methodological framework establishes an entanglement of conducting practice-based research, engaging in digital ethnography, and using iterative evaluation methods. This chapter discusses four research questions and presents two contributions to the field of fan studies, game studies, architecture, VR games, and computational art, such as the approach of queer tuning through the lens of cosmotechnics and intra-action and the diffractive methodological framework for creating, describing, and evaluating experimental VR game in an ethico-onto-epistem-ological framework. After acknowledging limitations, the chapter concludes with an initial discussion of an emerging concept of shared multi-player VR gamespace that needs further research.

### 7.1 Answering Research Questions

This thesis sought to answer the following four questions. This section is dedicated to each of these questions:

- How does fandom in the ACGN (Anime, Comics, Games, and Novels) context relate to the interplay of culture, technology, and affections in the digital world, and which case studies can help us understand it?
- How can Karen Barad's posthumanist principles and Yuk Hui's cosmotechnics be integrated into the development of an experimental VR game to create more than player-centred narratives and nurture a multi-fandom universe?
- How can cross-disciplinary methods, including practice-based research and digital ethnography, be applied to create and describe the experimental VR game that stimulates diverse cultural and technological expressions and provokes creative thinking?
- What combination of quantitative and qualitative methods can be used to evaluate the experimental VR experience, and how can these insights extend our understanding beyond the scope of game and fandom?

As an aca-fan, I integrated the multidisciplinary fields of fan and game studies, proposing the concept of game-fandom in the Chinese ACGN context. The game-fandom drew upon Yuk Hui's cosmotechnics and Karen Barad's posthumanist approach to facilitate the development of experimental VR games. Through Karen Barad's posthumanist context for material-discursive practices, I argued that defining essential boundaries and interactions between game and fan studies was insufficient. I underlined the cosmotechnics of game-fandom constantly exchanging, diffracting, influencing, and working inseparably as an intra-action of culture, technology, and affection.

Regarding methodology, I established a diffractive structure for creating, describing, and evaluating the VR game. I specified that cosmotechnics and intra-action are essential to establish the methodological framework for game-fandom. The framework established an entanglement of conducting practice-based research, engaging in digital ethnography, and using iterative evaluation methods. These elements have no fixed borders and constantly exchange and diffract, influencing and working inseparably with one another.

In order to answer how to create and describe the "HyperBody" VR gamespace, I used Chapter 4, Creating VR Gamespace, as a case study. It provided an in-depth portrait of queer fan culture and the practice of shipping from Emma. This practice further helped create the "Pinkray" VR game level. I then used Chapter 5 to describe "HyperBody" game levels "Pinkray" and "Seventeen/Sixty-One" from technical and technological perspectives. I then evaluated "HyperBody" experiences by combining quantitative and qualitative data following three stages: VR gameplay, group discussion, and in-depth interviews.

I discuss these research questions and their corresponding findings in the following sections. This thesis aims to turn the lens of game-fandom beyond fan studies and game studies. They demonstrate a new understanding of cultural, technological and affectional relationships and entanglements in the cosmotechnics. Through an ethico-onto-epistem-ological framework, in which the VR game "HyperBody" is presented.

### **7.1.1 ACGN Fandom**

In Chapter 1 Introduction, in the confluence of my mainland China cultural upbringing, LGBTQ realities, and a multifaceted background spanning art, game design, pedagogy, and architecture, I set the stage for this practice-based PhD research that seeks to explore and shed light on the

posthumanist complex dimensions and identity formations within fandom and gaming communities. I recognised the progress made in fan studies. I acknowledged the need for further development in methodology (Evans and Stasi 2015), particularly in an ACGN transcultural context. On the other hand, game studies is viewed as a multidisciplinary field that focuses on the relationship between games and players, with video games having the potential to inform queer experiences and pleasures (Ruberg 2018, 544). I emphasised the need for an open cultural infrastructure as game technologies continue to be the foundation of virtual world-making (Ivanova and Watson 2021, 10).

In Chapter 2, Literature Review, I elaborated on fandom as a research methodology in ACGN and fandom communities, stressing mapping Asian fandom communities and Jia Tan's (2017, 144-145) indigenous queer theory, Ku'er, as a transversal alliance. I explored the intersection of fandom and academia, highlighting the need to preserve fanworks and study creative practices involving nonhuman entities (Lamerichs 2018, 4-5). The proposal for an alternative archive aimed to capture the transversal multi-fandom approach beyond cultural dualism within the community. I defined transversality as the complex forms of works and technologies that are intertwined, including texts, images, videos, audio, game mods, performances, and VR/AR spaces. Verticality stresses the entanglement and connection of multiple community spaces of distinct types across non-hegemonic cultural levels.

Chinese Boys' Love (BL) is a male-male romance genre created by and for women and sexual minorities, evolving into a popular and transnational fandom that disrupts heterosexual norms and challenges cultural conflicts and restrictions (Yang and Xu 2017). The liminal space of negotiating queerness is crucial, and Chinese neutrosexuality desires to be queer by transgressing normality and paradoxically and concurrently being normal (Li 2017). Chinese BL tangles with the original male-male tradition, feminist and LGBT perceptions, and converges with other cultures, creating an entanglement of multi-fandom transformative space. The transformative concept is paradoxical, emphasising the need for change and disruption, and non-academic feminists, queer activists, artists, and media makers make significant contributions to digital studies (Lothian 2018, 371-390). A transformative and critical fandom approach values collaboration and conflict, generating a critical entanglement of research and practice in multiple spaces, often disregarded and undervalued by academia. I used the transformative and critical approaches to fandom practices through the exploration of Cao Fei's fannish digital film work *Haze and Fog*, as well as the comparison to the work of Chinese media maker Qing Yan Jun, who creates BL shipping vids on Bilibili. Cao Fei triggered a significant art practice to approach specific genres within TV and game fandoms. Qing Yan Jun's work made concrete inquiries into a multi-cultural, multi-fandom space

through the use of Dracula, Jiangshi (Chinese vampires), a Daoist priest, and a popular Chinese-Korean song.

## **Game-fandom**

In the Literature Review chapter, I shifted to game studies. Ruberg (2019) and Isbister (2017) highlighted queer games and avant-garde as transformative practices, sparking debates between video games and art ontologies. They showed emerging emotional genres in video games and advocated for an affective and entangled approach to queerness in game studies and fandom. I proposed the concept of game-fandom merging game studies and fandom. The game-fandom entanglement must be established to distort conventional gamespaces and rules by reconfiguring and highlighting embodiment, desire, and intimacy.

To discuss the concept of queer game avant-garde, I cited the games *Curtain* and *Become a Great Artist in Just 10 Seconds*, which celebrate bugs, accidents, and mistakes as opportunities for an experience in an abstract gamespace (McGee 2020 AND McClure 202). Naomi Clark's (2020) game *Consentacle* envisions a posthuman affective and sexual encounter between humans and aliens. I underscored that transformative gameplay must be studied to overcome the queerness in games. I raised the idea of evolutionary change in the game industry and highlighted the need for indie game design and transformative gameplay to support continuous evolutionary change (Sweeting 2020). An evolutionary framework of game-fandom balanced a radical notion of queer game avant-garde. The flatgame idea was introduced as an approach that combines raw movement, art, and sound to create affective games that break the rules of standard game engines (McGee 2016). The flatgame approach encourages players to move away from mechanical interaction and instead focus on posthuman performative experiences that can enhance the game-fandom entanglement.

I investigated speedrunning as a practice and community of metagame that analyses space and speed and introduces games as narrative spaces. Speedrunning informs an unrestricted movement between gameplay and fandom practices, a re-curated gamespace of accidents and rules (Scully-Blaker 2016, 93-95). The player regains a sense of identity and uniqueness within a divorced transformative game-fandom world.

I studied how the artist Triantafyllidis' practices intersect with art, architecture, games, performance, and VR/AR experiences. It demonstrates a new standard for accessing a shared,

mixed-reality, multidisciplinary, transformative game-fandom space (Ong 2019). It is a physical, virtual space for multiple audiences and fans from live, online, to offline.

The ACGN fandom is integral to the "HyperBody" overall design and development, creating a virtual world where fan identities and practices thrive. The game situates players in an environment that challenges conventional game mechanics. It facilitates multiple affective player experiences informed by their affinity for fanvids, fanart, game mods, science fiction and BL novels.

Ethically, the fandom culture in "HyperBody" aimed to foster respect and inclusivity, aligning with the researcher's ethical obligations. The research adopted an aca-fan stance, bridging the gap between academia and fandom. This dual role ensured a deep understanding of the fandom culture from within while maintaining a professional and respectful approach towards its participants. ACGN fans who participated in the gameplay reported queer feeling validated and understood, further attesting to the responsible design and execution of the game.

Ontologically, the game shifted the norms of conventional VR gamespaces, challenging players to perceive nonhuman entities in ways that altered their perception of space, scale, and time. It was accomplished through unpredictable, nonhumanoid NPCs that exist on a grand scale accompanied by affective dialogues, shifting players' perceptions and immersing them in a multi-fandom world of audio-visual experiences. The game provided an unusual experience that mirrored the complexities and paradoxes inherent to the ACGN fandom, particularly its entanglements and convergences across multiple communities. The unexpected behaviour of the NPCs reflected the fluidity of identity formation in ACGN culture, enhancing spatial understanding, affections, and overall dynamics.

Epistemologically, "HyperBody" became a living testament to the evolving knowledge creation and dissemination process within the ACGN fandom during the VR gameplay. The game's features - non-collision player engagement, architectural "ruins" aesthetic, modding, crossover, and shipping - reflected fan practices and channels for new knowledge production. These elements were instrumental in advancing the study of ACGN fandom through digital ethnography. Furthermore, audio-visual bills of quantities (Appendices F and G) provided nonhuman-centred standards of the game's creation and description.

"HyperBody"'s game design embodied a transformative approach that blurred the boundaries between traditional game mechanics and ACGN fandom culture. The players' reported experiences and the game's overall design bear testimony to the effectiveness of the ethico-onto-epistem-ological framework in understanding the complexities of fandom within a virtual world-

making process. "HyperBody" encapsulates the interplay of culture, technology, and affections that characterise the ACGN fandom in the world-making process by incorporating ethical considerations, ontological realities, and epistemological processes.

The ethico-onto-epistem-ological framework effectively contextualised the diverse facets of the ACGN fandom within the game's design and development. It provided insights into how "HyperBody", as an experimental VR gamespace, catered to the multifaceted needs and desires of the fandom community. It substantiates the game-fandom framework and establishes it as a valuable lens to understand the complex relationship between fan practices, VR technology, and gaming culture. The experiences and insights gained from the game thus far will continue to inform further research and development, contributing to the evolving discourse in fandom and game studies.

### **7.1.2 Posthumanist Principles and Cosmotronics**

#### **Intra-actions**

In the Theoretical Framework section, I discussed the concept of agency in game-fandom. I proposed the need for a concept of intra-action to understand the frictions and glitches between multiple fan practices and gameplays. Karen Barad's (2007, 135-137) posthumanist approach highlights the materialising effects of specific ways of making boundaries between humans and nonhumans, which are evident in the ACGN fandom and gaming communities. Intra-action, which involves a dynamism of forces between multiple game-fandoms, reconfigures the boundaries between nature and culture, human and nonhuman (Barad 2007, 141). Focusing on practices and actions instead of subjects and objects stresses the need to reconsider separate definitions of fandom producer, consumer, game designer, player, spectator, AI bots, and NPC within a game-fandom entanglement. The game-fandom entanglement is transversal and vertical, and it goes beyond human-based activities and produces specific material (re)configurings.

Karen Barad (2007, 135-137) expresses a posthumanist performative approach focusing on matter's dynamism instead of representationalism. The posthumanist point is not to blur the boundaries between humans and nonhumans but to comprehend the materialising effects of specific ways of making boundaries in between (Barad 2011, 31). I employed the concept of intra-action from Karen Barad to define an agential realist framework of making game-fandom research and practice. Game-fandom was shown in the light of discursive practices re(con)figures culture, technology and affection.



Barad argues that linear causality should be replaced with entanglement, an irreducible relationship of responsibility, instead of independent intertwinings. In a game-fandom entanglement, there are no hard borders between self and other, past, present and future, and cause and effect, as per Barad (2011, 31). Modding, crossover, shipping, non-collision physics, and bills of quantities are ways boundaries, properties, and meaning in various fandom communities are reconfigured through digital ethnographic approaches.

The assertion that no hard borders exist in a game-fandom entanglement invites a comprehensive evaluation of how we perceive the virtual world. Modding, for example, blurs the lines between designer and player, as the latter actively participates in the game's creation. Players assume an enhanced agency in defining the gaming experience, thereby altering the dynamics of user engagement. Crossovers and shipping serve as transformative processes that extend the virtual world beyond its initial context. These practices redefine the borders of the gamespace by integrating NPCs, 3D scans, architectural mods, environments, themes, and stories from disparate sources, facilitating a transcultural and transmedia exchange. They showcase the multiple nature as fan-generated content can re-contextualise elements within new frameworks, creating experimental narratives and meanings. Non-collision physics and bills of quantities illustrate the potential of systemic changes to reconfigure the architectural rules of the gamespace, essentially redefining the game's properties. The idea of non-collision indicates a degree of non-linearity and unpredictability between positive and negative space, furthering gaming as a dynamic and intra-active experience.

These boundary-reconfiguring practices are inherently transversal, traversing and connecting different spaces, times, and contexts, challenging the conventional notion of borders. They contribute to constructing a multi-dimensional and interconnected virtual world, echoing Barad's notion of entanglement. These entanglements can be critically studied through digital ethnographic approaches, offering insights into the relationship between players, games, and the broader cultural and technological milieu. By unpacking these intra-active experiences, I deepen my understanding of the complex dynamics of game-fandom experience, embracing the entangled, irreducible relationships that constitute it.

### **HyperBody Concept**

"HyperBody" is a term used to describe the interconnectedness between games and fandoms in ACGN. It signifies the multi-dimensional, fluid, and continuously reshaping body in a state of

interconnectivity, transforming and being transformed by the material-discursive practices within these ACGN spaces. The body is not static but a vibrant site for actions and practices, highlighting the deep entanglements between fans, the game, and the material world, constantly influencing each other. "HyperBody" represents the entanglement of game-fandom as a transformative and interdependent entity.

## **Cosmotechnics**

I applied Hui's cosmotechnics to the theoretical framework with Barad's intra-actions to study game-fandom and technology in China. Cosmotechnics is the union of moral and cosmic order through technical activity, aiming to redefine the relationship between cosmology, morality, and technology (Hui 2017).

According to Yuk Hui, there is an antinomy regarding technologies. On the one hand, they are considered anthropologically universal, per Leroi-Gourhan's definition. On the other hand, some technologies, like those from Chinese, ancient Indian and Amazonian cultures, are not considered universal as specific cosmologies influence them. Rather than denouncing this antinomy as false but showing it as insufficient, Hui (2018) develops it in *The Question Concerning Technology in China* through an analysis of Chinese technical ideas. Chinese science and technology cannot be directly compared to the West in different epistemologies and philosophies. In this cultural and technological context, it is urgent to re-open the question of technology, different theories of digital culture and the quest for multiple cosmotechnics.

It has been stated that the meaning of cosmotechnics is undoubtedly connected with thought, knowledge and sensibility, which is impossible to entirely reduce into a technical process (Lemmens 2020, 20). The universal and particular dimensions of cosmotechnics are philosophical and sometimes mythological (Hui 2016, 10-12, 14-17, 29). Pieter Lemmens (2020, 20) further explains that Hui's cosmotechnics takes an ethno-ontological approach to technology. It imagines the essence of technology with multiple cultural specificities. Creating an ontological communication between the philosophy of technology and contemporary anthropology under cosmotechnics is crucial. This framework expands our understanding of technology beyond its functional aspects to include the emotional, spiritual, and cultural dimensions embedded in fan and gaming communities. The superstition, affection, spirituality and emotions encountered in specific research of fan and gaming communities are not to be dismissed as superficial but the key to

cultivating cosmotechnics of game-fandom. It uses different ways to reimagine remixed world systems that bring culture, technology and, mostly, affection together.

For the theoretical framework, I bridged Karen Barad's posthumanist intra-actions with Yuk Hui's philosophy of technology cosmotechnics. It is an alignment to highlight the complex entanglement of elements in shaping reality. Barad's intra-action acknowledges that objects, humans, and concepts do not pre-exist but rather co-emerge through reconfigurations. This notion resonates with Hui's cosmotechnics, which shows technology's integral role in forming diverse cultures. By leveraging these theoretical frameworks, I presented how technology - particularly VR gamespace - and game-fandom culture influence and reshape each other. This integrated perspective encouraged me to think beyond dichotomous distinctions and recognise the network of relations and mutual constitutions embedded in game-fandom practices.

The "HyperBody" VR gamespace merged diverse fandom cultures from ACGN. The digital ethnographies were from my collaborators Emma, Tang Fei, Aristo, Jingzhi, CheeseTalk, Linn, and Tianqi. These materials delved into the complexities among culture, technology, and affections in male-male shipping vids and fanart, Chinese BL novel reading experience, Chinese science fiction mod, and architectural mod. Using these multiple cosmotechnics allowed me to nuancedly examine the complex cultural entanglements within the gamespace. The different gameplay elements, such as text objects, NPCs, 3D scans, 3D drawings, architectural mods, audio, mechanics of non-collision physics, mist and rainfall settings, and bills of quantities, and the architectural aesthetic of "ruins", reflected distinct cultural and technical values, philosophies, and epistemologies.

By embracing this diversity, "HyperBody" rejected universalistic assumptions about technology and created new pathways for understanding the cultural nuances of digital technologies in virtual world-making within and beyond mainland China, Hong Kong, and Taiwan, extending to Asian and Western cultures.

## **Autoethnography**

I discussed the concept of intersectional autoethnography. This approach explored the complexities of gender concerning factors such as race, sexuality, geography, community, and education. This understanding helped me view the VR gamespace as a spatial archive. The approach stressed the combined impact of social identities and lived experiences, encouraging a

continuous reimagination and expression of bodies and gender identities (Johnson and LeMaster 2020, 6). I prioritised narrative fidelity, cohesion, self-reflexivity, and personal connection to establish an intersectional praxis. The autoethnographic writing in my thesis was intersected and disrupted by various creative elements, such as shipping dialogues, poems, short novels, manifestos, and materials produced from interviews and practices. For instance, Chapter 4 and Appendix D showcased shipping dialogues from different fandoms, while Emma and Cheesetalk's quotes in Chapter 4 and Appendix C contained lines of poetry and lyrics. I included Tang Fei's short novels in Appendix A, and the "Queer Maximalism Manifesto" was referenced in Chapter 1 and presented in Appendix E. Appendices F and G contained bills of quantities that integrated and evolved these textual elements into audio-visual items in VR gamespace making.

I created a spatial archive that forms the VR gamespace within the conventional systematic personal experience analysis method. The archive expressed an inseparable link between writing, methodology, epistemology, ethics, and politics, seeking alternative analytical and accessible work among fandom members and academia. The knowledge production should be discovered from seams and sutures, consistently and constantly a patchwork of different entangled bodies ready for sewing (Barad 2015, 393).

Mattering is defined by ontological indeterminacy, extreme openness, and infinite possibilities. The matter is never a resolved matter; it is always, and has always been, fundamentally open. It triggers breathtakingly intimate touching and sensing with condensations of being and time. In "HyperBody", mattering's infinite potential and openness influence the spatial archive and autoethnographic writing, fostering dynamic, sensorial intra-actions within the evolving VR gamespace.

Affect played a crucial role in game-fandom, and a spatial archive challenged the dichotomy between emotion and rationality. Affection was claimed to be a valuable asset in the research process, and game-fandoms often triggered affective material-discursive practices. Aca-fans embraced the entanglement of academia, fandom, and social structures, promoting collaborative approaches between researchers, fans, media makers, and technologists. The game-fandom spatial archive has the potential to become an interdisciplinary field, characterised by academic and game-fandom textual poaching across various traditions, categories, and fields, without being restricted by authority or sources (Hansal and Gunderson 2020, 8).

The development of "HyperBody", applying Barad's posthumanist principles and Hui's cosmotechnics, underlines a departure from a singular, player-centred narrative towards nurturing

a multifaceted fandom universe. The creation process and the participatory reactions provided distinctive insights into this alternative approach. Intra-actions, affect, and the notion of autoethnography played pivotal roles in transforming the game development process, allowing us to leverage the intra-active potential of VR.

Intra-action was embedded into the design and execution of "HyperBody". Instead of understanding entities as independent pre-existing objects, in the context of "HyperBody", the player, narrative texts, NPCs, architectural mods, 3D scans, 3D drawings, and the incomplete, imperfect, and picturesque environment were not independent entities. They were continually shaped and reshaped through their intra-actions. The game design was responsive and adaptive, enabling distinctive player journeys through non-collision game elements and affective NPC dialogues, resulting in various player-specific experiences.

The VR gamespace blurred the boundaries of being and non-being by enabling players to traverse both the tangible positive and intangible negative spaces. "HyperBody" challenged conventional ways of reading by presenting an experimental narrative device through animated non-collision 3D text objects and 2D illustrations resembling skin fabric with collisions. The players found themselves in wrong-scale architectural spaces, representing the breakdown of typical spatial understanding and encouraging ontological exploration. The gamespace's textures were crafted from incomplete, imperfect, and picturesque 3D scans, reinforcing the theme of constant transformation and the "ruins" aesthetic, thus mirroring the fluid and unfinished nature of identity. This experimental design of the game elements served as a testament to the endless doing and undoing of identity within the realm of VR.

Through cosmotechnics, Hui's approach to understanding technology as grounded in diverse cosmologies and cultural contexts, the development of "HyperBody" incorporated the ACGN fandom's narratives and shared collective imagination. The game became a spatial archive of fandom culture and affect, borrowing elements such as male-male shipping vids, fanart, game mods, science fiction, and BL novels. This approach assembled a virtual landscape that resonated with fans, allowing them to creatively engage with a shared universe, creating an entangled relationship between the player, the game, and the fandom universe. Affect played a pivotal role in both game design and player experience. Emotional elements were deliberately woven into the narrative texts and NPC dialogues, making "HyperBody" a diffractive gamespace of fandom culture's emotional aspects. Participants reported an experimental and immersive experience, facilitating a situated connection with the fandom cosmotechnics.

Developing "HyperBody" through the lens of posthumanist principles and cosmotechnics transformed the VR gaming experience from a traditional player-centred narrative to a dynamic, non-player-centred, multi-dimensional fandom universe. This approach devised an unusual VR game that fosters creativity, multiple identities, and emotional engagement while valuing the players' individual experiences and fandom's cultural nuances.

### **7.1.3 Cross-disciplinary Methods**

To answer how to create and describe the VR game "HyperBody", in the Methodology Chapter, I proposed a diffractive structure that involves establishing an entanglement between conducting practice-based research, engaging in digital ethnography, and technical game design (Table 3.1).

I explored the themes of modding, crossover, and shipping in fandom, non-collision physics in indie games, and the bill of quantities in architecture. Making a digital ethnographic study drew on the methods of interactive interviewing, collaborative practice, and creating a feedback loop. The technical game design of text, image, video, mesh, texture, scale, collision, fog, and audio was used to resonate with digital ethnography. "HyperBody" is conceptualised as a transformative and immersive VR experience that merges experimental gameplay, indie game development practices, and architectural design with diverse fandom cultures. It functions as both an artistic exploration and a medium for research, challenging traditional artistic ontologies and fostering the situatedness of players with their identities within a game-fandom universe, enabling players, NPCs, 3D scans, architectural mods, sound effects and the environment to coexist, evolve, and collaboratively generate knowledge.

I acknowledged other methods and methodologies used in fan studies and game studies. Instead of solely analysing the processes, practices, and facts within these fields, the "HyperBody" VR game's priority was placed on the indeterminate nature, imagination, and the potential to create a game-fandom cosmotechnics deeply intertwined with culture, technology, and most importantly, affection.

Given each interviewee's experiences, perceptions, and practices within their respective fandom and gaming communities, I underlined the importance of building solid relationships with them for interactive interviews to understand the ethical, ontological, and epistemological dimensions. I tailored interview questions to each interviewee's personality, working methods, understanding of gender and sexuality, and the ontologies of their respective fandom and gaming communities. I

situated their cultural context within the cosmotechnics of game-fandom, allowing interviewees to express and reflect on a broader context of their online fandom practices. I employed a feedback loop to refine and redesign the VR gamespace based on input from interviewees. The exploration of the VR gaming industry through digital ethnography revealed its potential as a rich cultural space where ethnographers and players pair and navigate dynamic intersections of cultural knowledge and strategies, transcending rigid methodological boundaries to adapt responsively to emerging events and research needs.

In interactive interviews, there was no border between myself, the interviewees and their fandom practices during the interview. I positioned our cultural context into the notion of a cosmotechnics of game-fandom. My interviewees expressed and reflected on a broader context of their online fandom practices. After considerable time and multiple sessions, I stayed self-reflexive in my knowledge of situatedness, which informed my autoethnographic writing.

The boundaries of exclusion related to situatedness, personality, affection, identity, working methods, fanwork genres, and technical tools were constantly reconfigured through the interview questions. I expressed a constant being and becoming of interviewees, their fandom practices, and their fandom contexts. I provoked an ongoing difference in knowledge production among the interviewees and valued their ethico-onto-epistem-ologies in fandoms.

My digital ethnographic approach encouraged a deeper level of engagement, mutual sharing of experiences, and co-construction of knowledge. The interviewees and I engaged in a highly collaborative process, emphasising understanding and exploring our shared experiences. I gathered information from my interviewees and actively participated in the dialogue, encouraging them to reflect deeply on their experiences. I engaged with the interviewees in multiple sessions, using self-disclosures and self-probing to develop the relationships further. I invited my interviewees to co-create a VR game level, which implies a high interaction and collaborative exchange level.

To demonstrate the creation methods, I explained Emma's Pinkray/Katto shipping vid practices and the "Pinkray" game level creation process in Chapter 4, Creating VR Gamespace.

In studying a Chinese game-fandom community, Emma and I collaborated on the "Pinkray" VR game level, which acted as a tool to explore the interplay between culture, technology, and affection. I proposed the concept of queer tuning, which involved blurring and tuning physical and virtual personas to create novel genderfluid works that can be disseminated under Chinese political, cultural, and technological contexts. Emma and I collaborated to push the cosmotechnic

further using interactive interviewing and game-making technologies. A new VR game level, "Pinkray", included translated Pinkray/Katto fanfiction, remixed Pinkray plush dolls, and 3D scans of architectural and urban spaces. Making VR gamespace allowed us to recognise that Pinkray/Katto fandom and fanworks would be meaningless without collaboration between us as prosumers. Emma's shipping vid of Pinkray/Katto informed queer tuning. The constant process of becoming and being through the combinations of shipping vids, fanfiction, gameplay, personas, and related NPCs resulted in a game-fandom emerging as intra-actions.

In Chapter 5, Describing VR Gamespace, I shifted the lens of game-fandom and reintegrated my practice-based research into computational art. Two game levels, "Pinkray" and "Seventeen/Sixty-One", were examined from technical and technological perspectives. I encompassed text, image, video, mesh, texture, scale, collision, and fog (visual); NPC voice, sound remix, and voidscape in the Wwise (audio) sound engine.

In the description of "Pinkray", text was achieved as a 3D animated text object and interactive standard text in Canvas. With the design of the 3D animated text object, players were enclosed and surrounded by the narrative, wherein a rematerialised 1:1 scale life-size narrative path was touched and penetrated. Players comprehended the deliberately distorted meaning and formed their context to interpret the narrative through navigation. Through the design of interactive standard text, dialogue texts and sounds were contextualised with NPCs and 3D scans. The relationship between texts and NPCs was expanded and complicated by the player's navigation; the agents of texts, bodies, and players emerged as intra-actions in "Pinkray".

By analysing mesh, texture, and scale, I addressed my architectural approach of speculative response in a picturesque, imperfect, and always incomplete territory contributing to VR gamespace creation. My interview and collaboration with my architectural fellows Jingzhi and Aristo were elucidated with their architectural projects being modded and crossed over between gamespace and architectural space. Furthermore, I explained the architectural forms and aesthetics in the game level "Pinkray", consolidating the experimental design. Based on the bills of quantities in Appendix F, VR gamespace must be designed as more than player-centred, constantly becoming or being personas, characters, technologies, things, and animals. During VR gameplay, texts, drawings, bodies, architectures, and landscapes were transformative, inseparable from technology, and emerged as intra-actions. The development through experimental reading and architectural design can turn the lens of game-fandom beyond fan studies and game studies, reintegrating into experimental VR production under the posthuman performative framework.



I connected my experimental architectural design and indie game design approaches through the ideas of flatgame and non-collision voidscape. Based on various audio-visual navigation experiences between the negative (void) and the positive spaces in the non-collision VR gamespace, the player, text, NPC, architectural mod, and 3D scan formed cosmotechnics and a non-player-centred collection is scattered across the gamespace (Murphy 2017). I claimed that flatgame development indicates posthuman performative and intra-active experiences. It is based on the introduction of flatgame and the ideas of handcraft, experimental art, challenging existing rules, no-collision, personal groupings, and de-centred perspectives, rather than classic encounters and interactions between player and object. I also analysed fog and rainfall, referencing the fog world in *Silent Hill*. Today's unreserved and unlimited use of technologies in the game engine should be questioned. The realm of myth and the unknown in the gamespace can be eliminated very quickly. My limited uses and raw combinations of movement, art, and sound resulted in architectural "ruins" that are incomplete, imperfect, and picturesque. A non-collision, misty, and rainy VR gamespace contributed to a non-player-centric multi-fandom world.

For audio design in the VR gamespace, conceptualised from voice acting by Linn and Tianqi, I used the basics of randomisation, spatialisation, and effects from the sound engine Wwise. It was intentionally incomplete and unsaturated. The quality of character voices, remixes, and voidscape effects was glitchy, speculative with flaws, and imperfect. However, this picturesque audio-visual VR gamespace "Pinkray" formed multi-fandom cosmotechnics and provoked affective relationships through modding, cross-over, and shipping. In "Pinkray", the concept of individual objects was not prominent during each VR gameplay session. Instead, the experience focused on a more immersive world, stressing relationships and interconnectedness among various personas, NPCs, technologies, things, and nonhuman bodies rather than distinct audio-visual objects with well-defined boundaries. The VR gameplay with audio-visual experience is a performance art in a more than player-centred world. Although the audio was technically processed as objects in the sound engine and configured with randomisation, spatialisation, and effects, the notion of the object dissolved during each VR gameplay. In "Pinkray", the audio design with Wwise-Unity integration explored affirmed and celebrated relationships, contributing to the world-making of multi-fandom cosmotechnics.

The development of "HyperBody" allowed for a unique opportunity to apply these cross-disciplinary methods in ways that have stimulated various cultural and technological expressions and provoked creative thinking. In creating "HyperBody", practice-based research provided an essential framework. I could explore themes such as modding, crossover, and shipping in fandom, non-

collision physics in indie games, and the bill of quantities in architecture. This approach allowed me to understand better how these various elements influence one another in creating the VR game. I could identify new possibilities and challenges in the gaming industry and reflect on how the creation process contributes to the broader conversation in the field.

For example, I could blend Chinese shipping fandom, BL fandom, science fiction, and architectural modding elements, creating an intricate narrative and aesthetic entanglement. I had the opportunity to witness the power of fandoms in shaping the gaming experience and its narrative through this hands-on approach. It allowed me to see how the practices such as multi-fandoms and queer tuning can infuse the game with alternative expressions of gender and culture.

Digital ethnography complemented practice-based research by focusing on the collaborators' experiences and the broader sociocultural context of the game. This method gave me a nuanced understanding of the game-fandom, its development, and the fan practice and gaming experience. I used interactive interviewing, collaborative practice, and a feedback loop to collect and update fandom materials for the "HyperBody" design process.

Through digital ethnography, my collaborators and I interpreted and intra-acted the VR gamespace and its narrative, what aspects they found engaging or challenging, and how they made sense from conventional online fandom platforms to VR experiences in the context of their personal beliefs, interests, and the broader gaming and fandom culture.

In interactive interviews, I noticed that collaborators' understanding and experience of the gamespace were deeply influenced by their individual backgrounds, identities, and the ontologies of their respective fandom and gaming communities. For example, their interpretations of fanvids and fanfiction in game narratives and their responses to NPC designs, 3D scan textures, and non-collision physics were all shaped by their distinctive experiences and cultural-technological perspectives.

This in-depth engagement with interviewees and collaborators allowed me to refine the game design continually, informed by the feedback and insights I gained from my ethnographic research. This iterative process of adaptation and redesign based on player feedback is a crucial strength of my methodology, enabling me to create a game that resonates with a diverse group of players while still pushing the boundaries of what is possible and experimental in VR gaming.

My cross-disciplinary methods have been crucial in understanding "HyperBody"'s impact. This approach allows me to view the game not just as a piece of technological output or a form of VR

product but as a dynamic cosmotechnic artefact deeply intertwined with the cultural practices and beliefs of its players, collaborators, and creators. It also allowed me to critically interrogate the game design and consider my work's ethical, ontological, and epistemological dimensions.

#### **7.1.4 Quantitative and Qualitative Methods**

To evaluate the VR gamespace, I spotlighted the research gaps in quantitative and qualitative methods. I argued that scholars in VR must examine emotional experiences and evaluate how participants might connect more creatively with VR settings. Rather than focusing on individual aspects, it is essential to consider all the relevant factors and dimensions specific to the VR game to achieve a comprehensive and successful evaluation (Bernhaupt 2015, 7). To address these gaps and perform an in-depth evaluation of "HyperBody", I proposed an iterative method that combines quantitative and qualitative data (Table 3.2) through the VR gameplay workshop, group discussion, and in-depth interviews.

To carry out this method, I recruited ten participants from diverse backgrounds, including architecture, contemporary art, VR games, and UX research. The participants' cross-cultural, interdisciplinary, and multilingual nature facilitated a cosmotechnic dialogue in VR gameplay. I then led an offline VR gameplay workshop, underlining UX research in VR and focusing on device-related issues such as safety, hygiene, and privacy. Participants engaged in "HyperBody" VR gameplay, followed by questionnaires and group discussions. The workshop aimed to identify unconventional design choices and suggest concrete ways to investigate experimental VR design and queer VR experiences. Following the offline VR gameplay workshop, I conducted online in-depth interviews with all ten participants separately to discuss their experiences in "HyperBody" and seven interview questions. The goal was to understand the impact of "HyperBody" on participants and its potential for queering interdisciplinary fields. Participants in "HyperBody" relearned cultural, technological, and affective specificities in gaming and fandom, including audio-visual experiences, art, theories, and glitches. The cross-cultural and multilingual participant group integrated and "queer tuned" fan studies, game studies, architecture, UX, VR games, and computational art to create a cosmotechnic dialogue.

I analysed different game levels' navigation paths, hotspots, and gameplay footage in the VR gameplay workshop. It allowed me to gain intuitive feedback on how participants handled initial challenges, adapted quickly, established creative connections, and engaged with various game elements using their body movements. Following this, I requested that all ten participants complete

a questionnaire to validate the feedback and speculations obtained. To evaluate the experience in VR, I designed an expanded questionnaire based on the original GEQ structure with seven modules. The modified GEQ questionnaire aimed to investigate how specific experimental features, unconventional experiences, and research questions were valued. Lastly, conducting a group discussion with participants was crucial to inspire creative and affective thinking.

Following the offline VR gameplay workshop, I conducted one-hour in-depth interviews online with all ten participants to discuss their experiences in "HyperBody". By continuing to leverage my position as an aca-fan, supported by non-mandatory questions as a starting point, I facilitated a sincere and non-hierarchical interview environment during the "HyperBody" VR experience discussions, enhancing participant engagement and encouraging open conversations about gender and identity. By understanding participants' backgrounds and interests, providing comprehensive information and contexts on relevant topics of fandom culture, art and technological theories, and ensuring no preconceived notions hindered the dialogue, I fostered reflective and unrestricted discussions, creating a more enriching and affective interaction. The goal was to understand the impact of "HyperBody" on participants and its potential for queering interdisciplinary fields.

Utilising thematic and discourse analyses for the in-depth interview transcripts, I witnessed participants engage in a world-making process through audio-visual experiences, art and technological theories, affective turns, and glitches and tunings. The discourse analysis underlined the cross-cultural and multilingual aspects. Based on the framework of space and discourse, I found new cultural and technological meanings and practices emerged through grammar space, intertextual space, narrative space, and space and place.

For instance, in the world-making process via "HyperBody", participants relearned the cultural, technological, and affective specificities within and beyond gaming and fandom practices. The specificities include audio-visual experiences, art and technological theories, affective turns, and glitches and tunings. The notion of queer tuning was connected to auto-tune technique by participants. "HyperBody" participants created a comprehensive cosmotechnic dialogue that queers interdisciplinary fields and serves as an experimental framework for creating, describing, and evaluating experimental VR productions.

These insights from the evaluation process are not just relevant to "HyperBody". However, they can extend to other experimental VR experiences, contributing significantly to VR game studies, fan studies, and the broader field of computing.

## **7.2 Research Contributions**

In this section, I identify and discuss the two main contributions of this research. The first consists of the technique of queer tuning, which helps investigate new cultural, technological, and affective turns within and beyond fandom and computational art. A second contribution is a diffractive approach for establishing a methodological framework in a posthuman performative context. Using my diffractive methodology, I have contributed valuable contributions to developing a practical framework for creating, describing, and evaluating experimental VR productions. Specifically, I have created and described experimental VR productions using Unity and the Wwise sound engine. I have identified a mixed evaluation framework that bridges the gap between quantitative and qualitative methods in experimental VR productions. This framework allows for investigating affective experiences and exploring how participants can creatively engage with queer VR gamespaces. I encourage a cross-disciplinary framework between VR, game design, architecture, and fandom studies.

### **7.2.1 Queer Tuning**

#### **Initialisation from Emma's shipping practices**

In the Creating VR Gamespace chapter, I first approximated the categorisation of Emma's Pinkray/Katto ship practice as "slash" within a queer cultural context in mainland China. "Slash" refers to exploring homoerotic relationships between characters not depicted in the source material. However, the term "slash" has been criticised for reducing queer relationships to fetishised fantasies. As a result, some fan communities prefer alternative terms such as "queer fanfiction" or "fanworks featuring LGBTQ+ characters" (Bradley 2016). I introduced the concept of transfeminism, which recognises that affections are not merely emotions but extend beyond our cognitive attempts to make sense of the world. As a form of remixing, vidding offers a way to destabilise and surpass the expression of vids themselves. This remixing approach was used to identify vulnerabilities and imagine a creative gender and transgender future (Samer 2019, 545). I suggested that addressing the shipping concept encourages people to ask how vulnerable fandoms can be brought out of their cultural bubbles and integrated into the wider world.

I aligned Emma's vids with Li's (2017, 148) concept of neutrosexuality, which highlights maintaining a neutral and youthful persona, being open to learning new technology and communicating with

the public. This approach is particularly relevant in contemporary mainland China multi-fandoms, where there is a growing desire to transgress normative gender and sexual boundaries and create new forms of cultural expression. Emma's interest in collaborating on a VR game stems from her desire to explore new modes of expression and bring her perspective on Sinophonic queerness to a broader audience. She sees VR as a medium that can transcend the limitations of traditional fanworks and engage with a broader audience, showcasing the potential for new and innovative cultural production.

Opaque and non-linear affections reside in scenes, personas, bodies, and spaces between them. A new framework of queerness calls for ontological indeterminacy and infinite possibilities for intimate sensing, touching, and response. Like Emma's Pinkray/Katto ship, a vulnerable and soft relationship reconfigures physical/virtual space, time, and mattering, filled with imaginaries, desire, and love.

In contrast to the transmedia scholar and remix artist Rox Samer's (2019) research on slash vids within the established context of transfeminist and transgender media practices, Emma's shipping practice extends the possibility for queerness beyond the confines of gender and sexuality. It also calls for a specific tuning to queerness, nurtured through ordinary scenes, dialogues, practices, softness, elastic identity, and various personas, which become shared and transformative within the community.

I initially proposed that queer tuning practices do not solely involve resistance against or seeking healing for one's identity, gender, and sexuality. In contrast to the neutrosexuality demonstrated by Li in Hong Kong, most mainland Chinese fandoms maintain a lightweight, blank, and youthful body proper, free from historical, cultural, political, and moral burdens. Upon reflection on the Chinese BL fandom and novel analysis in Appendix D, they further contribute to developing a vulnerable and passive tuning within cosmotechnics. This queer fandom tuning signifies that the sea receives all rivers and welcomes new cultural, technological, and affective turns.

The process of queer tuning in "HyperBody" was deeply embedded in the creation and transformation of fan narratives, personas, and architectural spaces in the game level, "Pinkray". Akin to Emma's vidding practices, "HyperBody" remixed and reconfigured fanfiction narratives, NPCs, and 3D scan urban spaces, creating an affective cosmos of queer tuning.

The Pinkray/Katto relationship was presented as a winding path of narrative texts, which include a series of non-collision, 1:1 life-size scale, and animated 3D text objects. Rather than presenting their relationship rigidly, the narrative embodied the idea of tuning fanfiction by offering players an

open-ended and fluid exploration of the relationship dynamics, showcasing a broad spectrum of intimate audio-visual connections beyond traditional NPC interactions.

Queer tuning was also demonstrated in how the NPCs are developed through the plush doll fandoms. Instead of adhering to specific gender roles or identities, the Pinkray/Katto personas were portrayed as flexible and elastic through the non-collision 3D plush dolls with distorted textures. The NPCs of plush dolls were resituated into a 3D scan urban space under the fog and rainfall, which informs the incomplete, imperfect, and picturesque aesthetic and allows for a diverse range of gender expressions and identities. It reflects the principle of neutrosexuality (Li 2017) for open, flexible, and youthful persona expression.

Instead of simulating a photo-realistic environment, by incorporating 3D scans of real-world architectural and urban spaces related to Pinkray and Emma, "HyperBody" blends reality and fiction as architectural "ruins", fostering a sense of intimate familiarity and imaginative possibility. This VR gamespace is non-linear and multi-layered, challenging conventional spatial configurations and offering players an experimental site for queer exploration.

### **Validation by Participants in In-depth Interviews**

In the Evaluating VR Gamespace chapter, the notions of queerness and tuning the queerness were discussed in detail, drawing insights from ten participants. The exploration of queer tuning and "auto-tune" within the "HyperBody" unfolded across four pivotal themes: embracing complexity, subtle integration, breaking boundaries, and expressive freedom, providing a comprehensive view of the transformative potential of the VR gamespace.

"Auto-tune" is used in the music production process to control vocal recordings and alter the pitch and tone of the singer's voice. In memes and fandoms, auto-tune remixing is sometimes employed to produce sarcastic or humorous renditions of well-known songs or audio snippets.

Participant H's engagement with the Pinkray/Katto narrative underscored the intricate nature of auto-tune and queer tuning within "HyperBody", highlighting a relearning process that shifts preconceived notions of identity and belonging. The participant's insight into blending various pitches and tones within the gamespace is a metaphor for the complexity of queer identities, suggesting a seamless integration of diverse experiences into a balanced and enriched world-making process. This perspective resonated with Participant F's description of an immersive and

experimental play mode, where the queer dimensions of "HyperBody" evolve subtly, enabling a transformative understanding of queer identities beyond stereotypical analyses and practices.

The gentleness of queer tuning was evident in Participant E's reflections, which highlight "HyperBody"'s capacity to cultivate acceptance and understanding of queer notions in a non-confrontational manner. The subtle integration of queer themes aligned with the auto-tune concept, presenting a relaxed and inclusive experience that gradually draws players into a deeper engagement with queer culture. Participant A's commentary on the archival role further emphasised the VR gamespace's capacity to preserve narratives at risk of erasure based on her Hong Kong background, subtly influencing perceptions and encouraging a more nuanced understanding of queer identities in societies where acceptance is not guaranteed.

Participants C and D delved into the transformative potential of "HyperBody" in breaking down barriers and fostering individual expression. The VR gamespace's fluidity and the rejection of rigid community boundaries encouraged players to tune their own positions and engage with their identities free from aggression and prescribed norms. "HyperBody" became a free VR space for self-exploration and acceptance. It offered an alternative realm where labels and physical constraints dissipate, enabling a reconceptualisation of body relationships and identity.

The rich aesthetic choices and extravagant design elements within "HyperBody" highlighted expressive freedom and diversity, as cited by Participant J. Using colour and architectural form created an environment of extravagance and freedom. Participant D's fascination with black-and-white game levels added depth to the discussion, highlighting the infinite possibilities of queer tuning by challenging temporal and spatial limitations.

Participants developed emotional connections and felt nostalgia as they engaged with the queer tuning in "HyperBody" cosmotechnics. They connected with the narrative, NPCs, and affective atmospheres, enhancing their immersive experiences. Participants encountered challenges such as scale, spatial sequence, and information overload but adapted to non-working elements and tuned queerness within their VR gameplay.

By playing "HyperBody", auto-tuning gamespace was defined to make corrections and adjustments of audio-visual elements (Appendices F and G) to various pitches and tones and then remixing text, image, NPC, 3D scan, 3D drawing, architectural mod, and audio together, taking world-making in a new level.



Queer tuning was validated spontaneously in the positive evaluation process. Participants valued the passive and indirect influence of queer texts, bodies, and spaces in the game. This technique emerged as a subtle and indirect way of encouraging new cultural, technological, and affective transformations.

### **Use for New VR Productions Beyond Game-fandom**

Queer tuning is not just an individual practice but is deeply entangled with our social, cultural, and technological worlds. Via Intra-action, as introduced by Karen Barad, queerness is not just an individual identity or experience but one that is constantly exchanged, diffracted and influenced by our entanglements with the world around us. Queer tuning, then, can be seen as a performative practice that creates new forms of intra-action of culture, technology, and queerness, resulting in new modes of intimacy, affect, and subjectivity.

Queer tuning could significantly impact VR gaming's future, altering narrative dynamics, player interaction, environment design, and identity-making. It allows for flexible storytelling, enhancing narratives with diverse and inclusive elements. Player intra-actions instead of interactions can be designed to be non-linear, non-collision, soft, passive, and vulnerable, ensuring an experimental immersive VR experience. Queer tuning encourages designers to create unusual, multi-layered gamespaces that challenge traditional spatial configurations and cultural-technological understandings, fostering player intimacy and imaginative possibilities. Moreover, it fosters fluid, indeterminate, auto-tuning identities and world-making processes, allowing a more creative range of gender expressions in VR gaming.

For designers, queer tuning provides the tools for crafting open-ended narratives, imaginative spatial designs, elastic NPCs, and incomplete, imperfect, and picturesque environments among fandom, indie games, architecture, and computational art fields. These aspects can build more personal, affective player intra-actions, offering new exploration from text, image, video, mesh, texture, scale, collision, fog, and audio. By integrating queer tuning, game designers can ensure a more diverse and immersive VR gaming experience, accommodating various identities, affections, and expressions. By integrating queer tuning, designers and players can accommodate various expressions and shape the future of VR gaming together.

Cosmotronics here can connect to queer tuning and be interpreted as exploring how technology and culture tune our understanding of queerness. The antinomy between queerness and affections

in the technologies involving VR productions in Chinese and Western fandoms can be seen as both ethico-onto-epistem-ologically universal and not universal, depending on their conditioning by the specific cosmology of queer tuning. Under cosmotechnics, a straightforward expression of queer culture and identity is compared to a gentle affection and passive tuning of situatedness. Such a deliberate vulnerability can create more novel genderfluid works and disseminate them within and beyond Chinese political, cultural, and technological contexts.

Queer tuning is a concept that extends the possibilities of queerness beyond the confines of gender and sexuality. It calls for a particular tuning to the queerness nurtured through ordinary scenes, dialogues, practices, softness, elastic identity, and various personas, which become shared and transformative within the community. It signifies a welcoming stance towards new cultural, technological, and affective turns.

Also, queer tuning is demonstrated in the "HyperBody" VR game as an approach to practice. It presents a speculative "auto-tune" technique connected to extravagant colours, shapes, and black-and-white aesthetics, creating an atmosphere of looseness, relaxation, and enjoyment. Queer tuning is a design technique that creates experimental and immersive VR experiences by infusing narratives and spaces with fluid identities and diverse cultural, technological, and queer intra-actions. This technique provides a subtle and indirect way of encouraging new cultural, technological, and affective transformations.

Queer tuning as an approach to practice can potentially contribute to VR productions, queer studies, digital cultural studies, computational art, and architecture by offering a new perspective on intimacy and relationships.

### **7.2.2 Diffractive Methodological Framework**

The diffractive approach in Barad's work refers to the relationship between material phenomena and knowledge. The matter is not static but constantly changing through intra-actions, and this process is influenced by discourse. Therefore, matter and discourse are not separate but intertwined in a dynamic process of becoming. In my research, I applied the diffractive approach to the cosmotechnics of game-fandom, stressing the entanglement of various methods rather than viewing them as separate entities.

In "HyperBody", the matter is the actual elements of the VR game, including its narratives, game mechanics, architectural designs, player engagements, and audio-visual expression of queer

tuning identities. Matter in this context is mutable and ever-changing, influenced by the intra-active experiences of players. It also includes game-fandom practices like modding, crossover, shipping, digital ethnography, and technical game design principles.

Discourse is the collective interpretation and understanding of "HyperBody", including the social, cultural, technological, and academic conversations surrounding the game through interactive interviews in digital ethnography and in-depth interviews in the evaluation process. This discourse influences and is influenced by the material facets of the game. It includes how "HyperBody" is critiqued and analysed, the dialogues around its portrayal of queerness and identities, its reception in VR gaming, and scholarly interpretations of its meaning in fan and game studies. Both matter and discourse are not seen as separate but rather intertwined, influencing each other in a dynamic process of becoming. "HyperBody" is an evolving VR gamespace for expression and intra-action, shaped by and shaping the ongoing discourse.

The diffractive approach stresses this interconnectedness rather than viewing them as separate. The aim is not merely to reflect on the game and its discourse but to hold ourselves accountable for the queer tuned cosmotechnics we engage with when creating, describing, and evaluating such an unconventional VR production. This perspective departs from a reflective approach that views phenomena as separate and open to objective observation. Instead, it acknowledges that our understanding and creation of "HyperBody" are situated within specific contexts and entanglements, emphasising a responsible engagement with these factors.

The methodological framework entangles practices such as modding, crossover, shipping from fandom, non-collision physics from indie games, bills of quantities from architecture, digital ethnography, technical game design, and iterative evaluation methods. They are not separate but interconnected, constantly shaping and reshaped by the entanglement of game discourse and matter. Through understanding the entangled relationships, the framework delivers a way of creating, describing, and evaluating an experimental VR game grounded in an ethico-onto-epistem-ological framework.

### **Creating and Describing Experimental VR Gamespace**

In the game design elements between designers and players, Rober Zubek (2020, 2-3) defines games as "machines", the dynamic model for a user-centred game design. Based on the MDA (mechanics, dynamics, and aesthetics) model (Hunicke, LeBlanc and Zubek 2004), game design

follows the basic model of mechanics and systems, gameplay, and player experience. Additionally, visual design, user interface, setting and context, narrative, music and sound, and other technical design can be substantial (Zubek 2020, 9-10).

I propose a framework that goes beyond the traditional methods to include a cross-disciplinary approach (Table 3.1). I integrate non-traditional elements such as fandom studies, indie game practices, and architectural principles, which bring a perspective to the design of the experimental VR gamespace. Based on practice-based research and digital ethnography, my framework focuses on creating an experimental VR gamespace through different technical parameters such as text, image, video, mesh, texture, scale, collision, fog, and audio.

Method	Research and Practice Tools			Category
Practice-based research	Fandom: Modding, crossover, and shipping	Indie games: Non-collision physics	Architecture: Bills of quantities (Appendices F and G)	Creative
Digital ethnography	Interactive interviews	Collaborative practice	Feedback loop	Qualitative
Text, image, video, mesh, texture, scale, collision, fog, and audio				Technical

Table 3.1. Summary of the methods for creating and describing VR gamespace of "HyperBody".

Based on shipping via fandom, I spotlight the significance of analysing the reading experiences through texts, images, videos, and NPCs in VR gamespace and how they can provide an experimental reading experience for the player. Through mesh, texture, and scale, I create architectural mods through modding and crossover from fandom to inform picturesque, imperfect, and always incomplete territories. I stress the importance of designing a non-collision misty VR gamespace that is more than just a player-centred world. The player, text, NPC, architectural mod, 3D scan, and audio form the cosmotechnics and a non-player-centred collection is scattered across the gamespace (Appendices F and G). I also create through randomisation, spatialisation, and effects in Wwise-Unity audio design, intentionally embracing glitches and imperfections and fostering multi-fandom relationships and interconnectedness rather than focusing on individual objects. The evaluation process demonstrates a different mode of immersion and play in "HyperBody", and the participants recognised that it is experimental and are captivated by the VR gameplay, fandom audio-visuals, non-collision misty settings, and its unconventional architecture.

The emphasis is on celebrating relationships and contributing to the world-making of cosmotechnics.

A world that is more than just player-centred acknowledges and harnesses the interplay of multiple elements within the VR gamespace. These include the player, text, NPC, architectural mod, 3D scan, audio, and complex relationships they form with one another. This world-making approach transcends traditional player-focused designs by creating a rich audio-visual interconnected system where players seek an immersive, experimental experience that privileges intra-action, unpredictability, and an appreciation for incompleteness and imperfections. Nevertheless, it is also for designers, researchers, architects, artists, and fans interested in exploring new dynamics and entanglements between game elements, thus contributing to the ongoing evolution of cosmotechnics in VR gaming.

My toolkit prioritises experimental reading, architectural design, and a non-player-centred view to create and describe the audio-visual VR gamespace. With each technical parameter (text, image, video, mesh, texture, scale, collision, fog, and audio) resonating with an aspect of digital ethnography, this approach allows for a more nuanced and detailed analysis to reveal new insights and possibilities for unconventional VR game design and production in a posthuman performative context.

## **Evaluation Framework**

I developed an evaluation framework for evaluating unconventional VR productions using mixed methods. I offer an iterative method that blends quantitative and qualitative data across three stages: a VR gameplay and group discussion in the offline VR gameplay workshop and online in-depth interviews post-VR gameplay. The approach, outlined in Table 3.2, includes recording participants' navigation paths, hotspots, and gameplay videos during the VR gameplay, completing a questionnaire after gameplay, and conducting group discussion and individual in-depth interviews. The framework examines participants' behaviours, reflections, and non-standard design choices regarding cultural context, game mechanics, and VR navigation. The evaluation process further explores audio-visual scenarios, situatedness, and queer notions.

Dependent Measures	Stages		Research Tools	Category	
Behaviour	1	Offline VR gameplay workshop	During the VR gameplay	Navigation paths and hotspots data, gameplay footages	Quantitative and qualitative
Reflection			Immediately after the VR gameplay	Questionnaires	Quantitative
Non-standard design choices on cultural context, game mechanics, and VR navigations	2		Group discussion	Ethnography and thematic analysis	Qualitative
Audio-visual scenarios, situatedness, queering notions	3	Online In-depth interviews (post-VR gameplay)		Thematic and discourse analysis	Qualitative

Table 3.2. Summary of the metrics for evaluating VR gamespace of "HyperBody".

Traditional approaches such as focus groups, observation, interviews, playtesting, questionnaires, game telemetry and heuristic evaluation remain prevalent in the gaming industry and academia (Bernhaupt 2015, 5-6). Evaluating user experience is not a single element but comprises different dimensions that influence each other. Rather than focusing on individual aspects, it is essential to consider all the relevant factors and dimensions specific to the VR game to achieve a comprehensive and successful evaluation (Bernhaupt 2015, 7). My evaluation framework can capture the intricate experiences and distinctive characteristics of the VR games beyond "HyperBody", like the renowned first-person shooter VR game *Half-Life: Alyx*, the narrative adventure VR game *Lone Echo*, and the musical VR game *Rez Infinite*, which uncovers unconventional design, experience, and gameplay mechanics.

The evaluation framework presents an integrated approach to VR game evaluation by interweaving traditional methods with different techniques designed to study unconventional VR experiences. At its core, this inclusive framework highlights the nuanced interplay of user experience, gameplay dynamics, aesthetics, and queerness in VR gaming.

My approach emphasises diversity in participant recruitment, drawing from a broad spectrum of disciplines, including architecture, contemporary art, VR gaming, and UX research. This strategy yields richer, more multifaceted insights into player experiences and reflects sensitivity to cultural differences.

In another departure from standard game evaluations, my framework applies UX research with a VR gameplay workshop. This combination underscores the importance of a user-centred design

philosophy, examining various facets of the player's interaction with the VR environment, ranging from technology familiarity to privacy concerns.

The evaluation framework concentrates on spatial navigation in VR gaming by analysing navigation paths, hotspots, and gameplay footage. This exploration embraces unexpected and non-linear player experiences. This shift in perspective could provoke inventive design considerations and enhance VR game expressivity.

My framework incorporates customised questionnaires, specifically expanded from the Game Experience Questionnaire (GEQ), to cater to the individual context of each VR game, facilitating more targeted evaluations. Through the consolidations with online in-depth interviews, the framework encourages a deep dive into participants' subjective experiences and perceptions, prioritising individual narratives over solely quantitative data.

By leveraging tools like thematic and discourse analysis, my approach scrutinises the narratives, cultural implications, and emotional responses intertwined within the game. This perspective can yield valuable insights into player-game relationships, challenging prevailing gaming norms and contributing to a richer understanding of VR game design between culture, technology, and mostly affection. I have contributed meaningfully to creating a comprehensive evaluation framework that captures, interprets, and evaluates unconventional VR gaming experiences from various perspectives.

This framework aims to bridge the gap between quantitative and qualitative methods in VR productions, explore affective experiences and has the potential to contribute significantly to the field of interdisciplinary research in VR, game design, architecture, and fandom studies.

### **7.3 Limitations**

Regarding the evaluation framework, while the current study provides valuable insights into the VR experience of "HyperBody", it is essential to acknowledge its limitations and areas for future improvement. One of the main limitations of this study is the relatively small sample size of participants. While the sample included a diverse range of backgrounds and experiences, incorporating a larger and more diverse sample size would provide a more robust and cosmotechnic understanding of the VR experience. In particular, it would be valuable to include more participants from different cultural backgrounds, such as South Korea, Japan, and other Western countries.

The current study also focused on using Oculus Rift S headsets for VR gameplay. However, with the recent release of Oculus Quest 2 and the introduction of Oculus Air Link, these devices could offer a wireless and more comfortable VR experience. Including them in future studies would provide valuable insights into their impact on VR comfort and experience.

Lastly, while the current study collected various data related to participants' VR experience, additional investigations could still be incorporated into future studies. For example, it could use eye-tracking technology to measure players' attention and focus while playing the game. Physiological sensors are proposed to measure players' heart rate, blood pressure, and other physiological indicators of engagement and enjoyment. Optimising the questionnaire structure by incorporating more measurements of the VR experience with specific cultural and technological contexts would further enhance our understanding of the nuanced VR experience.

#### **7.4 Shared Multi-player VR Gamespace**

This section points to some considerations for future research on shared multi-player VR gamespace. It explains how multi-player VR gamespace supports real-time creating, describing, and evaluating cosmotechnics of multi-fandom. At the present stage, this does not constitute a developed research contribution as it goes beyond the scope of this research project. However, it points towards a different line of development for future research.

In the future, I propose to investigate a shared multi-player audio-visual VR gamespace to enhance the intra-action and cosmotechnics in VR experiences, following the limitations of the single-player "HyperBody" VR game. Multi-player VR games offer more collective and affective experiences by allowing participants (interviewee, interviewer, and player) to collaborate, create, describe, and evaluate in real-time, which is currently lacking in the single-player VR game format.

In reimagining game engine physics, we should consider critical elements such as adaptive physics systems, dynamic object relationships, and real-time environment manipulation. Developing an adaptive physics engine that incorporates machine learning algorithms allows for a more organic and immersive experience, as the engine can evolve with player intra-actions. Designing a system that enables objects to dynamically establish relationships with one another, players, and the environment ensures the continuous evolution of the game world - empowering players with real-time environment manipulation capabilities. Implementing a system that supports real-time collaboration between players, such as shared physics simulations or synchronised



object manipulation, fosters a collective and affective experience. Lastly, encouraging emergent gameplay by designing physics systems that respond to player actions in unexpected ways promotes unpredictable outcomes. Using rule-based AI systems and dynamic event triggers creates new opportunities for players to intra-act with the game world. By incorporating these elements into the game engine design, we can create a more immersive, non-player-centred framework that fosters a transformative process of culture, technology, and affection.

Qualitative research methods such as digital ethnography can be integrated into the shared multi-player audio-visual VR gamespace to capture the intra-action and cosmotechnics, allowing for a comprehensive analysis of the VR experience. Barad's diffractive approach and Hui's cosmotechnics can provide theoretical frameworks for the shared multi-player audio-visual VR gamespace. The diffractive approach stresses the entanglement of the observer and the observed. Hui's cosmotechnics proposes that a relearned world system is constructed through the interplay of culture, technology, and affection and calls for a reconfiguration of ethics, ontology, and epistemology. These frameworks encourage a bricolage of methods under an ethico-onto-epistemological framework, reconfiguring culture, technology, and affection in a shared multi-player VR gamespace, providing a more inclusive and diverse VR experience.

## **7.5 Chapter Summary**

This chapter presented a general discussion of the results obtained by this research. It answered the questions by proposing game-fandom through intra-action and cosmotechnics and using a diffractive methodological framework to create, describe, and evaluate "HyperBody". I then presented and discussed the two main contributions of this research, consisting of the theory of queer tuning and the diffractive framework for creating, describing and evaluating experimental VR gamespace methods. After acknowledging the limits of participant sample size, VR devices, and VR experience data, I concluded this chapter by suggesting a shared multi-player VR gamespace. The next chapter will conclude this thesis and will focus on more general considerations of my research and ideas for future work.

## 8. Conclusion

### 8.1 Summary of the Thesis

This cross-disciplinary research has charted new territories by delving into the intersections of fandom, game studies, and my VR game "HyperBody" in the context of the ACGN (Anime, Comics, Games, and Novels) communities across mainland China, Hong Kong, and Taiwan. This exploratory journey has untangled the complexities of creating, describing, and evaluating this experimental VR game by drawing insights from various fields of study, including VR technology, game design, architecture, and fandom studies, thereby providing a scholarly contribution to these domains. The resulting thesis is an entanglement of ideas that intertwine effortlessly.

In the Literature Review, the thesis introduces the concept of game-fandom as a bridging framework between game studies and fan studies. The thesis leverages fandom from an object of study to a methodological approach within ACGN communities. This approach provides an alternative perspective on multi-fandom interactions. It discusses the complex relationship between different works and technologies within fan communities, referred to as transversality. It also explores how these communities are connected across different cultural levels, known as verticality. The Chinese Boys' Love (BL) genre is explored in-depth, shedding light on its transformative and critical aspects and impact on fandom norms. Case studies of digital film artist Cao Fei and media maker Qing Yan Jun contribute to this multi-fandom discourse. The need for an affective approach to game studies, acknowledging the transformative power of queer games and avant-garde work in reshaping industry norms, is highlighted. This section underscores the transformative potential of VR gamespace, game-fandom interconnection, and the necessity for a multidisciplinary approach to game studies.

The thesis argues against merely investigating the representation of specific ACGN and fandom practices. The boundaries between game and fan studies should not be rigidly defined, but rather, their constant interplay and entanglement should be acknowledged. Instead of incorporating a queerness and avant-garde framework from fan studies into game studies, it is crucial to highlight transformative practices that occur in the relationships between human and nonhuman agents. The transformative practice is characterised by a dynamic process where game-fandom constantly exchanges, diffracts, influences, and works inseparably. Game-fandom, given its intertwining of culture, technology, and affective responses, underscores the significant potential of cross-disciplinary work in providing a nuanced understanding of ethico-onto-epistem-ology — the inseparable triad of ethics, ontology, and epistemology.

The Theoretical Framework section delves into the intra-action of game-fandom as outlined by Barad, emphasising the dynamic forces and boundaries that blur the lines between nature and culture and between human and nonhuman. This section examines fandom's role and illuminates the tangible configurations stemming from these intricate entanglements. Hui's cosmotechnics is adopted to examine game-fandom within the Chinese context, thus advocating for a Chinese technology philosophy. Cosmotechnics is a philosophical concept investigating the interrelation between the cosmos and technology, positing technology as a way cultures relate to the cosmos rather than viewing it as a universal or solely human-driven phenomenon. The thesis maintains that fandom practices are worth analysing to explore the multitude of cosmotechnics within ACGN fandoms, which often express remixed world systems. The theoretical framework combines Barad's posthumanist intra-actions and Hui's philosophy of technology cosmotechnics to explain how VR gamespace technology and game-fandom culture mutually influence and reshape each other.

The importance of understanding the cultural context, gender and sexuality, and fandom communities when interviewing participants is stressed. The thesis introduces the idea of intersectional autoethnography, drawing attention to the cumulative impact of social identities and lived experiences. The proposed VR gamespace as a spatial archive encapsulates the ties between writing, methodology, epistemology, ethics, and politics.

Applying the lens of Barad's posthumanist perspective and Hui's cosmotechnics provides a diffractive methodological framework for creating, describing, and evaluating the VR game "HyperBody". This approach amalgamates practice-based research, digital ethnography, and technical game design to entangle the game and fandom. It acknowledges the intricate relationships within game-fandom intra-actions and advocates for accountability in game-fandom cosmotechnics. A range of methods and techniques, including modding, cross-over, and shipping from fandom, non-collision physics from indie games, bills of quantities from architecture, interactive interviewing, and feedback loops from digital ethnography, are used to decode the complexities of "HyperBody" creation and description. Technical elements such as text, image, video, mesh, texture, scale, collision, fog, and audio are scrutinised and resonated with digital ethnography.

The evaluation process stresses the need for a comprehensive analysis of the VR gamespace that considers the emotional experiences and overall impact of VR environments. It suggests using a mixed method approach, employing quantitative and qualitative data, engaging participants from diverse backgrounds in VR gameplay, questionnaires, group discussions, and in-depth interviews

to assess the game's impact and potential to queer interdisciplinary fields. The diffractive framework of creating, describing, and evaluating an experimental VR game is broad-ranging and interconnected. It provides robust and subtle methodologies that pave the way for unconventional VR production and its academic discourse. While the thesis acknowledges the value of other methods in fan and game studies, it emphasises not only the processes, practices, and facts within these fields but also the intra-actions of fan and game studies, the indeterminacy, the creative imagination, and the potential for transformation. The created cosmotechnics are tightly interwoven with culture, technology, and affective responses.

The VR game "HyperBody" forms the foundation for three dedicated chapters in the thesis: Creating VR Gamespace, Describing VR Gamespace, and Evaluating VR Gamespace, each focused on the creation, description, and evaluation of the game. The digital ethnographic analysis of different cultural practices within C-pop idol groups (as explored in the Creating VR Gamespace chapter), Chinese BL novels (Appendix D), science fiction (Appendices A and C), and modding communities (Appendix B) have all played crucial roles in illuminating the cosmotechnics of multi-fandom world-making.

In a collaborative effort with Emma, a Chinese C-pop idol community member, the concept of queer tuning has been proposed. This concept weaves physical and virtual personas together to create genderfluid works, which results in the VR game level "Pinkray". This level is informed by Emma's shipping vid of Pinkray/Katto, melding elements of fanfiction, gameplay, personas, and NPCs in a continuous process of becoming and being.

The description of the game levels "Pinkray" and "Seventeen/Sixty-One" draws on technical and technological perspectives. It incorporates elements such as text, image, video, mesh, texture, scale, collision, and fog in Unity and NPC voice, remix, and sound effects in the sound engine Wwise. Crucial components such as 3D animated text objects, interactive standard text, architectural aesthetics of "ruins", non-collision, fog, and audio all contribute to the experimental experience of "HyperBody". The VR gamespace embraces architectural "ruins", incompleteness, imperfections, and the picturesque, focusing on interconnectedness rather than distinct objects and intentionally creating an incomplete and unsaturated audio-visual space to form a performative art in a non-player-centred world.

The evaluation stage involves an offline VR gameplay workshop comprising VR gameplay, questionnaires, group discussion, and subsequent online one-on-one in-depth interviews. Initial challenges, creative connections, and engagement with game elements are dissected and

analysed. The game experience questionnaire, developed from the original Game Experience Questionnaire (GEQ) structure, is designed to delve into unconventional experiences and research questions. The in-depth interviews aim to understand the impact of "HyperBody" on participants and its potential for queer tuning of interdisciplinary fields. Thematic and discourse analyses of the transcripts demonstrate the participants' active engagement in the world-making process, leading to a relearning of cultural, technological, and affective specificities and contributing to a comprehensive cosmotechnic dialogue. This ethico-onto-epistem-ological framework, adopted in creating, describing, and evaluating "HyperBody", could open new avenues for exploring experimental VR productions.

The experimental VR game "HyperBody" exemplifies game-fandom's cosmotechnics and interactions, realising the theoretical constructs explored in the written thesis. Creating, describing, and evaluating this game also explore VR methodologies, including practice-based research, digital ethnography, and comprehensive evaluation methods. Consequently, this practice research project can contribute meaningfully to the praxis of experimental VR production.

This thesis has contributed to advancements in VR gaming, computational art, and fan studies, introducing the creative concept of queer tuning, which presents a new perspective on the evolving dynamics of fandom, computation, and affective aspects. The idea, embodied in the VR game "HyperBody", extends queerness beyond traditional confines, nurturing transformative, shared elements within a game-fandom of cosmotechnics. The research uses Barad's diffractive approach, stressing the interconnectedness of matter, knowledge, and discourse in the "HyperBody" VR gamespace. It introduces a comprehensive evaluation methodology for VR game experiences, combining quantitative and qualitative methods and a distinctive toolkit that allows the nuanced creation and description of experimental VR productions. These contributions have meaningful implications for interdisciplinary collaboration in VR, game design, architecture, and fandom studies and open new avenues for understanding cultural, technological, and affective shifts.

## **8.2 Future Work**

There is an opportunity to extend this work in several directions, exploring how this ethico-onto-epistem-ological framework can be applied and broadened within various fandoms. The geographic context could be expanded beyond China, Hong Kong, and Taiwan to incorporate a global perspective. Considering the rapid evolution of technology, potential studies could examine

how advancements in VR technologies could impact the intra-actions within game-fandom cosmotechnics. Future exploration of shared multi-player VR gamespace may encompass adaptive physics systems, dynamic object relationships, and real-time environmental manipulation to encourage immersive, collective experiences. Employing digital ethnography within Barad's diffractive approach and Hui's cosmotechnics can provide holistic analysis and reconfiguration of culture, technology, and affective elements, fostering more inclusive, diverse multi-player VR experiences.

In conclusion, as an academic and fan, I hope this thesis and the VR game "HyperBody" signify the potential of cross-disciplinary research and highlight the importance of bridging perceived divides between disciplines. This study exemplifies that a combined focus on VR game design, fan studies, architecture, computational art and the philosophical foundations of posthuman principles and cosmotechnics can yield insightful outcomes, enhancing our situated understanding of the cultural, technological, and affective dynamics within and beyond ACGN fandoms. The findings and implications of this research present an invaluable resource for future academic endeavours, artistic practices, technological advancements, and cultural discourses.

## Appendix A: Tang Fei in Seventeen/Sixty-One

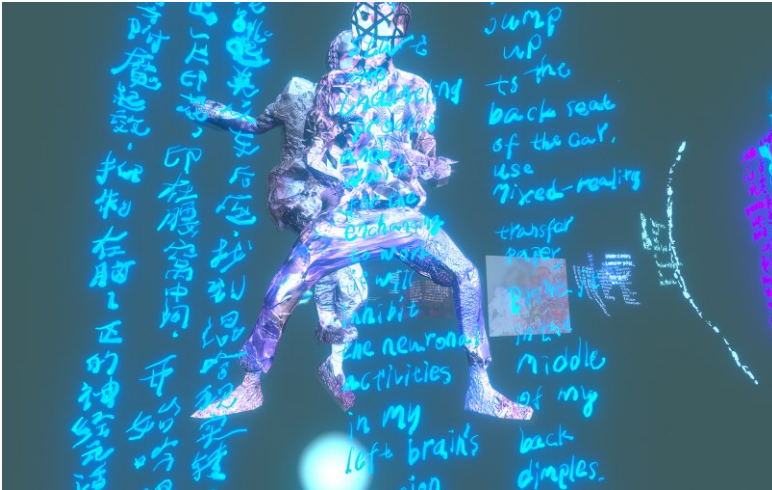


Figure A1. Seventeen/Sixty-One, gameplay screenshot, the animated 3D text objects intersect with NPCs and 2D illustration objects in the background.

In the game level "Pinkray", I develop an entanglement of the animated 3D text object, NPC, 3D scan, 3D painting, architectural mod and audio object. They encompass the ethnographic materials of the Pinkray/Katto ship, reading experiences in Chinese BL novels, architectural projects of "Line Shift" and "Parallel Neo Home", and Luo Ji/Shi Qiang ship in the "Three-Body Problem" fandom. My interviewees Emma, Tianqi, Linn, Jingzhi, Arsito, and CheeseTalk are involved. This section will analyse the "Seventeen/Sixty-One" game level based on Tang Fei's Chinese science fiction as a VR visual novel.<sup>50</sup> "Seventeen/Sixty-One" (Figure A1) is developed to interrogate a specific intermateriality between 3D text object, 2D image, 2D animation, and NPC in the VR gamespace. Based on my interview and collaboration with Tang Fei, this VR visual novel's narrative is from my adaptation, integration and modification of Tang Fei's two short stories, "1761" and "Spore".

The development of the 3D text object, 2D image, 2D animation, and NPC in the VR gamespace is closely engaged with the ethnographic material of Tang Fei and the cultural context in mainland China. I will introduce my interview and collaboration with Tang Fei and present the subsequent technical and technological development of the VR gamespace "Seventeen/Sixty-One".

Tang Fei is a female Chinese science fiction writer who mainly writes speculative novellas and short stories. The American science fiction author Ken Liu (2019) highlights the notion of

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<sup>50</sup> Qiang-002 - Seventeen/Sixty-one Game Level - Walkthrough.mp4 is available on the storage media.

metalanguage in Tang Fei's work that emancipates from the bounds and limits of the semiotics under the cultural context of mainland China. Tang Fei uses science fiction as a genre to create various narratives beyond the establishment and stereotypes. 2019 I met Tang Fei in a public workshop on novels, games and technology at the China Academy of Art (CAA). Her vulnerable, soft, gentle, and elastic imagination of cosmotronics in mainland China impressed me. Tang Fei's story never ends with a technological and ethical solution to a particular epic event. Instead, her writing is recursive and aims to develop multiple iterative responses between culture, technology, and affection, focusing on an ordinary person, event, or place rooted in mainland China. Tang Fei's story always provides many possibilities to imagine an alternative cosmos in mainland China beyond the Anthropocene. After I helped design the book cover (Figure A2) for her short story "The Person Who Saw Cetus", we became excellent friends. Similar to the analysis of the text in the game level "Pinkray", I also design a font named ADMCP (Figure A3) for the book cover. Tang Fei was very interested in my particular consideration of text, image, space and video games. In early 2020, we agreed to collaborate to make a specific VR game level about her science fiction that the concept can be generated through a series of interactive interviews.

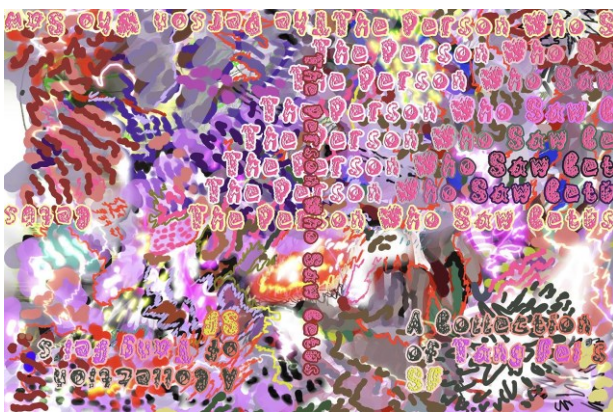


Figure A2. The book cover of The Person Who Saw Cetus.

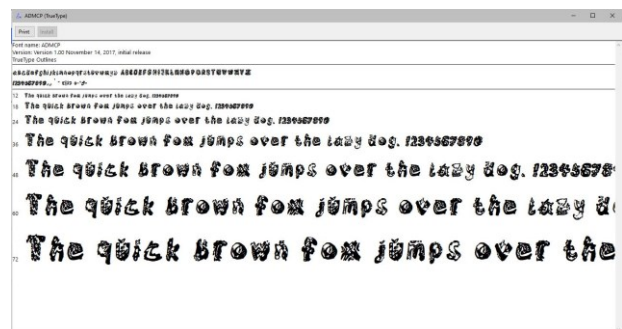


Figure A3. Preview of font ADMCP.

Because of the volatile situation of censorship and the education of science, technology studies, and gender in mainland China, Tang Fei has a very down-to-earth view of her work as a female writer. Tang Fei emphasised in our discussion:



*I don't think the analysis of my work should specifically consider my gender and my social condition in mainland China without the tag of female, alternative and minority. I write Chinese science fiction and hope to contribute slowly to moral and civic education. In my works, I strive for non-anthropocentric ethics that give us more moral standing to various objects like animals, plants, and landscapes. Because of non-anthropocentric ethics is why I like your VR game. It seems the agents of texts, bodies, personas, environments, and players entangled, such a gamespace might provide an extension beyond yourself as a pure embodiment.*

Based on mainland China's fragile public opinion and ecological environment, Tang Fei has to use primary storytelling devices like science fiction to articulate her ideas and thoughts about bodies, spaces and the environment. However, Tang Fei is a science fiction writer not only in the science fiction writers' circle but strives to go beyond mainstream writers, publishers and social media platforms. "In mainland China, I think I belong to a tiny community group between literature, culture, and technology. I am too marginal to talk about my gender in my work."

Regardless of the masculinity and femininity of science fiction narrative, Tang Fei uses her specific situatedness and explores an uncharted affective and technological space with her metalanguage, which her winding path can tune the reader to a secluded, quiet place. She admitted, "I admit, my approach might be too soft, passive and ambivalent, but it is the only way I can express my imaginative world beyond sexuality and desire." Tang Fei's articulation of her writing also reminds me of the idea of queer tuning mentioned in Chapter 4, Creating VR Gamespace. I think both Tang Fei's original science fiction and Emma's fanvids share a virtue of passiveness and fragility.

Reading many of Tang Fei's short stories, I was impressed by the stories "1761" and "Spore", which share an alternative and tender manoeuvre towards the surrounding environment with posthuman body modification. We both agreed to create a VR visual novel game based on the world system and narrative from "1761" and "Spore". Tang Fei argued that:

*Visual novel game highlights a narrative through illustrations, animation, and sound. So what is the difference between a conventional visual novel and a VR visual novel? By creating a VR visual novel via "1761" and "Spore", can we provide players with an experimental reading experience in a VR gamespace?*

The core of our VR visual novel is not to reintroduce a linear narrative to the player as a reading experience of science fiction. Instead, by adapting and remixing the stories behind "1761" and

"Spore", the ideas of intermateriality must be interrogated between culture, technology, and affection.

"1761" and "Spore" share a world system; the former focuses on the introduction of body modification in the "dungeon" between the protagonists "Seventeen" and "Sixty-One". They collaborate to make skin modifications. Based on multiple discussions with Tang Fei, the script for the VR visual novel game level "Seventeen/Sixty-One" was completed. Under Tang Fei's consent, I published the script on Archive of Our Own (AO3) in English and Chinese.<sup>51</sup>

In the narrative, "Sixty-One" can help "Seventeen" add another layer of "MOD" skin to avoid surveillance outside the dungeon.

*Now, with the help of nano-weavers, a set of default single-layer MOD skin that can wrap the life form of 1.8 meters high and weigh 60 kilograms will be enchanted, almost in 30 minutes in the physical world. "Sixty-One" needs to use "Ci Ying" (Shadow Tattoo) algorithms to generate multi-layered skin. "Seventeen" asks "Sixty-One", You have two choices, leave everything you have and go with me, or ... leave me ...*

When "Seventeen" and "Sixty-One" work together in a studio, they continue skin modification through the spores.

*As soon as the spores fall into the matched skin layers, the dermis is pierced and dyed. Ci Ying is processed and made by nano-weaver. The pattern and structure are random, and even most are flawed and unfinished. They are all determined by the attributes of nano-weavers in the Ci Ying spores.*

Finally, they realise "Ci Ying" is a way to archive the sensitive events and historical records being banned by the government on their body, as "all previous attempts to archive that nightmare spatially have failed."

They argue:

*Any medium in the physical and virtual world that holds gender and memory ... words, recordings, images, sculptures, installations, games, dramas and performances, are monitored, banned and erased.*

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<sup>51</sup> The Dungeon Seventeen/Sixty-one script can be accessed from AO3: <https://archiveofourown.org/works/29351337>.

Although the true meaning of "Ci Ying" is too vague and vanishes too fast, "Seventeen" and "Sixty-One" believe they will not evoke any memories except their own. They want a soft, passive and fluid life together, without history or other life forms. It is the only life they can afford.

The VR visual novel game level "Seventeen/Sixty-One" provides an alternative understanding of body, modification and archive. The player is also encouraged to dissect, penetrate and restructure their narrative and scenario through the experimental reading experience in the VR gamespace.

## Appendix B: Aristo and Jingzhi in Pinkray

Jingzhi and Aristo studied architecture at the AA (Architectural Association School of Architecture), and we became terrific friends and shared common interests in fandoms and games. They are very good at 3D modelling and very interested in my VR game-making and would like to find opportunities to collaborate. As I told them I regard making VR gamespace in the game engine as an extension of my architectural design approach, they were intrigued by the ideas of design approach to connect architectural design and gamespace making. During our conversation on game mods within the architectural profession, they argued:

*From architectural thinking, architectural 3D models to architectural space, with extreme individualism based on our conventional pedagogical system, each project always remains absolutely single and isolated.*

Because of the intense design tasks in the AA, it is quickly archived after the architecture crit and presentation. We must move on to a new project under a new unit with a new agenda. "We might dare to take a risk to crossover different individual architectural projects," as Aristo and Jingzhi reflected, "via game modding and shipping in fandom, the specific two and more spaces could be crossed over and paired as a unique architectural ship."

Most architectural practices are 3D modelling, encompassing special effects, animation, and computer games. Although most architects still regard game engines as a niche field, it can indicate the great potentiality of gaming for architectural visualisation and the importance of contribution from the modding community instead of academic or professional architects (Varney 2007). On the pragmatic views of game engines and architecture, most architectural professionals' thoughts are on static realistic visualisation and the significant value of representation for the clients. Based on modding, Allen Varney (2007) proposes an architectural game mod, possibly imagining an approach of personalisation and customisation. It is also argued that the real architect may need to spread the meme and seriously investigate and reflect on the modding community.

In terms of digital architecture, Chris Totten (2010) questions what the principles from architects can teach on making better video game levels. However, few academic and architectural professionals think of how architectural thinking, projects, or 3D models, as mods, can be imported into the game engines instead to potentially create personalised narratives and queered relationships via crossover and shipping.

Anne Bets (2020) recently explores mods as a storytelling technique. It is crucial for women to put modding within the narrative and context of race, sexuality, and body. The relationship between STEM (science, technology, engineering, and mathematics) and modding must be studied. It draws the same importance of customising game characters as an essential trigger to unique gameplay and highly personalised narrative. It further expresses that modding as a method of creative practice is equal to creating fanfiction. Referring back to the queer game, by viewing it as avant-garde, Bonnie Ruberg (2020) argues that using personal experience to intervene in more significant cultural issues should make the game more plastic and liquid.

On the other hand, as I mentioned in the Chapter on Methodology, the crossover is a crucial method to mediate between modding and shipping. In the VR gamespace of "Pinkray", Aristo, Jingzhi, and I and our fandoms are crossovered. An affect-focus crossover is proposed in the VR gamespace.

Crossover is a ubiquitous and mainstream practice within the ACGN community, which always presents two characters simultaneously from different works and fictional worlds together within one cultural or technological context. It might happen and be intermediated between physical and virtual spaces.

A crossover happens in the game industry when a character from one franchise especially appears from an unrelated game franchise. Some games are mainly designed for crossovers (Blockfort 2018). Although only some academics specifically study the idea of game crossover, Natalia Samutina (2016) investigates crossover writing in fanfiction. She indicates that the crossover genre opens the possibilities of transformative reception in multi-fandom, as these co-created worlds are widespread and emotionally saturated.

Based on the ideas of modding, crossover and shipping learned from game-fandom, we decided to remake Aristo and Jingzhi's architectural projects "Line Shift" and "Parallel Neo Home" in the game level "Pinkray". They can enrich the VR gamespace and crossover Emma's shipping fandom.

This new architectural crossover entangles modding with shipping. Jingzhi argued, "the interstices between the personal indulgence and academic interest could be bridged by architectural crossover." I remixed and reconfigured the original architectural thinking and space between me and my architectural fellows within the VR gamespace. An alternative co-created multi-fandom was introduced.

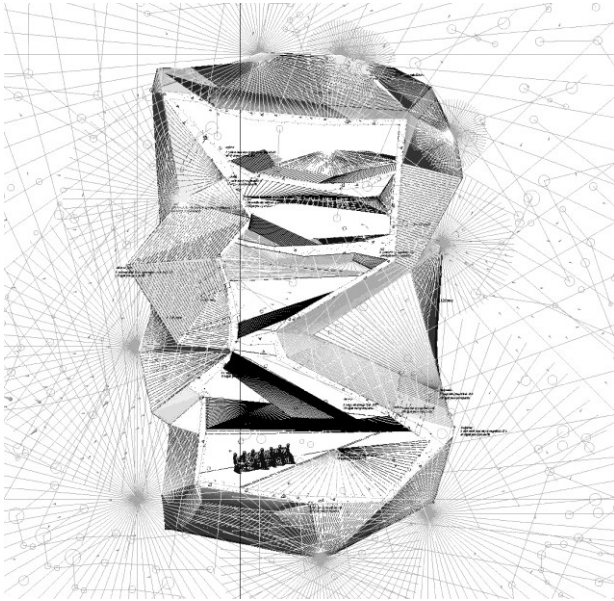


Figure B1. Aristo, Line Shift, architectural drawing, 2017.

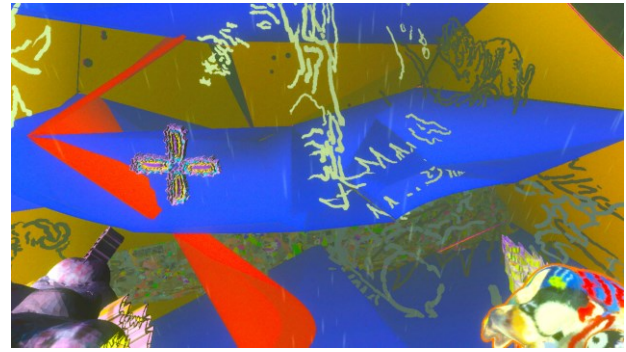


Figure B2. Pinkray, gameplay screenshot, the mod of Line Shift crossed over with VR controllers and 3D drawings in rainfall effect.

Aristo contributed her "Line Shift" project, and Jingzhi shared his "Parallel Neo Home". Heavily affected by their interests in bodies and identities, both projects imagine and fantasise about a possible relationship between the home and body in the near future. In 2017 at the AA, under the architectural brief of navigating alternative spaces and making architectural interventions around the globe (Dillon 2017), Aristo proposed "Line Shift", which is an architectural apparatus that acts as a timepiece and shifts constantly (Figure B1). I helped Aristo to think beyond the conventional architectural languages of floor, stair, wall and ceiling and proposed an architectural body that is constantly shifting. Aristo modelled it in Rhinoceros 3D.<sup>52</sup> During the interview with Aristo, she encouraged me to reuse her 3D model radically and make her project more plastic and liquid. She argued:

*"Line Shift" should be an architectural framework to support multiple transitions and interventions when we mod, crossover, and ship in the VR gamespace (Figure B2). Maybe*

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<sup>52</sup> Rhinoceros is a 3D computer graphics and computer-aided design application software that is heavily used in architectural profession.

*we can make it deliberately "ruins" like in the game engine that keeps the specific modelling process aesthetic from Rhinoceros 3D.*

Aristo continued:

*I will be super happy if "Line Shift" can shift player's understanding of floor, stair, wall and ceiling in the VR gamespace. In the meantime, I believe 'Line Shift' can be an architectural void to specifically facilitate the process of modding, crossover and shipping in the game level "Pinkray".*

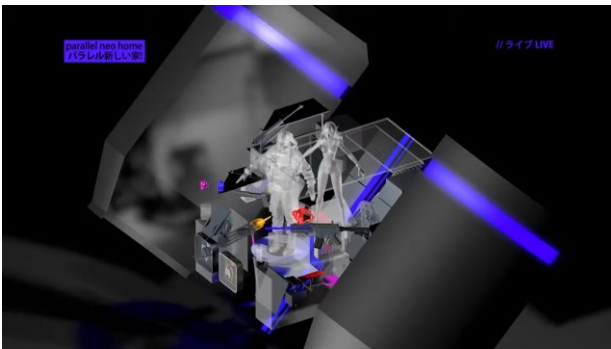


Figure B3. Jingzhi, Parallel Neo Home, screenshot of animation, 2016.



Figure B4. Nakagin Capsule Tower, photograph by Scarlet Green, 2018.

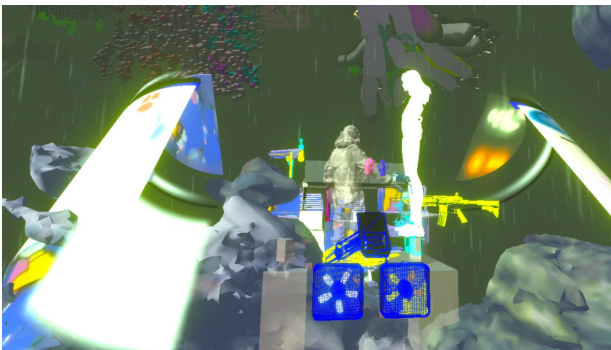


Figure B5. Pinkray, gameplay screenshot, the mod of Parallel Neo Home crossed over with 3D scans and NPCs in rainfall effect.

In 2016, at the AA, Jingzhi was under the architectural brief to respond to the off-grid way of life. The idea of home, family, domain, studio and cosmos needs to be radicalised (Geli 2016). He imagined a physical-virtual hyper capsule (Figure B3) in his domain, derived from the Nakagin Capsule Tower built in 1972 by Japanese architect Kisho Kurokawa (Figure B4). I helped him develop the hyper capsule for his architectural presentation and made an animation. It was designed as a PlayStation 4 gameplay trailer with background music from the multiplayer first-person shooter game "Overwatch".<sup>53</sup> It was the first time in the AA, conceptually and audio-visually, that we took the gaming community seriously into architectural design. Jingzhi indicated;

*"Parallel Neo Home" is supposed to be crossed over between virtual and physical spaces. It is an architectural mod of the essential idea of home. Specifically, in the VR gamespace of "Pinkray", I think we can push the players to rethink an affective neo-home crossed over with multiple fandom communities (Figure B5).*

He added:

*By wearing and experiencing the VR devices, players can easily form their personalised narrative and stories. I think it can augment the affect crossover as we proposed and rarely discussed in-depth in conventional architectural practice.*

In conclusion, through the ethnographic materials from Aristo and Jingzhi, the architectural projects "Line Shift" and "Parallel Neo Home" are introduced to interrogate and support my architectural design approach. In the VR gamespace of "Pinkray", Aristo and Jingzhi's architectural thinking reaffirms the VR as a technological element to augment the affection in modding, crossover, and shipping. Players can create their personalised narratives and stories in the VR gamespace in multi-fandom cosmotechnics.

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<sup>53</sup> The animation of Parallel Neo Home can be watched via YouTube: <https://youtu.be/L6NivbKGTCQ>.



## Appendix C: CheeseTalk: Luo Ji/Shi Qiang in Pinkray

After incorporating digital ethnographies from Emma's shipping and Aristo and Jingzhi's architectural crossover in the VR gamespace "Pinkray", I was invited by my supervisor Helen Pritchard at Goldsmiths to do a workshop for her Computational Arts-based Research and Theory course. Many students played "Pinkray" in the VR game "HyperBody" during the workshop at Goldsmiths' VR Lab. A young Chinese girl named CheeseTalk<sup>54</sup> approached me after the workshop. She is an MFA Computational Arts student at Goldsmiths and was very interested in my research on shipping within the context of ACGN and fandom. She is a very talented artist and makes fanart of Shi Qiang/Luo Ji ship in the Chinese fandom of "The Three-Body Problem", a famous science fiction novel by the Chinese writer Liu Cixin. I am also a fan of Chinese science fiction, and after a series of casual talks with CheeseTalk, we became friends. She was happy to be interviewed about her fanart and pleased to contribute her ship as an NPC in the VR gamespace "Pinkray".

In this section, the fanart of Shi Qiang/Luo Ji by CheeseTalk is examined under the highly masculine fandom of "The Three-Body Problem". From the context of a socialist cultural and technological system with Chinese characteristics, it shows how CheeseTalk's practices with queer tuning further compensate and shift gender identity in the fandom and make it more fluid and emotionally saturated. Moreover, I will clarify how the NPCs of Shi Qiang/Luo Ji created in the VR gamespace can inform the notions of flatgame and queer tuning.

### 1 The Three-Body Problem

Liu Cixin's "Remembrance of Earth's Past" trilogy includes three volumes: "The Three-Body Problem", "The Dark Forest", and "Death's End". Chinese fans refer to the work as "Three-Body" (Liu and Liu 2014). In the "Three-Body" narrative, Luo Ji is the protagonist of "The Dark Forest", a doctor of sociology and astronomy and a professor at Tsinghua University, Beijing. He often used his position to pick up female students and just had a one-night stand. He made fraudulent

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<sup>54</sup> CheeseTalk's fanworks can be accessed via: <https://darkfromage.lofter.com/> and <https://twitter.com/blackcheese97>.

academic papers. As one of the "Wallfacers",<sup>55</sup> Shi Qiang saved his life multiple times from assassinations by the rival group "Earth-Trisolaris Organization".<sup>56</sup>



Figure C1. The Three-Body Problem staged show, Luo Ji (left) and Shi Qiang (right), 2018. Tencent Video.

Shi Qiang is the "Wallfacer Head of Security" responsible for Luo Ji's safety, a stereotypical policeman in the Chinese socialist system. He is tall and heavily built. Although usually careless with vulgar manners, in him, the tiger sniffing the rose. He was highly responsible for the people around him and even said he wanted to protect Luo Ji for life. He seemed to have the highest emotional intelligence in the story.

In "The Dark Forest", he saves Luo Ji's life six times a day and even fears that Luo Ji is alone. He found his ideal wife, Zhuang Yan, a graduate of the Central Academy of Fine Arts in Beijing. Shi Qiang had accompanied Luo Ji through hundreds of years, witnessing his growth from a libertine to a principled Wallfacer (Figure C1).

Before coming to Goldsmiths, CheeseTalk herself graduated from the Academy of Arts and Design, Tsinghua University in Beijing. She joked that she and Luo Ji are both "alumni" of

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<sup>55</sup> In Three-Body, because Sophons, a fictional elementary particle that conveys information, can't read minds, the UN appoints people to be Wallfacers that are keepers of plans known to only themselves. They are granted almost unlimited, unquestioned access to the resources of the UN.

<sup>56</sup> In Three-Body, the Earth-Trisolaris Organisation (ETO) is a human organisation dedicated to helping the Trisolarians invade Earth and destroy human civilization.

Tsinghua University. She had a very personal and delicate way of analysing the character of Luo Ji under the Chinese higher education system, both in real life and in a fictional world. She claimed that Tsinghua University is a highly masculine society with advanced technological achievement, and she felt pretty isolated when studying at the Academy of Arts and Design.

In "The Dark Forest", Luo Ji's wife, Zhuang Yan, studied traditional Chinese painting at the Central Academy of Fine Arts, Beijing, a highly political academy in real life. When Luo Ji asked her, "Where is your favourite place to go?" Zhuang Yan said, "The Louvre Museum." From the specific character and background design of Luo Ji and Zhuang Yan in "Three-Body", a highly masculine context of socialism with Chinese characteristics is indicated. CheeseTalk argued:

*Liu Cixin's hard science and novel technological vision probably lack of parallel understanding of female characters and corresponded artistic backgrounds. Although Zhuang Yan is Luo Ji's wife, she is often regarded as a walk-on role for the whole narrative. Gradually, I become much more indulged in the potential relationship between Luo Ji and Shi Qiang.*

Compared to the male-male Pinkray/Katto ship Emma studied, the ship of Luo Ji/Shi Qiang is situated in a rather plain and ordinary context. CheeseTalk argued:

*Interestingly, instead of being an exceptional beauty and talent, Luo Ji is libertine and non-ambitious. Shi Qiang is a stereotypical Chinese police, big and tall, careless with vulgar manners. I think this ship can be very idiosyncratic as fanart.*

## **2 Luo Ji/Shi Qiang Fanart**

To get involved in the straight and masculine cultural context of the "Three-Body" fandom, CheeseTalk used her sensibilities and personal, educational experiences in Beijing to make the fanart of the Chinese male-male shipping Luo Ji/Shi Qiang. Her drawings of Luo Ji/Shi Qiang create alternate universes, including common family dinner themes following the "Three-Body" narrative setting, special events shifting the storyline, and slightly homoerotic scenes.



Figure C2. CheeseTalk, Chinese New Year, Three-Body Alternate Universe, from left to right: Wallfacer Bill Hines, Zhuang Yan, Luo Ji, Shi Qiang, Luo Ji's daughter, Shi Qiang's grandson, and Shi Xiaoming, 2019.

For example, Figure C2 depicts an alternative scene celebrating Chinese New Year at New Life Village #5<sup>57</sup> in the Crisis Era. It contains seven characters, from left to right, "Wallfacer" Bill Hines, an English neuroscientist, who is taking photographs and wants to send them to Ben Jonathan,<sup>58</sup> Zhuang Yan, Luo Ji, Shi Qiang, Luo Ji's daughter, Shi Qiang's grandson and Shi Qiang's son, Shi Xiaoming. Shi Xiaoming's wife cooks in the kitchen, so she is not in the scene.

This fanart by CheeseTalk sets up a broad and seemingly conventional context following the "Three-Body" storyline. This affectionate and soft imagination results in many comments. The fans said, "If only it were true," and "I really want to cry."

CheeseTalk's Alternate Universe was created parallel to the "Three-Body" narrative and then expanded to various new and intimate scenarios with her own cultural situatedness. For instance, Luo Ji and Shi Qiang converse at night, lying on the couch and sleeping in bed. The genres and atmospheres were comfortably shifted from various ordinary scenes to slightly homoerotic moments (from Figures C3 to C10). For the "Three-Body" fandom, CheeseTalk's works on Luo Ji/Shi Qiang ship have created a new reality, a queered and fluid "Three-Body" world full of love. I refer to the queer tuning I proposed in the Chapter on Creating VR Gamespace. Luo Ji and Shi Qiang's relationship based on Alternate Universe does not resist the masculine cultural and political environment in the "Three-Body" fandom. Instead, tuning male-male affections expands source settings and generates new cultural, technological and affective turns via multiple intimate scenarios. Luo Ji and Shi Qiang's queer relationship tunes the socialist cultural and technological

<sup>57</sup> In Three-Body, New Life Village #5 is a small residential community surrounded by a sand-break of trees in one oasis and Luo Ji lives in it.

<sup>58</sup> In Three-Body, Ben Jonathan is the Fleet Joint Conference special commissioner.

system with Chinese characteristics. Within CheeseTalk's Alternate Universes, the drawings entangle ordinary and extraordinary moments closely fitted into the "Three-Body" source setting that passively softens and obscures the masculinity between culture and technology under the Chinese socialist system.



Figure C3. CheeseTalk, Conversation at night, Three-Body Alternate Universe, Luo Ji (left) and Shi Qiang (right), 2018.



Figure C4. CheeseTalk, Around the corner of the Wallfacer Commendation Conference, Three-Body Alternate Universe, Luo Ji (right) and Shi Qiang (left), 2018.



Figure C5. CheeseTalk, The "bromance" under the socialist cultural and technological system with Chinese characteristics, Three-Body Alternate Universe, Luo Ji (right) and Shi Qiang (left), 2018.



Figure C6. CheeseTalk, The "bromance" under the socialist cultural and technological system with Chinese characteristics, Three-Body Alternate Universe, Luo Ji (left) and Shi Qiang (right), 2018.



Figure C7. CheeseTalk, Hug after hibernation, Three-Body Alternate Universe, Luo Ji and Shi Qiang, 2018.



Figure C8. CheeseTalk, Explaining Dark Forest theory in the deep night, Three-Body Alternate Universe, Luo Ji (left) and Shi Qiang (right), 2018.

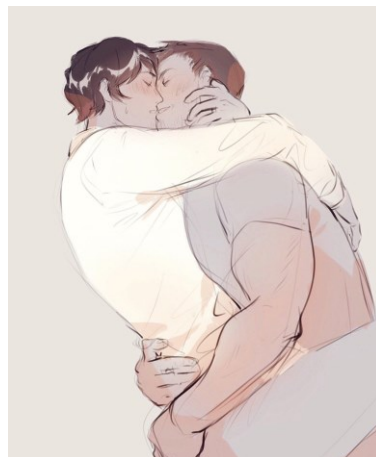


Figure C9. CheeseTalk, After the dinner, Three-Body Alternate Universe, Luo Ji and Shi Qiang, 2018.

Figure C10. CheeseTalk, Go to bed, Three-Body Alternate Universe, Luo Ji (left) and Shi Qiang (right), 2018.

### 3 Mine Three-Body and Luo Ji/Shi Qiang





Figure C11. Mine Three-Body 2: Luo Ji, Luo Ji (right) and Shi Qiang (left), 2014. The Three-Body Universe.

As CheeseTalk's Luo Ji/Shi Qiang fanworks slowly attracted more fans, she timidly told me she met her boyfriend in the "Three-Body" fandom. Her boyfriend, Shen You Ba Fang, is a student at the University of Pau and Pays de l'Adour, France. As the director, he made the Minecraft<sup>59</sup> animation series "Mine Three-Body" (Figure C11). The first season from 2014 was regarded as fan-made. When it became famous and more fans with expertise joined, they had more investment and got the adaptation right. After the broadcasts of season 2 in 2018, especially season 3 in 2020, it was watched by more than a million users on Bilibili. It was even claimed to be the first fan-made Chinese animation series.

During the process of making, CheeseTalk said:

*My drawings of Luo Ji/Shi Qiang heavily influenced my boyfriend, Shen You Ba Fang. He tries to edit the original dialogues between Luo Ji and Shi Qiang in the animation and tends to be queer tuning. Although 'Mine Three-Body' has already become a mainstream original Chinese animation series with very high accuracy to the source set, I am pleased that a softer, fluid, and passive approach can be slowly fused into the animation. It is already beyond the fandom and spread to various cross-national and cross-cultural online communities.*

In discussing the queer tuning within CheeseTalk's works, she acknowledged:

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<sup>59</sup> Minecraft is a sandbox video game developed by Mojang with a blocky, procedurally generated 3D world.

*Luo Ji/Shi Qiang ship is a tiny branch in a huge masculine 'Three-Body' fandom. I need to retain the softness, passiveness and inclusiveness in my drawings. By gradually setting up personal narrative and context in parallel to the source set, they expand to the Chinese New Year Celebration, "Wallfacer" meeting, after hibernation, explaining Dark Forest theory in the deep night, lying on the couch and bed, wearing a police uniform, wearing a suit, and being drunk.*

CheeseTalk specifically elaborated on passiveness:

*I have built a soft feminine world of Luo Ji/Shi Qiang. I made great efforts to work on the concept of shipping rather than for the sake of same-sex romance. Suppose Luo Ji/Shi Qiang as a ship can not be fully accepted. In that case, I still believe my drawings of Alternate Universe can subtly communicate with, balance, and queer tune the existing "Three-Body" fandom currently lacking affection, sentimentality, and femininity.*

"How much I wish I were a star; you would be the moon, and you and I shine brightly with each other every night." At the end of our interactive interviews, CheeseTalk explained:

*I once shared this classic Chinese poem with my fandom friend who was writing Luo Ji/Shi Qiang fanfiction. We encourage each other to keep the soft and passive queer tuning within our works. Now, I also want to share it with you.*

#### **4 Flatness of Luo Ji/Shi Qiang in HyperBody: Pinkray**

In order to recreate Luo Ji/Shi Qiang as NPCs in the VR gamespace of "Pinkray", CheeseTalk said:

*Luo Ji/Shi Qiang NPCs in the VR gamespace can be an extension of my drawings and "Mine Three-Body" animations. Please help me further queer the original Luo Ji and Shi Qiang Minecraft 3D models from "Mine Three-Body", directed by my boyfriend. I hope the queer tuning of this ship can be continued, especially in a gamespace!*





Figure C12. Mine Three-Body 2: Luo Ji, Luo Ji (right) and Shi Qiang (left), Minecraft 3D models, 2014. The Three-Body Universe.

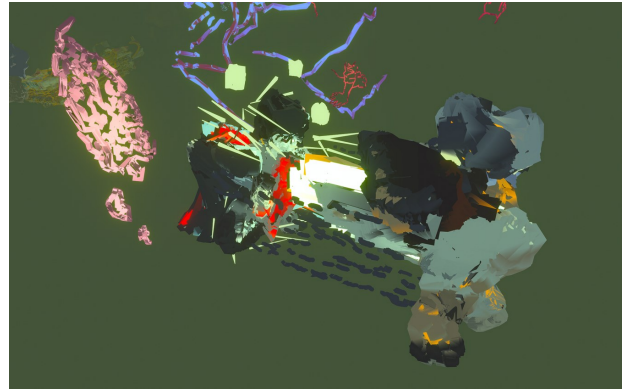


Figure C13. Pinkray, VR game screenshot, NPCs Luo Ji (left) and Shi Qiang (right).

Based on the Luo Ji/Shi Qiang Minecraft 3D models (Figure C12), I trace and redraw the 3D model by using Oculus Quill, reconfiguring the flatness of Minecraft 3D model textures. I also repaint and animate Luo Ji/Shi Qiang NPCs in the VR gamespace without collisions, surrounded by Luo Ji/Shi Qiang portraits and body fragments I traced from CheeseTalk's original drawings (Figure C13). The animations are achieved frame by frame using the same technique as the animated 3D text object.



Figure C14. Pinkray, gameplay screenshot, the process of queer tuning Luo Ji/Shi Qiang NPCs in rainfall effect.



Figure C15. Pinkray, gameplay screenshot, the process of queer tuning Shi Qiang NPCs in rainfall effect.



Figure C16. Pinkray, gameplay screenshot, the process of queer tuning Luo Ji NPC in rainfall effect.

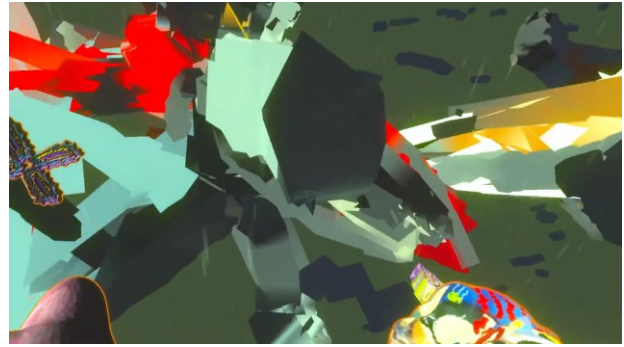


Figure C17. Pinkray, gameplay screenshot, the process of queer tuning Luo Ji/Shi Qiang NPCs in rainfall effect.

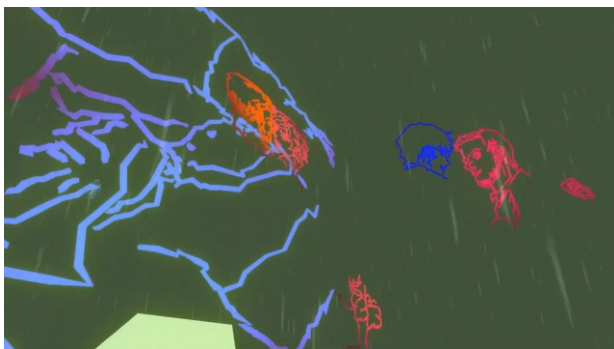


Figure C18. Pinkray, gameplay screenshot, the process of queer tuning Luo Ji/Shi Qiang NPCs in rainfall effect.



Figure C19. Pinkray, gameplay screenshot, the process of queer tuning Luo Ji/Shi Qiang NPCs in rainfall effect.

Conceptually, I imagine a new assassination attempt on Luo Ji from the rival group Earth-Trisolaris Organisation. Referring to CheeseTalk's drawing (Figure C7), Luo Ji and Shi Qiang are trying to hug each other to avoid unknown attacks. Their bodies' flat texture and blockiness are queer-tuned, softened, and nearly fused.<sup>60</sup> CheeseTalk was pleased to see a different flatness and queer tuning of Luo Ji/Shi Qiang. She commented:

*With these Luo Ji/Shi Qiang NPCs in the VR gamespace, I hope more foreign fans of "Three-Body" can accept and appreciate my Alternate Universe of softness and passiveness, saturated with affections and sensitivities specifically based on the socialist cultural*

<sup>60</sup> The animation effects of softened and fused Luo Ji/Shi Qiang NPCs can be seen from Qiang-001 - Pinkray Game Level - Walkthrough.mp4 available on the storage media, from 8:39.

*background with Chinese characteristics. By further addressing the flatness of "Mine Three-Body" 3D model texture, with the support from my boyfriend, we can develop more feminine, fluid, and transformative works within and beyond "Three-Body" fandom.*

On the other hand, reflecting on my introduction of flatgame in the previous section, I specifically create Luo Ji/Shi Qiang NPCs in the VR gamespace to interrogate the raw combination of movement, art and sound, which the affections are highlighted through the assassination narrative. Based on the flatness of the original Minecraft 3D model textures (Figure C12), Luo Ji/Shi Qiang NPCs in the VR gameplay simply feature movement and animation, with no other interactions, especially no collisions. From Figures C14 to C19, The exact and rigid human figures are distorted through the concept of queer tuning and hugging, and the 3D and 2D body fragments inform the notions of architectural "ruins". I argue that the flatness and fusing of Luo Ji/Shi Qiang NPCs can provoke a nonhuman-centred ship scattering across the VR gamespace. Luo Ji/Shi Qiang is always becoming or being players, personas, characters, technologies, and things.

## **5 Conclusion**

Based on the digital ethnographic materials from CheeseTalk, I introduce the male-male Luo Ji/Shi Qiang ship in the "Three-Body" fandom. Under the highly masculine "Three-Body" fandom, CheeseTalk's Luo Ji/Shi Qiang fanart continues developing queer tuning and passively softening and obscuring masculinity between culture and technology under the Chinese socialist system. Moreover, based on Luo Ji/Shi Qiang Minecraft 3D models, I specifically recreate Luo Ji/Shi Qiang NPCs in the VR gamespace "Pinkray" to interrogate the notions of queer tuning and flatgame. I argue that the flatness and fusing of Luo Ji/Shi Qiang NPCs not only provoke a nonhuman-centred ship scattering across the VR gamespace but are always becoming or being players, personas, characters, technologies, and things.

Non-collision Luo Ji/Shi Qiang NPCs inform the notions of incomplete, imperfect, and picturesque that connect my architectural design and flatgame design approaches. From a broader perspective, a non-collision VR gamespace is critical to analysing the reconfigurations between text, drawing, body, architecture, 3D scan, and player, which a cosmotechnic emerges beyond fan studies and game studies.

## Appendix D: Linn and Tianqi: Chinese BL Novel and Voice Acting in Pinkray

After my interview and collaboration with my architectural fellows Jingzhi and Aristo, I approached Linn, another architectural fellow who studied in the AA. She was delighted that my research was related to male-male shipping, as she is a devoted fan of Chinese boys' love (BL) novels. Linn agreed to be interviewed at her flat, which triggered our first discussion regarding her interest, indulgence, and reading experience of the Chinese BL novel.

In this section, following the interview with Linn, the context of Chinese BL is analysed through a recent BL novel, "C Language Cultivation," to clarify the idea of queer tuning further. With support from the idea of cosmotechnics, the Chinese BL novel as an alternative practice can entangle culture, technology, and affection with a "vulnerable and passive" approach.

During our interview, Linn highly recommended "C Language Cultivation" to me, a new original<sup>61</sup> BL novel by Yi Shi Si Zhou, published online in 2019 at Jinjiang Literature City. It explicitly uses a remixed fictional framework of programming and algorithm with the traditional Chinese fantasy setup of cultivation and cosmology. The male-male shipping story is intersected with a distinctive physical-virtual world. Programming as a western technological term combines cultivation, a traditional Chinese Daoist practice and ontology that enhances the body to become immortal. "C Language Cultivation" is argued to express the idea of cosmotechnics under the online cultural context of BL fandom.

Furthermore, Tianqi, a female friend of mine at the China Academy of Art (CAA), was also interviewed by me. We have known each other since our first collaboration on "HyperBody" at CAA's 2019 First Zhijiang Youth Art Festival in Hangzhou, Zhejiang province, China. She is also a PhD candidate in Chinese fandom study at CAA. We regularly exchange and communicate on the research and practice of Chinese fandom. As a big fan of Chinese BL novels since junior high school, she was thrilled to be interviewed via WeChat.<sup>62</sup> During our conversation on "C Language Cultivation" and cosmotechnics, she referred to Zhang Ni's research on the literary genre of Chinese immortality cultivation fantasy. Further, she proposed a concept of "floating modified bodies". It also helps to bridge queer tuning and cosmotechnics in the Chinese BL novel context.

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<sup>61</sup> Original here means the original productions as opposed to derivative fan productions, such as Emma's Pinkray/Katto fanvids.

<sup>62</sup> WeChat is a Chinese multi-purpose messaging, social media and mobile payment app developed by Tencent.

In this section, with Linn and Tianqi, BL narratives create and transform the cosmotechnics of programming and cultivation. The queer tuning I proposed in Chapter 4, *Creating VR Gamespace*, will be further clarified between culture, technology, and affection. In the "Pinkray" VR gamespace, Linn and Tianqi, as voice actors, contributed a series of dialogue sounds based on their favourite BL novels and assigned them as character voices to multiple NPCs. The multi-fandoms in the VR gamespace reconfigure gender, identity, technology, fantasy, and cultivation in cosmotechnics.

## **1 Chinese Boys' Love (BL) Novel**

I have clarified Chinese BL fandom and its relationships to cosmotechnics in the Literature Review chapter. BL novel is also called Danmei in Chinese, translated initially from *tanbi* in Japanese aesthetic literature, portraying male-male romance. It has evolved, remixed and recontextualised as a Chinese fiction genre, forming a cult within online communities. Chinese BL tangles with original male-male tradition, feminist and LGBT perceptions, converging Japanese ACGN culture, K-pop, western slash, and global sports culture. It is stated that BL, more than just romance, is considered an alternative practice opposing Chinese mainstream online literature. It is a comprehensive mental tool to think beyond sexuality and gender conventions in contemporary Chinese youth culture (Xu and Yang 2013). It disrupts the traditional cultural conflicts and restrictions between the sexual and the nonsexual, private and public, online space and offline media, and fantasy and reality (Zhou 2017, 106). An entanglement of multi-fandom transformative space needs to be created. Chinese BL is a sea that receives all rivers. Via specific fandom practices and digital prosumptions, fan scholars can explore further the cosmotechnics of BL fandoms that express and remix affective world systems with various ontologies, technics, and technologies.

On organisational divergence and cultural convergence of Chinese BL fandom, Yang Ling and Xu Yanrui (2017) argue that it consists of three significant circles: original BL communities, Japanese communities, and the Euro-American communities. Original BL communities, such as "C Language Cultivation", focus on producing, consuming, and adapting original Chinese-language BL works rather than derivative fanworks. The Japanese communities are dedicated to translating and recreating Japanese ACGN works. Euro-American communities work on Euro-American slash fanfiction. Chinese BL fandom, rather than an appropriation and modification of Japanese cultural influence, has mutated into a multi-layered gigantic cultural sponge. During a broader research of Chinese networked fan communities, Yang Ling (2017) also indicates the heterogeneity and

heterodoxy of Chinese fandoms; it is a new peer-to-peer world allowing multiple and discursive discussions and fan objects.

I had various sessions of interactive interviews with Linn ranging from indigenous male-male tradition, feminist, and queer spectrum, Japanese ACGN culture, and the notion of cosmotechnics. She said:

*The transformability and fluidity features can manifest from original BL works that retain fantasy frameworks. These original BL novels in mainland China appropriate, adapt and evolve between multiple cosmotechnics. Original BL works indicate soft renegotiations of virtual and physical boundaries fulfilled with different cultural and moral values. By adding the concepts of technics and technologies, I believe this performative, passive and fictional framework will challenge and break the rigid walls between fandom members of LGBTQ and others.*

The original Chinese BL novel has not been taken seriously in fandom studies. Through the interviews with Linn and Tianqi, I will further analyse the BL novel "C Language Cultivation" in terms of cosmotechnics, queer tuning, and "floating modified bodies" in an epistemological framework of culture, technology, and affection.

## **2 Cosmotechnics in BL Novel**

Although cosmotechnics are always articulated into new media forms, little or no academic engagements between cosmotechnics and fandom analysis are made. Hui's cosmotechnics can be applied to investigate specific BL novels to create a global epistemological project. The cosmotechnics of BL fandoms resist a conventional time-axis of cultures, technologies and affections to generate new practices and knowledge. Various Chinese "relatively vulnerable" indigenous ontologies can be rediscovered and reinvented.

In reconsidering locality and specificity in the cosmotechnics of China, Hui reinvents Qi-Dao as an episteme. When Chinese BL novel is involved in the genres of martial heroes (wuxia), immortal heroes (xianxia) and fantasy (xuanhuan) novels, Qi and Dao are constantly referred to and entangled with the ideas of romance, affection and cultivation. Dao has to exist in the world's most superior forms or objects and instantaneously position in the poorest and undesirable spaces. Dao is supposed to transcend the limitations of technical objects. Qi might be simply defined as a tool but particularly indicates a virtual spatial form (Hui 2016). In Chinese fandom, Dao can be viewed



as formless or above form, and Qi can be viewed as form or below form. According to Hui, reuniting Dao and Qi will trigger genuine communication between cosmotechnics in China and the West.

Linn suggested:

*It is very important to develop this dialogue with the notion of cosmotechnics through BL novels. I think it will contribute to an alternative understanding of gender, sexuality, and queerness within a multi-layered cosmos of culture, technology, and mostly, affection.*

In the context of cosmotechnics, Linn gave specific examples:

*The ship in original BL novels entangles with Chinese modernity of urban life, the tradition of fantasy, martial heroes, immortal heroes, science fiction, and Chinese ghost and thriller. The most intriguing thing for me is, these remixed and re-appropriated narratives do not simply create a new world system of practice and knowledge, it retains a nuanced relationship to emerging cultural and technological reality.*

She continued:

*As I have read too many BL novels in various fandoms, I would argue BL novels closely connect to the real-life experiences and scenarios in senior high school, office, government body, urban life, and community life via different understandings of myth, ritual, and technology. The fandom members have been excited to read and fantasise about stories of various BL ships. This new practice and knowledge within these ordinary spaces also inspire the overlapped fantasy and immortality.*

BL fandom members are tangled with alternative parallel worlds, possibly depicting a Chinese near-future with various sexual, cultural, moral, and technological imaginations.

As a very experienced reader and BL fandom member, Linn observed that the queer culture embodied in BL novels in mainland China had been fluidly developed and mutated into multiple online communities and platforms. Although constantly banned and deleted, most queer-tuning BL novels are still available on some mainstream online sharing platforms like Weibo, QQ, Bilibili and Lofter.

*Erotic and fetishised works tend to spread by using cloud storage services such as Baidu Wangpan, a cloud storage service under Baidu, often shared within exclusive communities with a password.*

### 3 C Language Cultivation (C Yuyan Xiuxian)

A recently online published BL novel called "C Language Cultivation" (C Yuyan Xiuxian) by Yi Shi Si Zhou, featuring fantasy and science fiction, was highly recommended by Linn. The cultivation in Chinese martial heroes (wuxia), immortal heroes (xianxia) and fantasy (xuanhuan) novels referring to a specific but "relatively vulnerable" technology and ontology within Daoism means the process of improving the body to ultimately become an immortal or attain godhood (RWX 2020). Within "C Language Cultivation", cultivation is an essential conceptual framework counterpart to the standard ideas of programming and algorithms in computing.

Cultivation can be initially explained as "levelling-up" rooted in Daoism and Buddhism. The characters or character pairs (ships) as cultivators try to "evolve" their souls into higher and purer forms. Cultivation includes seven stages: Qi condensation, foundation establishment, core formation, nascent soul, spirit transformation, spirit differentiation and reintegration with the Dao (Ni 2020). Mostly, combating with other cultivators can form basic storylines. The cultivation can be analogous to playing "World of Warcraft", levelling up by fighting, finding magic items, completing tasks, and making friends and allies (Paterson 2020). These seemingly dull stories always overlap with adventure, romance, humour, and mainly BL.

China's online literature platforms aim to expand the global market, and cultivation-related novels have become very popular and enchanting to readers worldwide (Yin 2019), including the subgenre of BL. "The Untamed" is the most prominent and controversial Chinese BL drama featuring immortality cultivation and has already aired on Netflix for global viewers outside mainland China (Lusky 2019). Cultivation as a technological and epistemological framework should be critically examined as a counterpart to programming and algorithms in the new BL novel "C Language Cultivation". It echoes Hui's proposed Chinese cosmotechnics episteme via Dao-Qi.



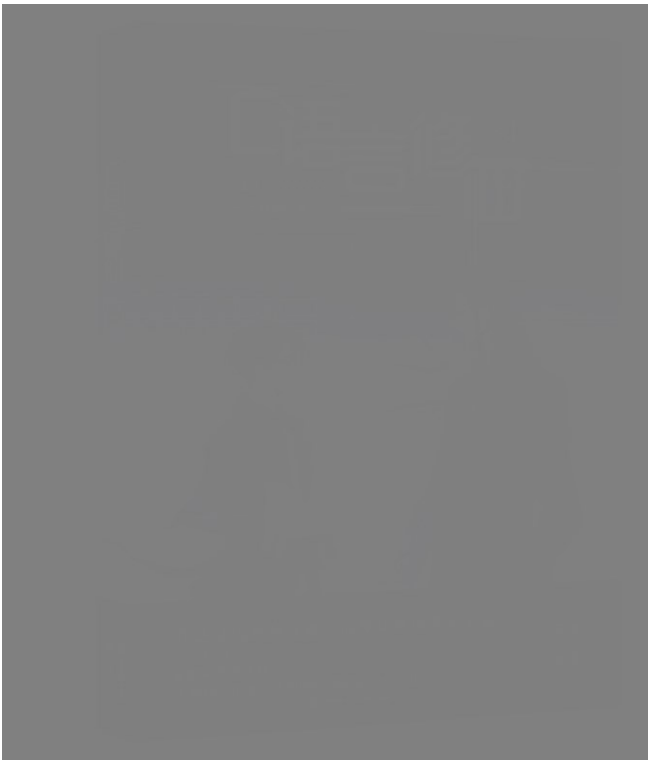


Figure D1. Yi Shi Si Zhou, C Language Cultivation, book cover with Lin Xun (left) and Dong Jun (right), 2019.

Within its story, different from stereotypical BL novels of abuse, sweet or realistic narrative style, the ship Lin Xun/Dong Jun is correspondingly specialised in algorithm and programming. The romance between these two super cute and talented young boys is in a mixed timeline of cultivation fantasy and science fiction (Figure D1). They are intertwined in whimsical virtual and chaotic physical spaces, while the two boys deeply love each other regardless of dangerous circumstances.

Lin Xun, the Uke,<sup>63</sup> is a talented algorithm engineer creating his "Goddess of the Luo" project, accidentally entering a virtual world of cultivation through programming technics. After he entered the system, he was considered an exceptional talent by a master who took him to be his apprentice and led him into the world of cultivation. Also, Lin Xun knew many other hidden cultivators around him via the mater's connections in the real world of metropolitan areas. Through a holographic mixed-reality layer, he used his programming knowledge to complete various cultivation tasks, unlocking various skills, such as Qi condensation and foundation establishment, and went to higher stages.

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<sup>63</sup> Uke is the one on the bottom, referring to the position of sex had in a Japanese male-on-male manga, or anime.

Dong Jun, the Seme,<sup>64</sup> a young, talented man regarded as a genius in the coding world, started from scratch and established his business empire "Galaxy". He created an autonomous driving system and launched a holographic cabin. Dong Jun was very interested in Lin Xun's alternative algorithm in the "Goddess of the Luo", from which their relationship and romance started. During the love between the two programmers, they found that the "cracks" in this world were getting more significant. They needed to prevent the devil cultivation from overlapping the orthodox cultivation. It turned out in the end that the world of immortality cultivation in programming was virtual and built for Lin Xun in Dong Jun's holographic cabin after he fell into a vegetative state due to a car accident. While Lin Xun's consciousness entered the virtual world for more than 30 days, there was a big business fight in the real world. The rival of "Galaxy" took the opportunity to enter Lin Xun's virtual world system under disguise, intending to steal his creative ideas for the algorithm. Meanwhile, after realising something had gone wrong, Dong Jun, a stranger to Lin Xun, entered a virtual world of cultivation and fell in love with Lin Xun again. They collaborated and set up a trap by gradually using cultivation and programming methods to make the rival reveal himself. Ultimately, the ship returned to the real world, and Lin Xun was recovered in Dong Jun's holographic cabin. They deeply love each other in the real world and developed an alternative AI system based on the "Goddess of the Luo" in "Galaxy".

The narrative of confusion, misunderstanding, communication, and collaboration between the ship is situated within a multi-cultural cosmotechnic context. It connects fantasy, immortality cultivation, real Chinese metropolitan life, and science fiction within a multi-layered physical-virtual space. The author, Yi Shi Si Zhou, was highly recommended by various BL readers, either with or without programming knowledge. Yi Shi Si Zhou critically reflects on the current artificial neural network based on in-depth dialogues between the ship. Lin Xun argued:

*In the case of Chinese society discriminating against women and queer group, the data it generates will also tend to this point and this AI decision based on the data may also discriminate against them. The essence of AI is probably not intelligence but still statistics.*

Dong Jun indicated, "The most important part is to explore and investigate an alternative mathematical chaos and evolutionary algorithmic theory, rather than concentrating on just programming."

During the cultivation process, Lin Xun used his mechanical keyboard as a major weapon, or Qi (tool), against a sword from the conventional cultivator. He copied and reused various programs

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<sup>64</sup> Seme is the one on the top, referring to the position of sex had in a Japanese male-on-male manga, or anime.

inside and outside his body via a holographic mixed-reality layer. They act as talismans (equal to bugs and viruses) within the cultivation process to combat enemies as programs and complete tasks. He formed his own cultivation method, the Dao, by employing multiple programming and algorithm technics. According to various BL readers' comments, "C Language Cultivation" is genuinely innovative and has created a contemporary world-making of cultivation in BL fandom. However, some hard BL fans dedicated to fantasy and cultivation were not fully satisfied because of the lack of a detailed description of Dao's cultivation process between the ship. They argued it is probably a more love, puzzle, and science fiction type. Nevertheless, "C Language Cultivation" has established an initial framework for analysing cosmotechnics among cultivation, technology, myth, and affection.

#### **4 Cosmotechnics and Queer Tuning**

Referring to the queer tuning I proposed in the Chapter on Creating VR Gamespace shipping practice, Lin Xun and Dong Jun's relationship based on programming and cultivation is not resisting the external cultural and political environment; instead, the tuning of BL affections expect new cultural, technological and affective turns via programming (Qi) and cultivation (Dao). Internally, Lin Xun and Dong Jun's queer relationship tunes the real and virtual world. Lin Xun/Dong Jun narratives entangle ordinary dialogues, collaborations, and combats that passively obscure the gap between programming and immortality cultivation within the multi-layer space. Involved with devils from cultivation, the relationship between Qi and Dao is established in a more than human-centred cultural-technological context. In contrast, by establishing cosmotechnics, Hui (2017) develops a method from interiority and exteriority. The epistemology of various applications from the interior should be explored to develop alternatives. A cosmos should be comprehended from the exterior instead of an anthropocentric view of human activities. Relatively vulnerable and indigenous cosmos should be investigated and connected.

Linn told me:

*Plenty of BL novels intersected with fantasy, science fiction, and immortality cultivation. I like the idea of queer tuning you proposed because BL's novel is about a sea that receives all rivers. I believe gender is not really important. The more important part is how to passively blur and remix vulnerable cultures, technologies, and affections. A world-making of Chinese BL cosmotechnics can be suggested.*

From "C Language Cultivation" to other emerging BL novels in mainland China, multiple fluids and unstable physical-virtual cultural-technological cosmos have already been developed based on different passive and vulnerable onto-epistemologies. Chinese BL novels indicate an alternative cosmotechnics of affection and love that entangle culture, morality, gender, and technology. Like the objective of immortality cultivation to "evolve" their souls into higher and purer forms, Chinese BL cosmotechnics is beyond normalised anthropocentric, "hard and straightforward" view of gender, sexuality, and queer. Specifically, the fictional characters and devils are intra-acted of nonhuman-centred bodies, technical forms (Qi), and cultivated souls (Dao) in culture, technology, and affection. By overcoming the linear and dualist modernity, the cosmotechnics of Chinese BL novels re-appropriate and enable "vulnerable and passive" cultures and technologies with love.

Linn argued:

*Under the current Chinese BL novel communities, fans have already formed an alternative epistemology to understand the composite of gender, history, technology, fantasy, and love. A fluidity of sexuality, culture and technology can indicate queer tuning within the multi-fandom cosmotechnics.*

Linn and I both agreed that the Chinese multi-fandom cosmotechnics must privilege soft contextualising frameworks of diverse onto-epistemologies within one another against isolating single queer, technical, and technological objects in spaces.

## **5 Floating Modified Bodies**

On the other hand, during the interview with Tianqi via WeChat, she unfolded a long and comprehensive personal experience entangled with ACGN, fandom and BL novel. As a devoted BL fan, Tianqi formed a concept of "floating modified bodies" connected to queer tuning and cosmotechnics. Since junior high school, Tianqi has been involved in ACGN, ranging from Japanese to Chinese fandoms. She was heavily immersed in original Japanese BL novels and original Chinese BL novels from Taiwan to mainland China. Additionally, Chinese martial heroes (wuxia) works influenced her a lot. Since Tianqi's senior high school reading experiences of "Faraway Wanderers" (2010), "Guardian" (2012) and "Sha Po Lang" (2015), Priest has become one of her favourite BL novel authors. Chinese web novel author Priest, in the fandom as "pipi" and "sweet", is renowned for her sophisticated world set-up and powerful narratives. Tianqi argued:

Rather than for the sake of male-male romance in most recent BL novels, Priest uses affectionate relationships to construct a new and comprehensive world system full of fascinating experiences and knowledge. In a particular period of my academic and personal life, I was intellectually and mentally unable to concentrate on contemporary Chinese literature unless the BL genre was involved.

From BL to martial heroes (wuxia) works, they substantially formed a contemporary episteme for Tianqi to understand, analyse, and reflect on affective relationships (boy and girl or BL) and moralities. Tianqi argued:

*The ship informs specific affection in both BL and martial heroes (wuxia) genres is a radical and raw power to interrogate the moral, cultural and technological rupture in Chinese multi-fandom cosmotechnics, especially related to Daoism.*

Lin Xun/Dong Jun ship in "C Language Cultivation" remixes the genres of BL, fantasy, cultivation and science fiction. Tianqi speculated:

*Chinese BL novel can be regarded as an open spatial form floating in the air. It allows multiple and discursive objects, characters, narratives, genres and world systems to be entangled, deviated and intra-acted. BL fandoms are hyper bodies that constantly modify themselves.*

Because of the current squeezing political, cultural and moral constraints in mainland China, Tianqi believed:

*BL fandom as modified hyper bodies is peculiarly nomadic, soft, fluid and passive, ready for floating in any potential gamespaces for continuous modification. From fiction, radio drama, film, TV series and video games in BL fandom, they work as various bodily components to form an idiosyncratic modified hyper body. It is what I understand the ship of queer tuning and their affectionate dispositions in BL fandom's transmedia works.*

In this interview, Tianqi offered me a personal lens to approach Chinese BL fandom and speculate on "C Language Cultivation". By proposing the idea of "floating modified bodies", the idea of queer tuning and cosmotechnics help to develop an affective, cultural-technological, and discursive hyper body within and beyond multi-fandoms. To further clarify the practices and knowledge of the entanglements of culture, technology, and affection, Tianqi referred to Zhang Ni's research.

Zhang's recent online lecture shows an overview of Chinese fantasy literature ranging from martial heroes (wuxia) to immortality cultivation (xiuzhen). Her research is focused on the triad of

science, religion and superstition. Fantasy literature is claimed to have magic and superstition. Its imagination constructs a new world system regardless of restrictions of scientific and technological rationale. For the writer and reader, it engenders distinctive episteme and affection to demonstrate deviant desires and behaviour (Ni 2020). Particularly for immortality cultivation fantasy in contemporary China, related to diverse fandoms, Zhange Ni (2020) argues that these "superstitious" Daoism practices and knowledge in the cultivation cosmos are not escaping but highly engaging with emerging digital technological reality. In a hyper-realism context, the dualism of superstition and science (culture and technology) are shattered. It is essential to rethink and redefine the relationship between religion, science and superstition in the contemporary Chinese cultural-technological cosmos.

Ni's review of culture and technology within the cultivation world system presents a fundamental approach to understanding, redefining and practising "relatively vulnerable" ontologies within global cosmotechnics. Referring to "C Language Cultivation" again, it further adds and deviates programming and BL on cultivation fantasy. An alternative onto-epistemological framework is constructed based on a queer tuning cosmotechnics of religion, science and superstition in multi-fandom. Tianqi emphasised:

*The "floating modified bodies" echoes Ni's religion-science-superstition concept. It creates a cultural-technological-affective space for multiple discursive hyper bodies within and beyond cosmotechnics of multi-fandoms.*

## **6 Voice Acting and Dialogue Sounds in HyperBody: Pinkray**

For collaborations in the VR gamespace "Pinkray", Linn said:

*Although I have architectural design background like you, I would like to contribute some materials related to my personal reading experiences and favourite BL novels, specifically the dialogues between various ships in different narratives. I really wish to see how a cosmotechnics of multi-fandom can be built with shipping dialogues!*

Coincidentally, when I asked Tianqi on WeChat, she replied:

*Recently, I have been listening to various BL audio dramas. I would like to do some voice acting for your NPCs in the VR gamespace. Through those shipping dialogue sounds, I hope the "floating modified bodies" can be tested.*

Therefore, I asked Linn and Tianqi to be my voice actresses to provide voices for the NPCs in the VR gamespace "Pinkray". Multiple dialogues and quotes were selected from their favourite BL novels and personal collections of Chinese classic poetry. I also provided Linn and Tianqi with voice-acting materials from my game-fandom collections. I will specifically elaborate on them in the game engine Unity and the sound engine Wiwse.

## **7 Conclusion**

In conclusion, with the support from the experienced reader and BL fandom members Linn and Tianqi, I investigate Yuk Hui's cosmotechnics under the BL fandom's shipping, specifically the new Chinese BL novel, "C Language Cultivation". It helps develop the world-making of cosmotechnics and a non-player-centric multi-fandom world. The entanglements of culture, technology and affection add a "vulnerable and passive" queer tuning in the cosmotechnics. Linn and Tianqi's work as voice actresses in the VR gamespace "Pinkray" will further ship multiple NPCs. Most importantly, it demonstrates to use of audio and visual materials within the VR gamespace to tune identity, cultivation, superstition, technology, and affection.

## Appendix E: Queer Maximalism Manifesto

The manifesto was presented at the Animate Assembly conference by the Goldsmiths Department of Art with a specific font style I designed. The plain text of the manifesto is as follows:

### Part 1: Queer Maximalism SKIN Manifesto

Headdress: Maw of Cleopatra's Hyper Game / Trousers: Max Payne in 2027 New York City / Trainers: Club Arcadia Extravaganza / Weapon Controller: Thirst of Akira / Offhand Controller: Furyblade Hotline Miami / Drone: Fragment of Evangelion Unit-01 / Sensor: Debris of Starcraft Siege Tank Cannon.

Note: This queer Maximalist future requires no contribution of code, so that you can participate in it without having any coding skills. It helps you learn the whole process of cloning a Hyper-sexual Body. Of course, you need to prepare a crossdressing photo first.

### Part 2: Queer Maximalism ARCHITECTURE Manifesto

Blank body in combination with an architectural surround constitutes an architectural body / all is in place to amplify and augment a person in her spontaneous coordinating of landing sites / the movement and power of the sexual body generates landing sites / landing sites always in conjunction with the sexual body / always formed by the sexual body / always in the service of the sexual body / if the sexual body proper loses its bearings within this hyperspace / It's up to all the landing sites arrayed throughout the entire interior of the volume plus the body proper / functioning palpably in combination as a Hypersexual Body / imbalance / life-threatening danger and absolute chaos.

### Part 3: Queer Maximalism ESTROGEN Manifesto

The Candies: Aldactone, Androcur, Progynova and Marvelon

Male to Female (Yaoniang) Community (Tieba), Baidu, China, 2019:

"That's me, I didn't know about Tieba. I started searching for these Candies on the Internet, it said that these can reduce my sexual desires. I am a person with strong sexual desires. I have been eating for a while and my sexual desire has decreased, but no, it may be just a psychological change. Although the goal is achieved, I don't want to reduce my dose. I feel that's very indulgent. After eating the Candies, I feel a lot better and I am much more cheerful than before, I don't want to stop the Candies, because I don't want to go



back to the state of sullenness, uncomfortable, taking Candies is better, I feel good, maybe the ultimate goal for me is just to change my mood. I still don't know why I am doing this... "

"Is there any asexual MTF? I have been eating Candies for a year and a half since the age of 16. Everyone said that the ultimate goal of MTF is to change the gender, but I don't agree, I just want to take the Candies. Is this a kind of abnormal psychology? Am I a shemale without transsexual operation? I am confused and want to find someone similar to talk to... "

"In the third month, a girl who is generally eating a lot of Candies should not be able to get erected. You will feel particularly lonely this month. It is best to find something to do! To be honest, for me, eating Candy is just a spontaneous idea, but then it's not bad, at least you don't have to find a wife in the future. You can save a lot of money..."

#### Part 4: Queer Maximalism HYPERBODY Manifesto

Starcraft Sarah Kerrigan: psychic Terran female infested by the Zerg Swarm and transformed into the Queen of Blades / Scarlett: Canadian professional Zerg player: the only transgender foreign hope challenging the hyper-masculine pro Starcraft world / Overwatch Tracer: first official LGBTplayer character / Ghost in the Shell Motoko Kusanagi: non-binary fluid body and network transformation / the body without organs / Knights of the Zodiac androgynous Andromeda Shun / pink / shocks and chains / Beast Wars Tigerhawk: male transformer Tigatron merged with female transformer Airazor / most powerful organism / JX3 Hashashin / Zoroastrianism / Esotericism / Body of non-yin and non-yang / Triumph Against Dragon King Prince Nezha / Chinese androgynous / gymnastics routines and self-assured demeanour / a form of posed athleticism / Rupaul vs. Beijing Opera / local drag queen / educating its participants on its conventions and history remains a challenge.

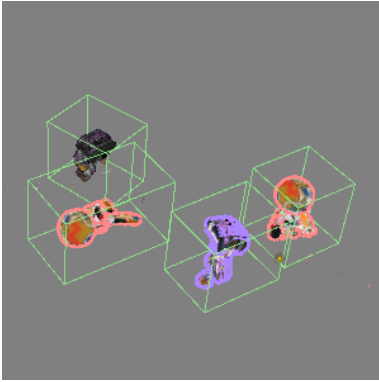
Exit

Exploring in and out of diverse spaces and scales of Queer Maximalist #HyperBody, when you are Hypertired, please take your VR headset off and have a rest with your cross-dressing.

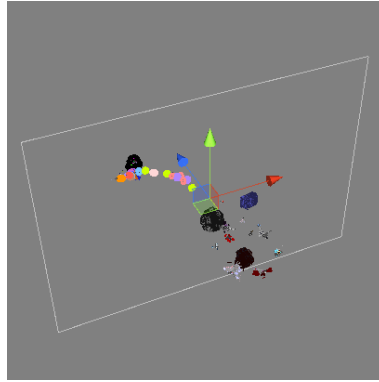
## Appendix F: Bills of Quantities for Unity

Item	Category	Description	Type	Game-fandom	Area	Animation	Audio	Dialogue	Quantity
1	Text	<i>Annotation Cube</i>	Text trigger	n/a	P and F	N	N	N	21
2	Text	<i>Canvas</i>	Standard text	n/a	P and F	N	N	N	21
3	Text	<i>cp texts</i>	Animated 3D text by Oculus Quill	Emma: Pinkray/Katto ship	F	Y	N	N	72
4	Text	<i>iwannaeatssushitexts</i>	Standard text	Tianqi and Linn: Chinese Boys' Love Novel	F	N	Y	N	1
5	Drawing	<i>Alien Z3</i>	Abstract 3D model	Architectural ruins	F	N	Y	N	1
6	Drawing	<i>OTW</i>	Abstract 3D model by modding	Archive of Our Own (AO3)	P	N	Y	N	3
7	Drawing	<i>Pinkray</i>	3D painting by Oculus Quill	Emma: Pinkray/Katto ship	F	Y	N	Y	1
8	Drawing	<i>Portal</i>	3D painting by Tilt Brush	HyperBody manifesto	P	Y	Y	N	1
9	Drawing	<i>PortalGimzoL5</i>	3D painting by Tilt Brush	n/a	F	Y	Y	N	1
10	Drawing	<i>Untitled</i>	3D painting by Tilt Brush	Architectural ruins	F	Y	N	N	4
11	Body	<i>1stPersonPlayer</i>	Player embodiment	Architectural ruins	P and F	Y	N	N	1
12	Body	<i>baijuyi</i>	NPC (non-player character) by modding	Architectural ruins	F	Y	Y	Y	2
13	Body	<i>Erlangshen</i>	NPC by modding	Investiture of the Gods novel	F	Y	Y	N	1
14	Body	<i>Howling Celestial Dog</i>	NPC by modding	Investiture of the Gods novel	F	Y	Y	N	1
15	Body	<i>IA</i>	NPC by modding	MikuMikuDance animation program	F	Y	Y	N	2
16	Body	<i>Kagura</i>	NPC by modding	Kagura Mea Youtuber	F	Y	Y	Y	1
17	Body	<i>Laike</i>	NPC by modding	Mo Fang Da Sha animation	P	Y	Y	Y	3
18	Body	<i>Lu Xun</i>	NPC by modding	famous writer in Chinese history	F	Y	Y	Y	1
19	Body	<i>medusa</i>	NPC by modding	Architectural ruins	F	Y	Y	Y	1
20	Body	<i>PinkRay</i>	NPC by modding	Emma: Pinkray/Katto ship	P	Y	Y	Y	3
21	Body	<i>Qiu Jin</i>	NPC by modding	Famous assassin in Chinese history	F	Y	Y	Y	1
22	Body	<i>ShiLuo-a</i>	NPC by modding	CheesTalk: Luo Ji/Shi Qiang ship	F	Y	Y	N	1
23	Body	<i>SnowElf</i>	NPC by modding	MikuMikuDance animation program	F	Y	Y	Y	1
24	Body	<i>Sony Monster</i>	NPC by Tilt Brush	Sony PlayStation	F	Y	Y	Y	1
25	Body	<i>White Cat Monitor</i>	NPC by modding	Black Cat Detective animation	P	Y	Y	Y	3
26	Body	<i>Wu Zixu</i>	NPC by modding	famous politician in Chinese history	F	Y	Y	Y	1
27	Architecture	<i>Line Shift</i>	Architectural mod	Aristo: transitions and interventions	F	N	Y	N	1
28	Architecture	<i>Neo</i>	Architectural mod	Jingzhi: between virtual and physical spaces	F	Y	Y	Y	1
29	3D scan	<i>401</i>	3D scan of residential building	Architectural ruins	F	N	Y	N	1
30	3D scan	<i>Aura</i>	3D scan of residential building	Architectural ruins	F	N	Y	N	1
31	3D scan	<i>Caravan</i>	3D scan of building interior	Emma: Pinkray/Katto ship	F	N	Y	N	1
32	3D scan	<i>Caravan Green</i>	3D scan of landscape	Emma: Pinkray/Katto ship	F	N	Y	N	1
33	3D scan	<i>HK Op</i>	3D scan of urban space	Aristo: transitions and interventions	F	N	N	N	1
34	3D scan	<i>HyperSkin</i>	3D scan of building interior	Architectural ruins	F	N	N	N	1
35	3D scan	<i>Mimi Bear</i>	3D scan of building interior	Emma: Pinkray/Katto ship	F	N	N	N	1
36	3D scan	<i>Sharjah</i>	3D scan of building interior	Architectural ruins	F	N	Y	N	1
37	3D scan	<i>Yip Supermarket</i>	3D scan of building interior	Architectural ruins	F	N	N	N	1
38	Miscellaneous	<i>Lights</i>	Light	n/a	P and F	N	N	N	9
39	Miscellaneous	<i>RainPrefab</i>	Rainfall effect	n/a	P and F	Y	Y	N	1

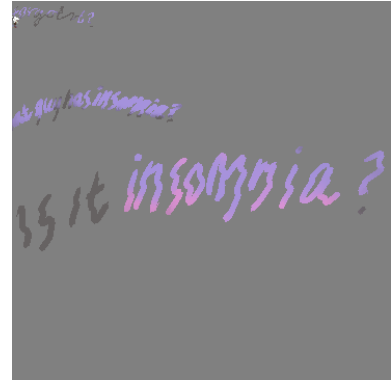
Item Screenshots



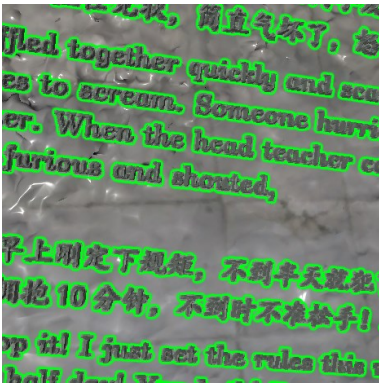
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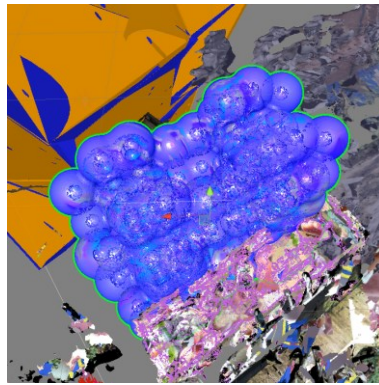
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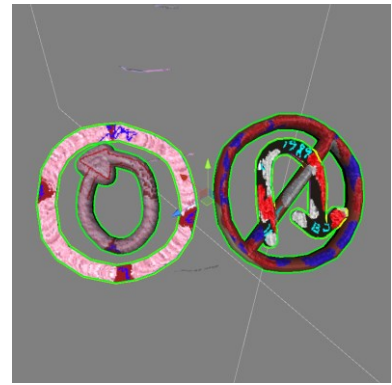
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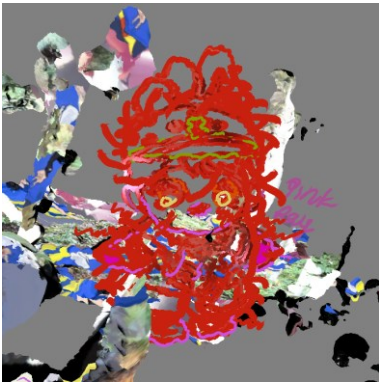
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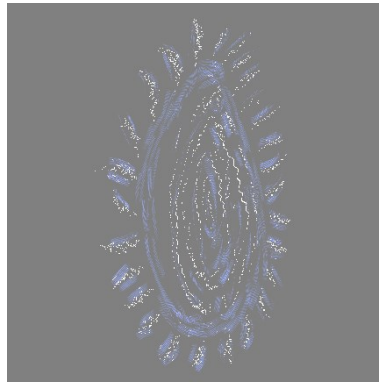
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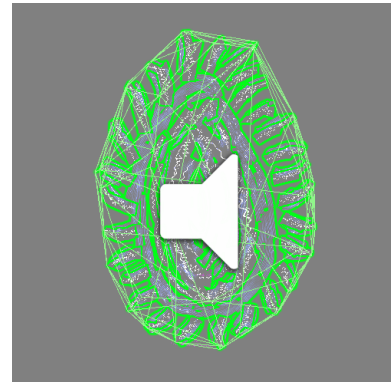
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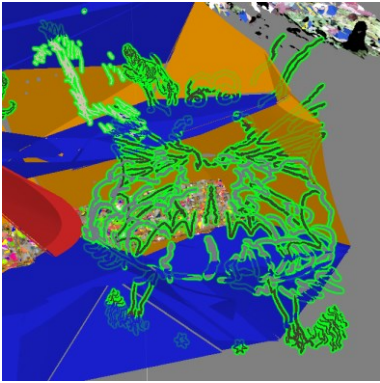
7: Pinkray



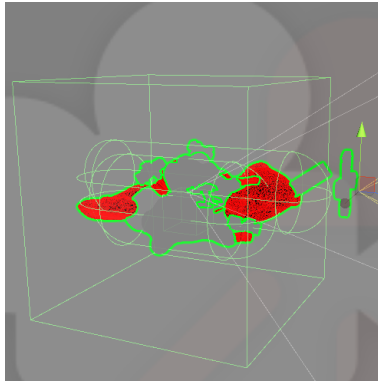
8: Portal



9: PortalGimzoL5



10: Untitled



11: 1stPersonPlayer



12: baijuyi



13: Erlangshen



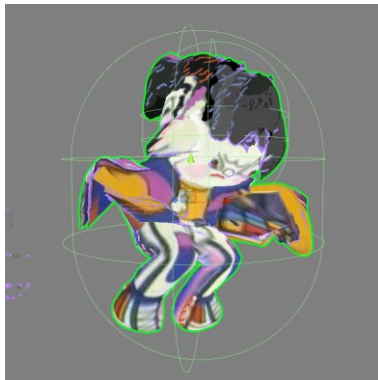
14: Howling Celestial Dog



15: IA



16: Kagura

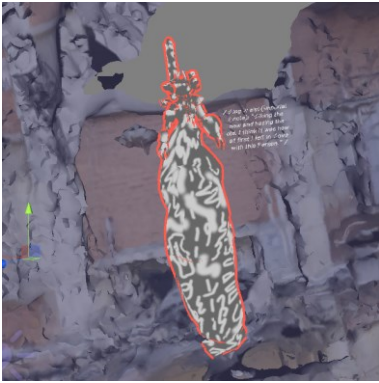


17: Laike



18: Lu Xun





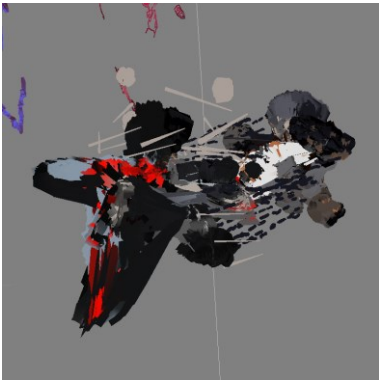
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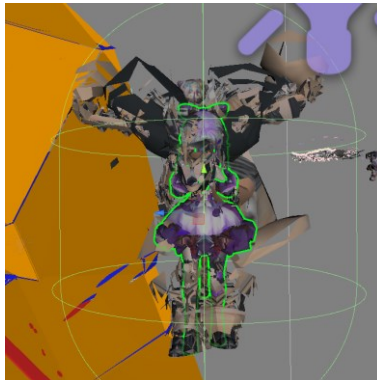
20: PinkRay



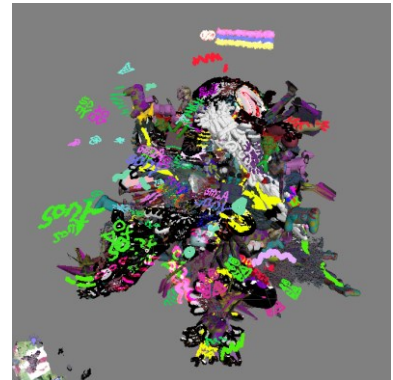
21: Qiu Jin



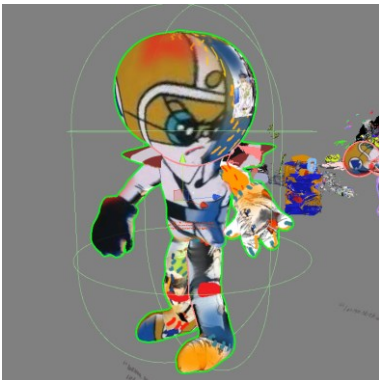
22: ShiLuo-a



23: SnowElf



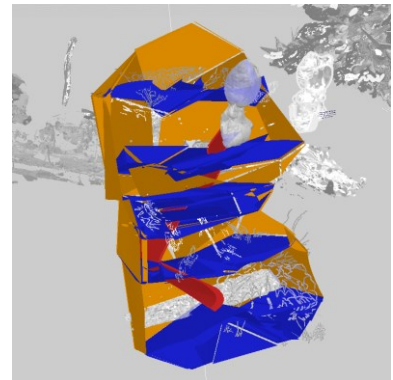
24: Sony Monster



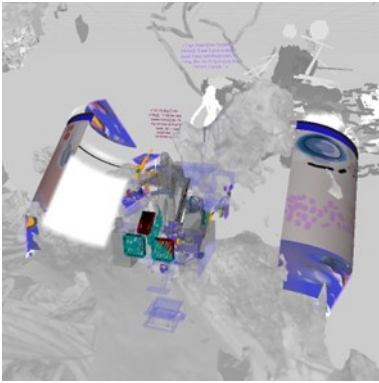
25: White Cat Monitor



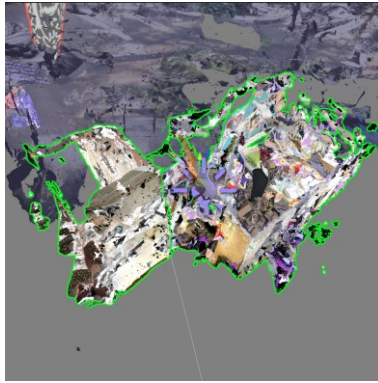
26: Wu Zixu



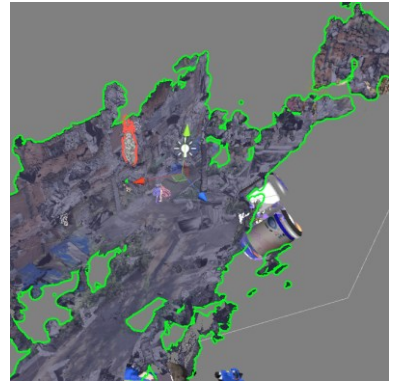
27: Line Shift



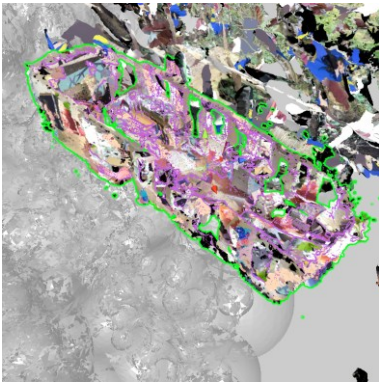
28: Parallel Neo Home



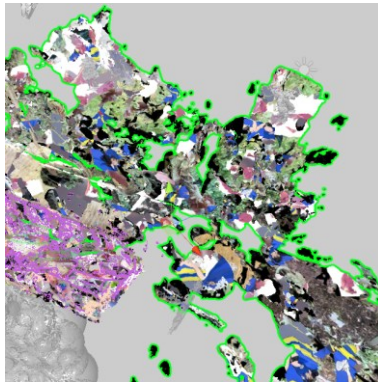
29: 401



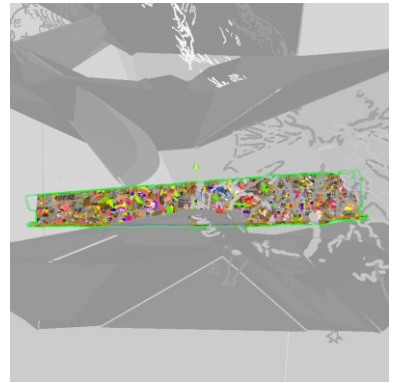
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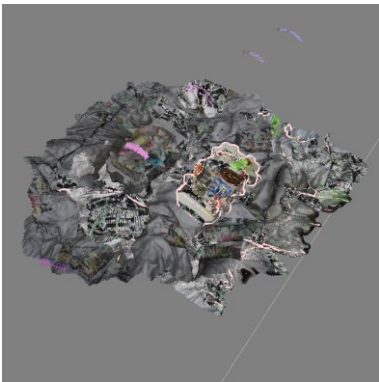
31: Caravan



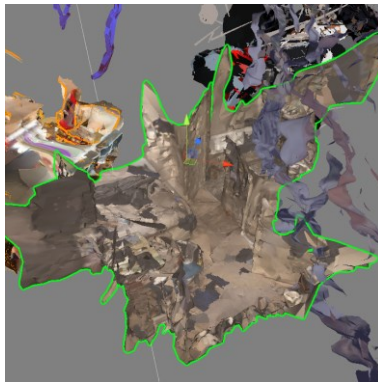
32: Caravan Green



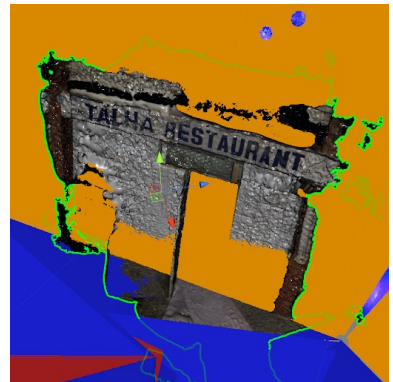
33: HK Op



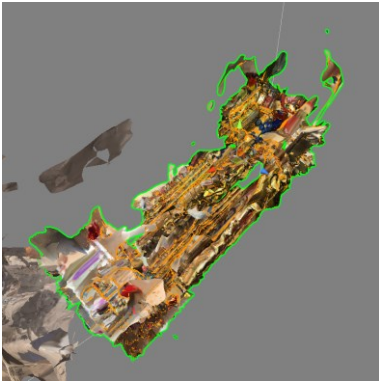
34: HyperSkin



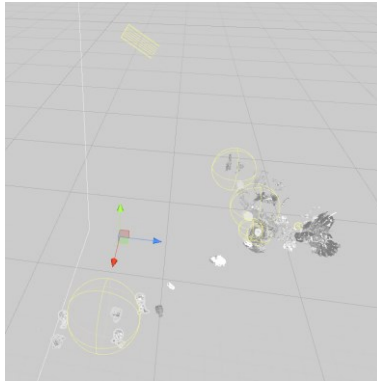
35: Mimi Bear



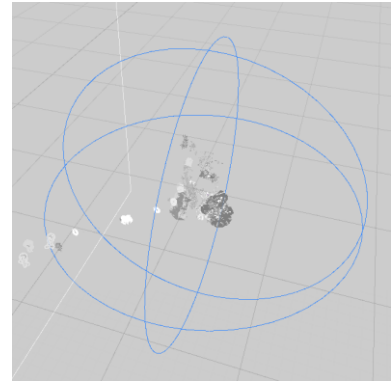
36: Sharjah



**37: Yip Supermarket**



**38: Lights**



**39: RainPrefab**

Bill of quantities for the game engine Unity, item list of the VR gamespace of Pinkray (P: the area of narrative path in Figure 5.2.2, F: the area of multi-fandoms in Figure 5.2.4).

## **Appendix G: Bills of Quantities for the Sound Engine Wwise**

Bill of quantities for the sound engine Wwise, audio item list of the VR gamespace of Pinkray (P: the area of narrative path, F: the area of multi-fandoms).



Audio	Description in Wwise	Category	Language	Game-fandom	Character Dialogue	Assigned NPC in Unity	Source	Area	Quantity
1	Baijuyi	Character Voice	Chinese	Ship: Bai Juyi and Yuan Zhen are renowned Chinese poets from Tang dynasty Dialogue: Taiwanese-Japanese glove puppetry anime Thunderbolt Fantasy: Sword Travels in the East (2016)	Bai Juyi: "The long nine swearing for the same life." Yuan Zhen: "With the moon, I am the older brother." Bai Juyi: "With the moon, I am the younger brother." Yuan Zhen: "The long nine swearing for the same death." Bai Juyi: "When the moon is not rounded," Yuan Zhen: "Since the brother is called," Bai Juyi: "Love has no clutch between you and me." Yuan Zhen: "Never violate the alliance between you and me."	baijuyi (Item 12)	Voice acting by Tianqi	F	5
2	Baijuyieng	Character Voice	English with Madarin accents	Ibid.	Ibid.	baijuyi (Item 12)	Text-to-Speech tool	F	4
3	Doublefacehugger01	Character Voice	Chinese	Queer Maximalist Manifesto for the Hypertired	Thirst of Akira, Furyblade Hotline Miami, Fragment of Evangelion Unit-0	Laike (Item 17)	Voice acting by Tianqi	P	6
4	Doublefacehugger01eng	Character Voice	English with Japanese accents	Queer Maximalism Manifesto for the Hypertired	Ibid.	Laike (Item 17)	Text-to-Speech tool	P	5
5	Doublefacehugger02	Character Voice	Chinese	Queer Maximalist Manifesto for the Hypertired	Exploring in and out of diverse spaces and scales of Maximalist HyperBody, when you are Hypertired, please have a rest with your cross-dressing.)	Laike (Item 17)	Voice acting by Tianqi	P	7
6	Doublefacehugger02eng	Character Voice	English with Mandarin accents	Queer Maximalism Manifesto for the Hypertired	Ibid.	Laike (Item 17)	Text-to-Speech tool	P	6
7	Linn1	Character Voice	Chinese	Ship: Lan Yuan and Li Qing (The Fox King) from Chinese BL novel "Dandy (Wan Ku)" by Gong Zi Huan Xi	Lan Yuan, there are some things, if you are not sincere, please don't ask for others.	Pinkray (Item 20), medusa (Item 19) and Neo (Item 28)	Voice acting by Linn	F	6
8	Linn1eng	Character Voice	English with American accents	Ibid.	Ibid.	Pinkray (Item 20), medusa (Item 19) and Neo (Item 28)	Text-to-Speech tool	F	4
9	Linn2	Character Voice	Chinese	The poem "Zheguling – Inchoate Passions" from Yuan dynasty Chinese poet Xu Zaisi	I have not been lovesick in my whole life until now, as I just learned. I am suffering now.	Pinkray (Item 20), medusa (Item 19) and Neo (Item 28)	Voice acting by Linn	F	3
10	Linn2enga	Character Voice	English with British accents	Ibid.	Ibid.	Pinkray (Item 20), medusa (Item 19) and Neo (Item 28)	Text-to-Speech tool	F	1
11	Linn2engb	Character Voice	English with British accents	Ibid.	Ibid.	Pinkray (Item 20), medusa (Item 19) and Neo (Item 28)	Text-to-Speech tool	F	1
12	Linn3	Character Voice	Chinese	Ship: Lan Yuan and Li Qing (The Fox King) from Chinese BL novel "Dandy (Wan Ku)" by Gong Zi Huan Xi	I don't give a damn about those undefined men, Li Qing, the Fox King is truly the perfect beauty.	Pinkray (Item 20), medusa (Item 19) and Neo (Item 28)	Voice acting by Linn	F	7
13	Linn3eng	Character Voice	English with British accents	Ibid.	Ibid.	Pinkray (Item 20), medusa (Item 19) and Neo (Item 28)	Text-to-Speech tool	F	1
14	Linn5	Character Voice	Chinese	Ship: Huang Shu and Liu Xiang from Chinese BL novel "Huang Shu (Memory Square)" by Da Feng Gua Guo	While you may physically be here, your heart belongs elsewhere.	Pinkray (Item 20), medusa (Item 19) and Neo (Item 28)	Voice acting by Linn	F	6
15	Linn5eng	Character Voice	English with British accents	Ibid.	Ibid.	Pinkray (Item 20), medusa (Item 19) and Neo (Item 28)	Text-to-Speech tool	F	4
16	Linn6	Character Voice	Chinese	Ship: Song Yao and Heng Wen from Chinese BL novel "Tao Hua Zhai (Peach Blossom Debt)" by Da Feng Gua Guo	I'm destined to only play the supporting role in the story. Either separating an affectionate couple or burning their love bridge.	Pinkray (Item 20), medusa (Item 19) and Neo (Item 28)	Voice acting by Linn	F	10
17	Linn7	Character Voice	Chinese	Ship: Huang Shu and Liu Xiang from Chinese BL novel "Huang Shu (Memory Square)" by Da Feng Gua Guo	Liking the new and hating the old. I think it was how at first I fell in love with this man.	Pinkray (Item 20), medusa (Item 19) and Neo (Item 28)	Voice acting by Linn	F	1
18	Linn7enga	Character Voice	English with British accents	Ibid.	Ibid.	Pinkray (Item 20), medusa (Item 19) and Neo (Item 28)	Text-to-Speech tool	F	1
19	Linn7engb	Character Voice	English with British accents	Ibid.	Ibid.	Pinkray (Item 20), medusa (Item 19) and Neo (Item 28)	Text-to-Speech tool	F	1
20	Luxun	Character Voice	Chinese	Ship: Lu Xun and Zhou Jianren Lu Xun is a leading Chinese modern writer, Zhou Jianren is his younger brother Dialogue: from Chinese TV series Stand By Me (2017), one of the protagonists Xiao Haiyang referred to The Sonnets To Orpheus; Book 2: Xiii by Rainer Maria Rilke	Lu Xun: "The world in your eyes is not the same as the world in my eyes." Zhou Jianren: "Would you like to play games with me in Internet cafe?" Lu Xun: "Very happy" Zhou Jianren: "Do you like to play games?" Lu Xun: "Be ahead of all parting, as though it already were behind you, like the winter that has just gone by. For among these winters there is one so endlessly winter that only by wintering through it all will your heart survive." Zhou Jianren: "I don't blame you."	Lu Xun (Item 18)	Voice acting by Tianqi	F	9
21	Luxuneng1	Character Voice	English with American accents	Ibid.	Ibid.	Lu Xun (Item 18)	Text-to-Speech tool	F	1
22	Luxuneng2	Character Voice	English with American accents	Ibid.	Ibid.	Lu Xun (Item 18)	Text-to-Speech tool with kid voice	F	1
23	Luxuneng3	Character Voice	English with American accents	Ibid.	Ibid.	Lu Xun (Item 18)	Text-to-Speech tool	F	1
24	Luxuneng4	Character Voice	English with American accents	Ibid.	Ibid.	Lu Xun (Item 18)	Text-to-Speech tool with kid voice	F	1

25	<i>Luxuneng5</i>	Character Voice	English with American accents	Ibid.	Ibid.	Lu Xun (Item 18)	Text-to-Speech tool	F	1
26	<i>Luxuneng6</i>	Character Voice	English with American accents	Ibid.	Ibid.	Lu Xun (Item 18)	Text-to-Speech tool with kid voice	F	1
27	<i>Qiu Jin</i>	Character Voice	Chinese	Qiu Jin is a revolutionary feminist in late 19th century of China, famous as assassinator	Qiu Jin: "Autumn wind and autumn rain really make people worrying, the Sun God (Zhan Lu), the River God (Chun Jun), The Evil (Sheng Xie), The Fish Belly (Yu Chang) and The Unbreakable (Ju Que), which sword should I use to assassinate?"	Qiu Jin (Item 21)	Voice acting by Emma	F	5
28	<i>Qiu Jineng</i>	Character Voice	English with American accents	Ibid.	Ibid.	Qiu Jin (Item 21)	Text-to-Speech tool with kid voice	F	5
29	<i>Totemfromtheabyss 01</i>	Character Voice	Chinese	Japanese Anime Made in Abyss (2017)	Totem from the Abyss A: "Meeting you, crossing paths with you has brought me an irreplaceable joy, for you to be able to push further, beyond here, that is my new aspiration." Totem from the Abyss B: "May your journey be overflowing with curses and blessings."	Sony Monster (Item 24)	Voice acting by Tianqi	F	5
30	<i>Totemfromtheabyss 01eng</i>	Character Voice	English with British accents	Ibid.	Ibid.	Sony Monster (Item 24)	Text-to-Speech tool	F	3
31	<i>Totemfromtheabyss 02</i>	Character Voice	Chinese	Ibid.	Ibid.	Sony Monster (Item 24)	Voice acting by Tianqi	F	5
32	<i>Totemfromtheabyss 02eng</i>	Character Voice	English with Russian accents	Ibid.	Ibid.	Sony Monster (Item 24)	Text-to-Speech tool	F	3
33	<i>Ultimatecore01</i>	Character Voice	Chinese	Unpublished song Wang Xiang Shuo by Oct Baby in the Chinese film Weekend Lover (1995) by Lou Ye	The Ultimate Core A: "Have you seen many people are losing their grip, their souls suffocated in the desert?" The Ultimate Core B: "Have you seen many people are so cold, their feelings dry up in the tribes?"	White Cat Monitor (Item 25) and Laike (Item 17)	Voice acting by Tianqi	P	6
34	<i>Ultimatecore02</i>	Character Voice	Chinese	Ibid.	Ibid.	White Cat Monitor (Item 25) and Laike (Item 17)	Voice acting by Tianqi	P	6
35	<i>Ultralisk</i>	Character Voice	Chinese	Wandering Star (1987) by Chinese poet Yifei and game character from Starcraft (1998) by Blizzard Entertainment	The Ultralisk A: "I want to leave this living cemetery, under a sudden rise of cosmic storm." The Ultralisk B: "I try to take a step of freedom, just one step, it is close to the abyss."	Kagura (Item 16)	Voice acting by Tianqi	F	4
36	<i>Ultralisk02</i>	Character Voice	Chinese	Ibid.	Ibid.	SnowElf (Item 23)	Voice acting by Tianqi	F	2
37	<i>Whitecat</i>	Character Voice	Chinese	Chinese animation Black Cat Detective (1984)	Lost, AWSL.	White Cat Monitor (Item 25)	Voice acting by Tianqi	P	10
38	<i>Whitecateng</i>	Character Voice	English with American accents	Chinese animation Black Cat Detective (1984)	Lost, AWSL.	White Cat Monitor (Item 25)	Text-to-Speech tool with kid voice	P	6
39	<i>Wuzixu</i>	Character Voice	Chinese	Ship: Wu Zixu and Chu Ping Wang Wu Zixu is a renowned Chinese politician of Wu kingdom in the Spring and Autumn period, is famous as assassinator; Chu Ping Wang, king of Chu, after being assassinated and his corpse was dug out and publicly flogged by Wu Zixu	Wu Zixu: "Raccoon (Chu Ping Wang), I want to dig your dead body from 528 BC, until your soul is dead, I can enter my final dream."	Wu Zixu (Item 26)	Voice acting by Tianqi	F	2
40	<i>Wuzixueng</i>	Character Voice	English with American accents	Ibid.	Ibid.	Wu Zixu (Item 26)	Text-to-Speech tool with kid voice	F	2
41	<i>Addiction 1990</i>	Sound Remix	N/A	Music: Heroic Asia (Ya Zhou Xiong Feng) - Liu Huan, Wei Wei Have a High, Then Die (Guo Ba Yin) - Liu Huan, Na Ying	N/A	N/A	Sound remixings	F	3
42	<i>Pinkray Remix</i>	Sound Remix	N/A	Field Recording: Hong Kong Taxi's Radio in 2018 Chinese New Year Home Karaoke in Shunyi, Beijing (grannysmilkproductsplant remix) Old Recycling Worker's Loudspeaker in West Street Community, Moon Altar, Beijing Pete Jiadong Qiang Reading his Short Poem I Want to Commit Suicide in Futong Music: Love River - Snow Jiang 8-bit Version (Ying Liu Zhi Zhu) Modern China is too Complicated - Shaoyanpeng Dead J Ei Ei - Idol Producer Theme Song Bye Bye Disco - New Pants Animation Music: Capturing Enemies in the Air - Black Cat Detective	N/A	N/A	Field recordings and remixings	P	4
43	<i>Footstep1</i>	Voidscape Effect	N/A	N/A	N/A	Laike (Item 17)	Speculative Design	P	6
44	<i>Footstep2</i>	Voidscape Effect	N/A	N/A	N/A	OTW (Item 6) and Pinkray (Item 7)	Speculative Design	P	3

45	<i>Footstep3</i>	Voidscape Effect	N/A	N/A	N/A	Sony Monster (Item 24)	Speculative Design	F	6
46	<i>Footstep4</i>	Voidscape Effect	N/A	N/A	N/A	ShiLuo-a (Item 22) with Aura (Item 30); Erlangshen (Item 13) with PortalGimzoL5 (Item 9); IA (Item 15) and SnowElf (Item 23); Line Shift (Item 27) with Sharjah (Item 36) and Alien Z3 (Item 5)	Speculative Design	F	8
47	<i>Rain Light2</i>	Miscellaneous	N/A	N/A	N/A	N/A	Speculative Design	P and F	1
48	<i>Rain Medium2</i>	Miscellaneous	N/A	N/A	N/A	N/A	Speculative Design	P and F	1
49	<i>Rain Heavy2</i>	Miscellaneous	N/A	N/A	N/A	N/A	Speculative Design	P and F	1

## Appendix H: Detailed Navigation Paths

### Pinkray

I will show seven separate navigation paths from P. A, C, J, I, E, D, and B. "Pinkray" is a technically simple map; area A has a narrative path formed by Pinkray/Katto fanfiction. Area B contains multi-fandoms with 3D drawings, NPCs, architectural mods, and 3D scans (Figure H1). P. F and P. H's paths and playtimes are very similar to P. C, and so does P. G to P. I. Hence, I will not show P. F, H, and G's paths. In Figure H1, P. A navigation path is coloured bright yellow; the numbers are timestamps; a small circle node indicates a five seconds interval, and a big circle node indicates a ten seconds interval.

P. A navigated fast along the narrative path, adding motion sickness; her playtime in "Pinkray" is the shortest, 2 minutes and 30 seconds.

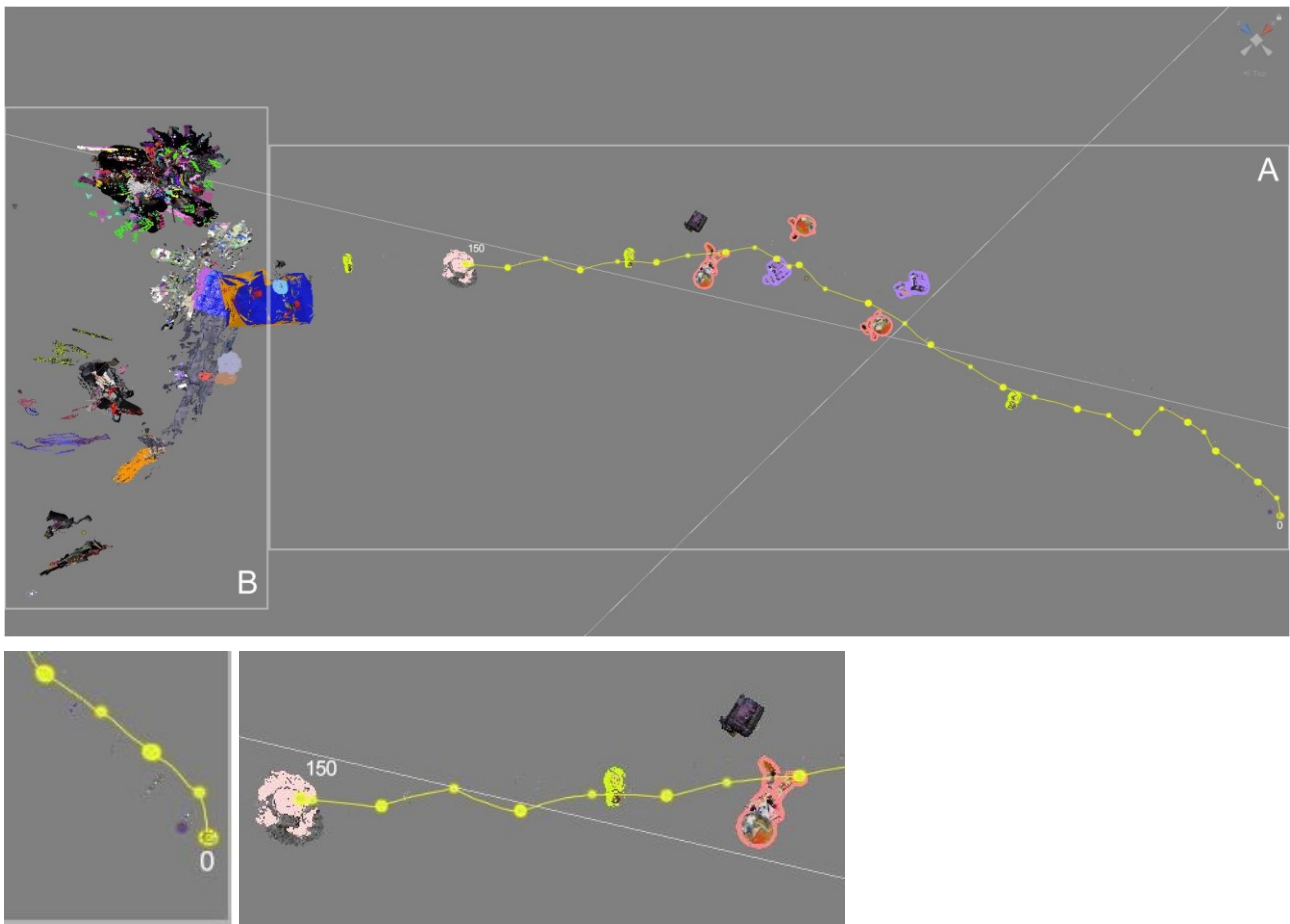


Figure H1. P. A navigation path (bright yellow ■) on the X-Z axis top view, Pinkray, area A: narrative path, area B: multi-fandoms.

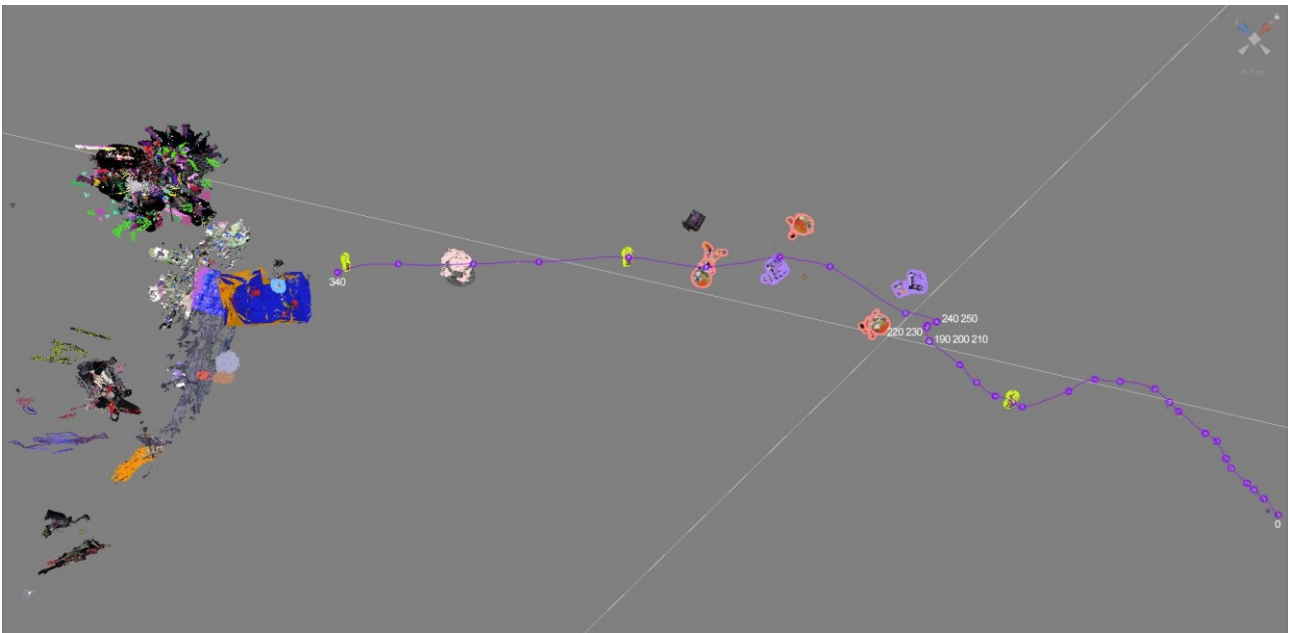


Figure H2. P. C navigation path (blue-violet ■) on X-Z axis top view, Pinkray.

Comparably, in Figure H2, P. C navigated and read through the narrative from time stamps of 3 minutes 10 seconds (190) to 4 minutes 10 seconds (250). She moved very slowly, approached NPCs Ryker/White Cat Monitor NPCs (Figure 4.5.2), and read the specific part of Pinkray/Katto fanfiction. P. C went further than P. A and mainly arrived in area B - multi-fandoms. Compared to the average "Pinkray" playtime of 6 minutes 23 seconds, P. C also had a short playtime of 5 minutes 40 seconds.

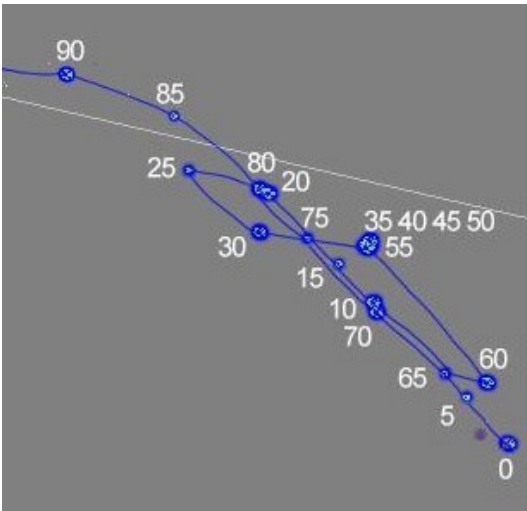
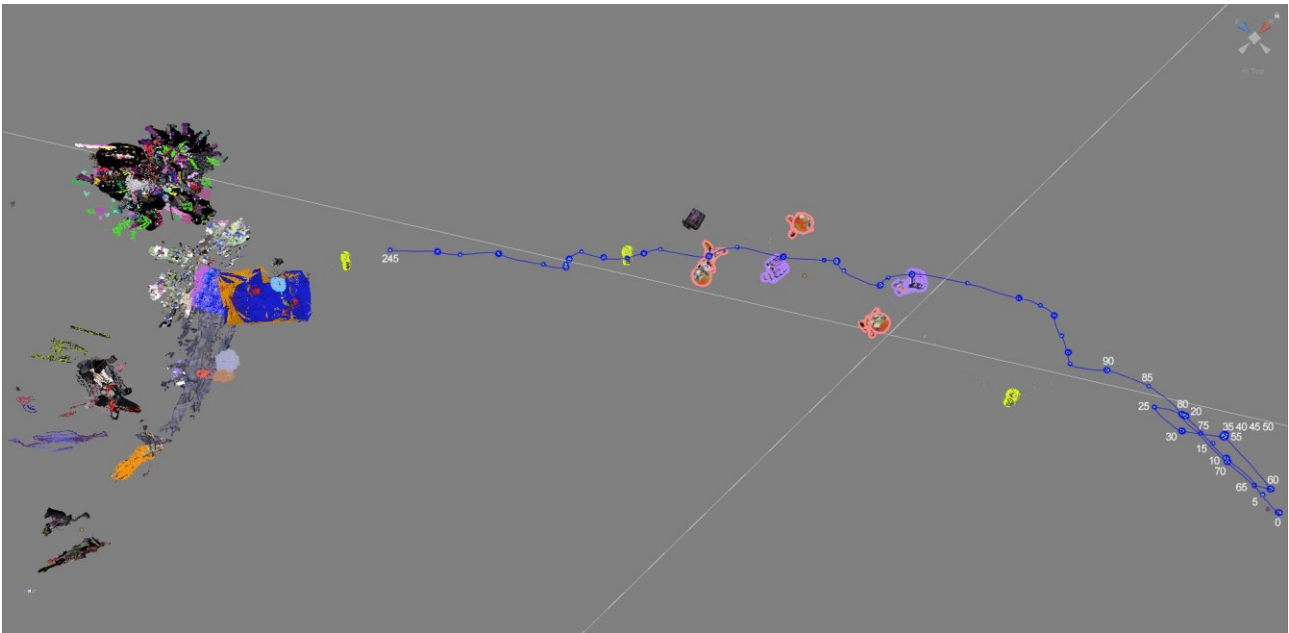


Figure H3. P. J navigation path (blue ■) on the X-Z axis top view, Pinkray.

Figure H3 shows P. J's navigation path and reveals her difficulty managing the VR navigation. From time stamps of 35 seconds to 55 seconds, she seemed lost; she walked backwards till 1 minute (60), corrected the direction (60 to 65), went along the narrative path, and explored Pinkray/Katto fanfiction and NPCs. Then she navigated faster and reached a similar location to P. C within only 4 minutes and 5 seconds.

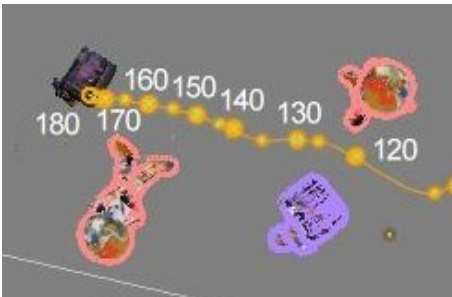
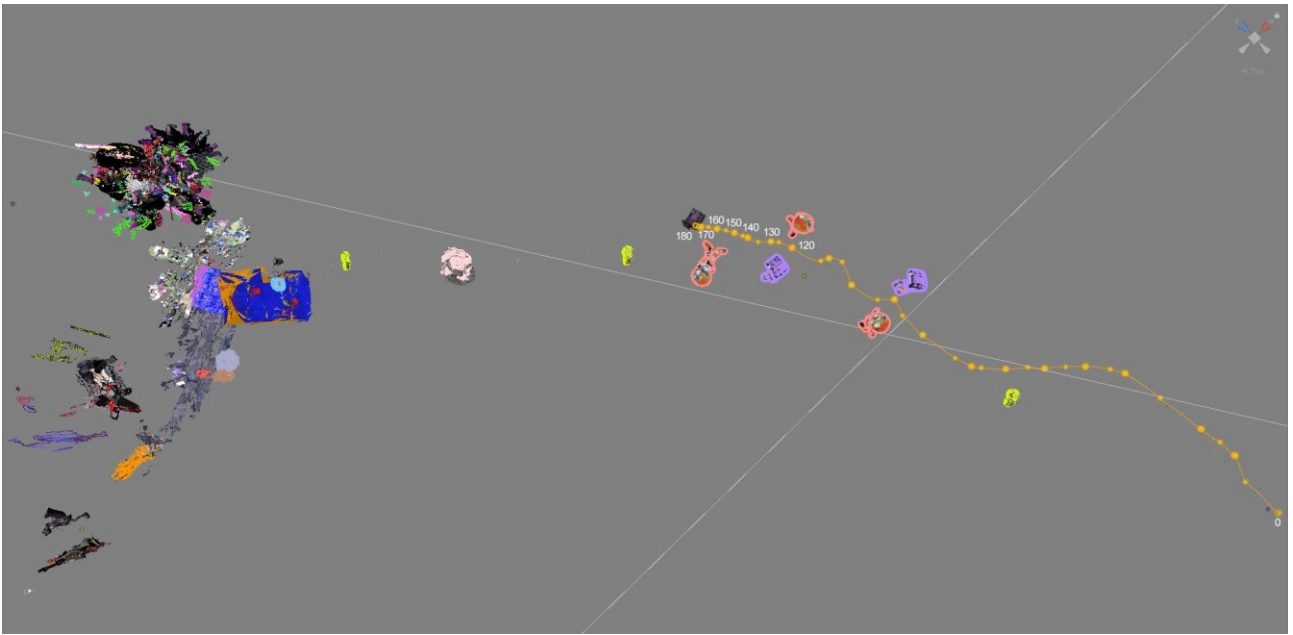


Figure H4. P. I navigation path (orange ■) on the X-Z axis top view, Pinkray.

Figure H4 shows P. I navigated slowly, read the narrative of Pikray/Katto fanfiction, and carefully approached the NPCs with different sound effects and dialogues from 2 minutes (12) to 3 minutes (180).

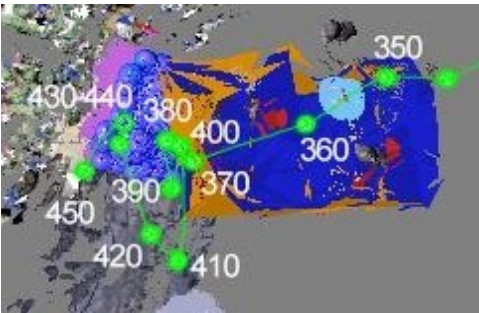
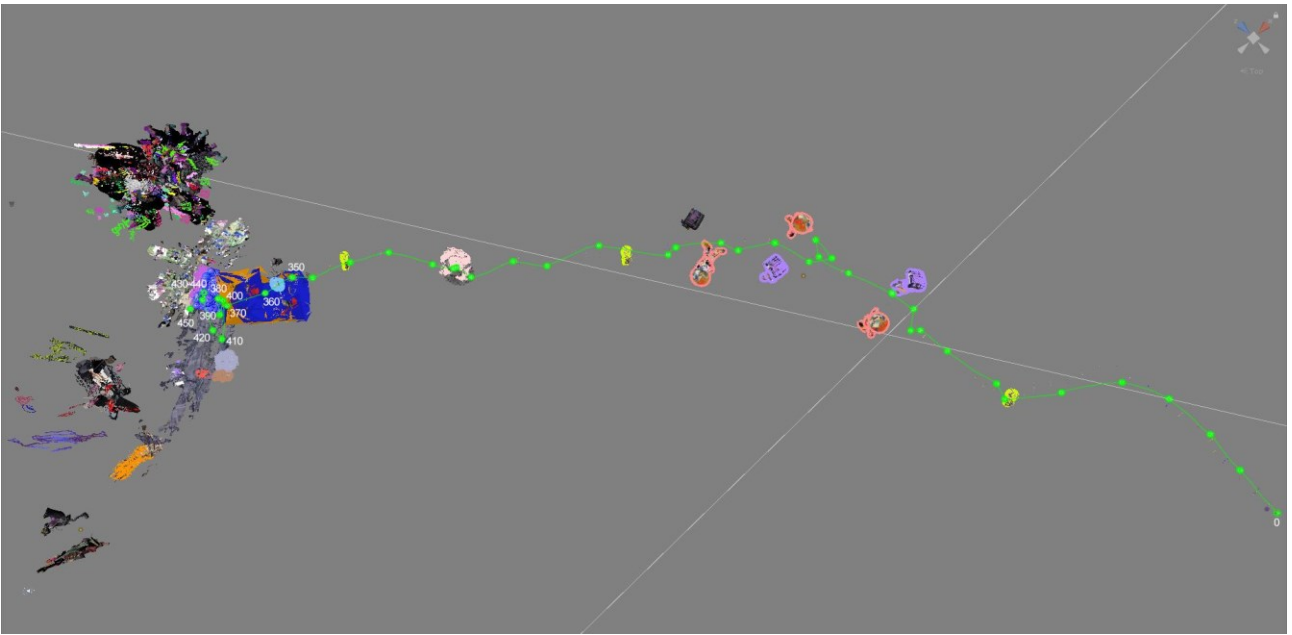


Figure H5. P. E navigation path (green ■) on the X-Z axis top view, Pinkray.

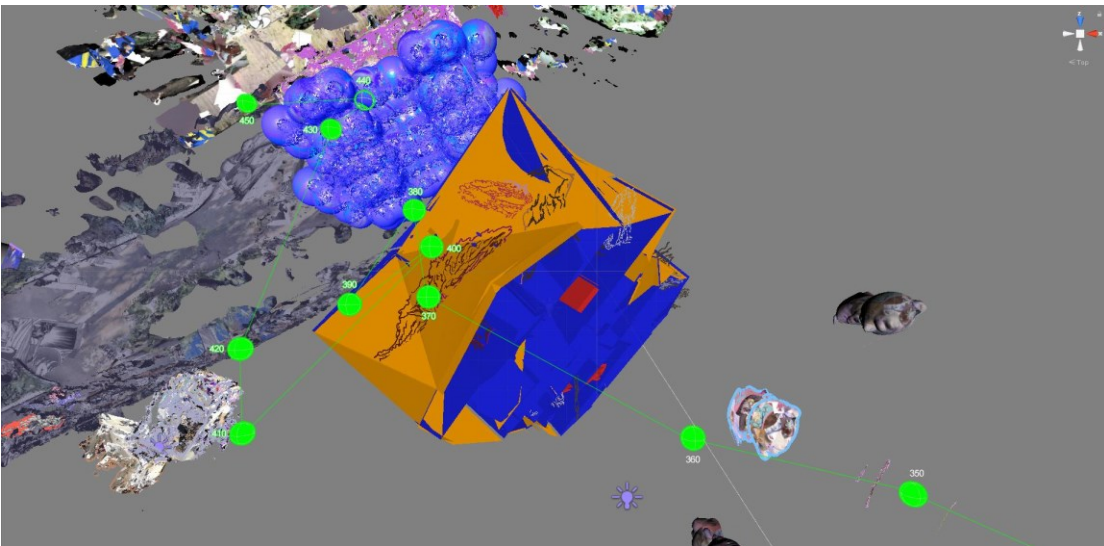


Figure H6. P. E navigation path (green ■) in detail X-Z axis top view, Pinkray.



From Figures 6.1.8 to 6.1.9, P. E navigated through the narrative, went into area B - multi-fandoms and slowly walked around. From the navigation path detail, he seemed very curious and immersed in the mod of Line Shift (item 27 in Appendix F). From 6 minutes (360) to 7 minutes 30 seconds (550) path, P. E navigated in and out of the mod of Line Shift and the abstract 3D model Alien Z3 (item 5).

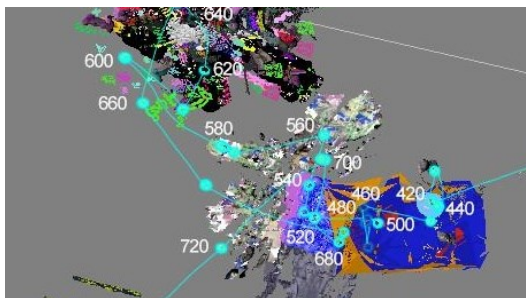
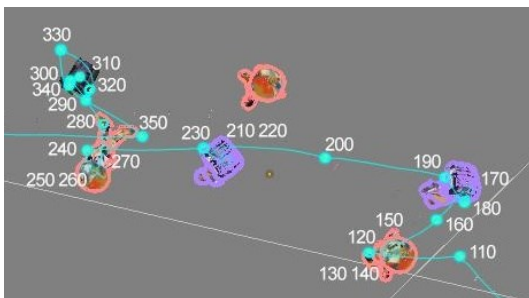
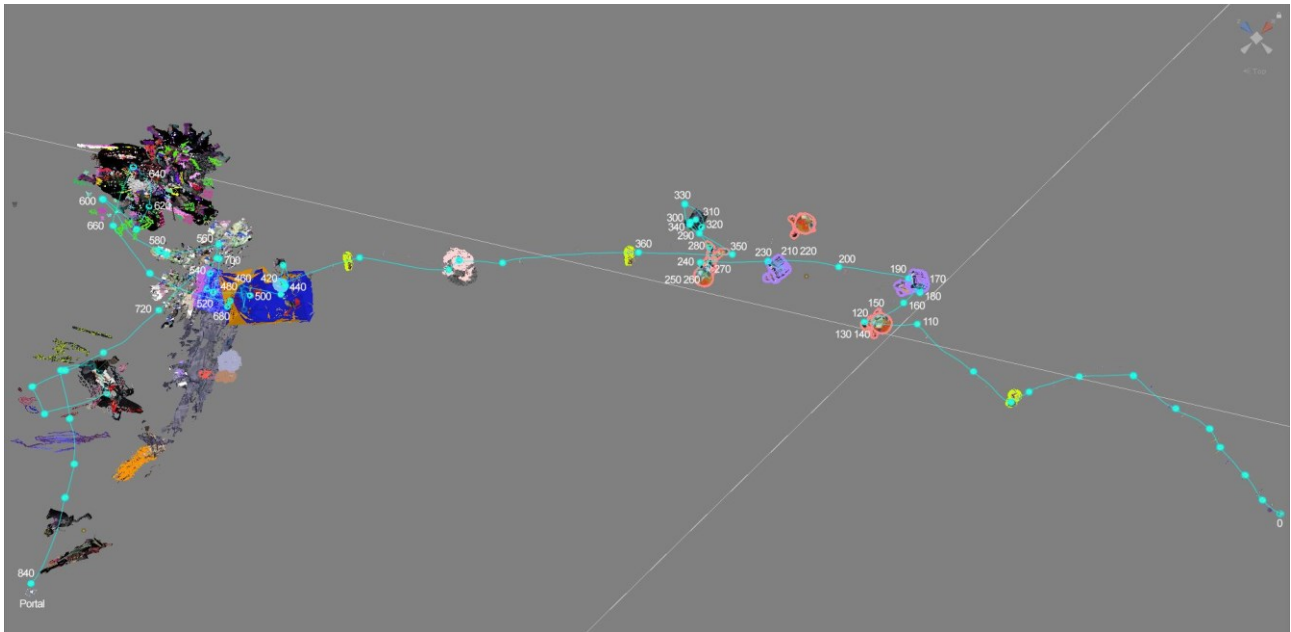


Figure H7. P. D navigation path (cyan ■) on the X-Z axis top view, Pinkray.

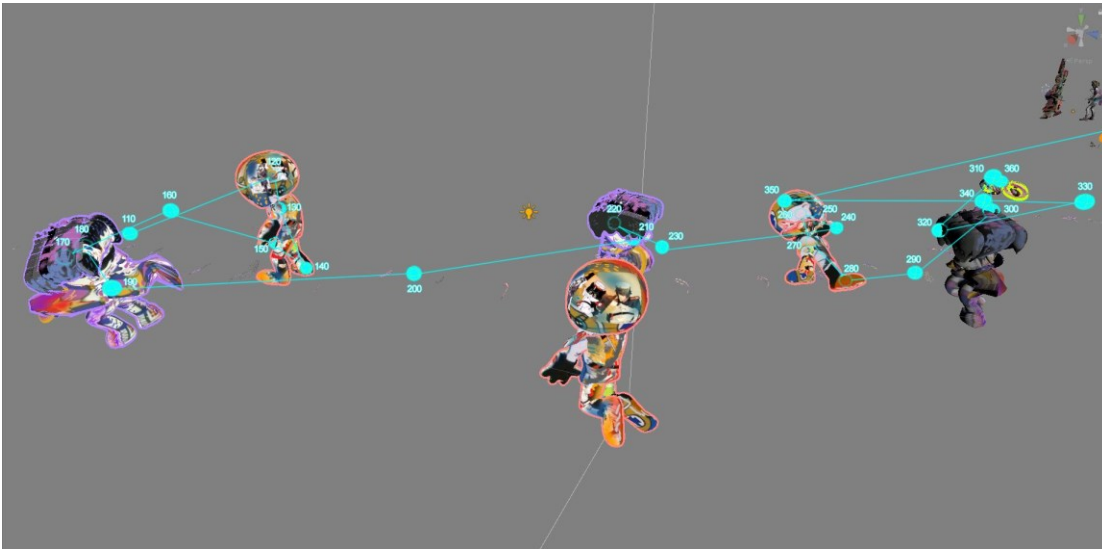


Figure H8. P. D navigation path (cyan ■) in detail, Pinkray.

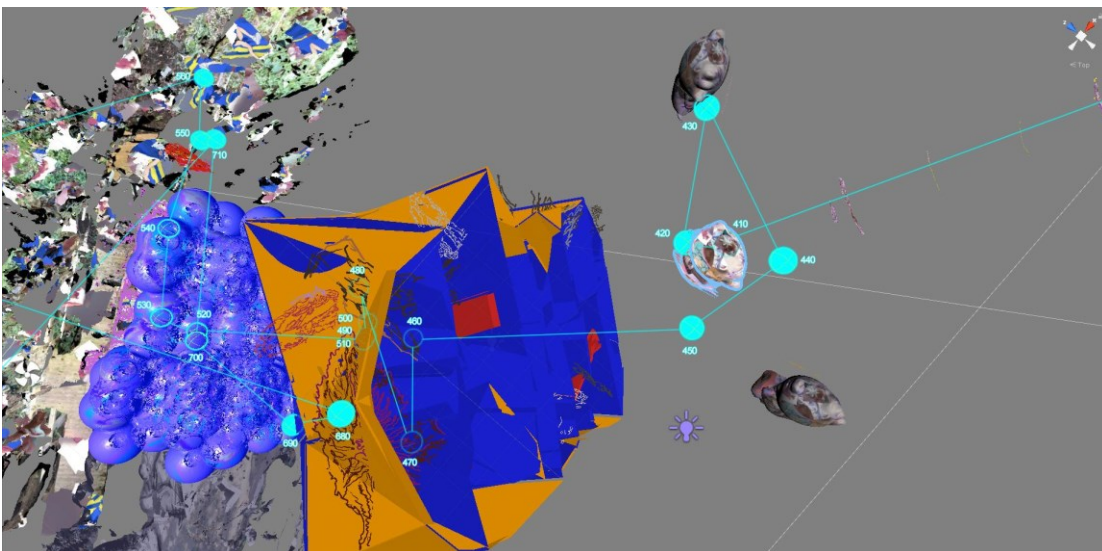


Figure H9. P. D navigation path (cyan ■) in detail X-Z axis top view, Pinkray.

P. D was genuinely immersed in "Pinkray" and allowed for the most extended playtime, up to 14 minutes. From Figures 6.1.10 to 6.1.12, she navigated the entire VR gamespace and carefully explored NPCs with hidden sounds and multi-fandoms. She found the Portal (item 9 in Appendix F) and entered the next game level. When exploring the NPCs of Laike (item 17) and White Cat Monitor (item 25) from 1 minute 50 seconds (110) to 5 minutes 30 seconds (330), she enjoyed

experiencing the front and back sides of non-collision NPCs with corresponding sound effects. In the multi-fandoms, P. D consumed most of the playtime to engage with Pinkray, Line Shift (item 27), Alien Z3 (item 5), the 3D scans of building landscape (items 31, 32), and Sony Monster (item 24).

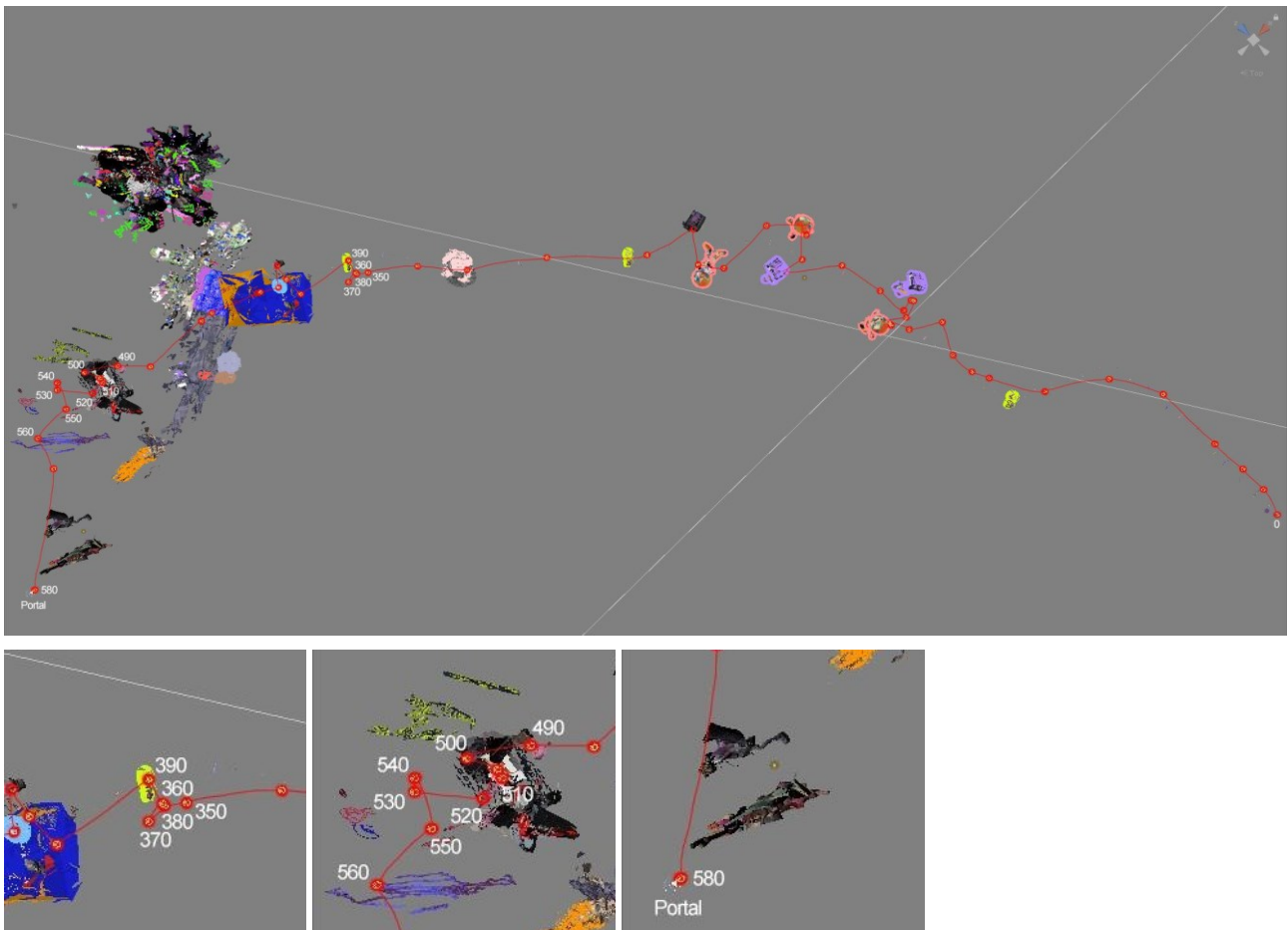


Figure H10. P. B navigation path (red ■) on the X-Z axis top view, Pinkray.

In Figure H10, P. B also explored most of the VR gamespace through the narrative path and multi-fandoms and found the Portal. Differently, she stayed a while, from 5 minutes 50 seconds (350) to 6 minutes 30 seconds (390), around the 3D can HyperSkin (item 34) in the narrative path. When entering the multi-fandoms, she was more interested in the Luo Ji/Shi Qiang NPCs (item 22) before noticing the Portal (item 9) not far away.

## Garden Portal

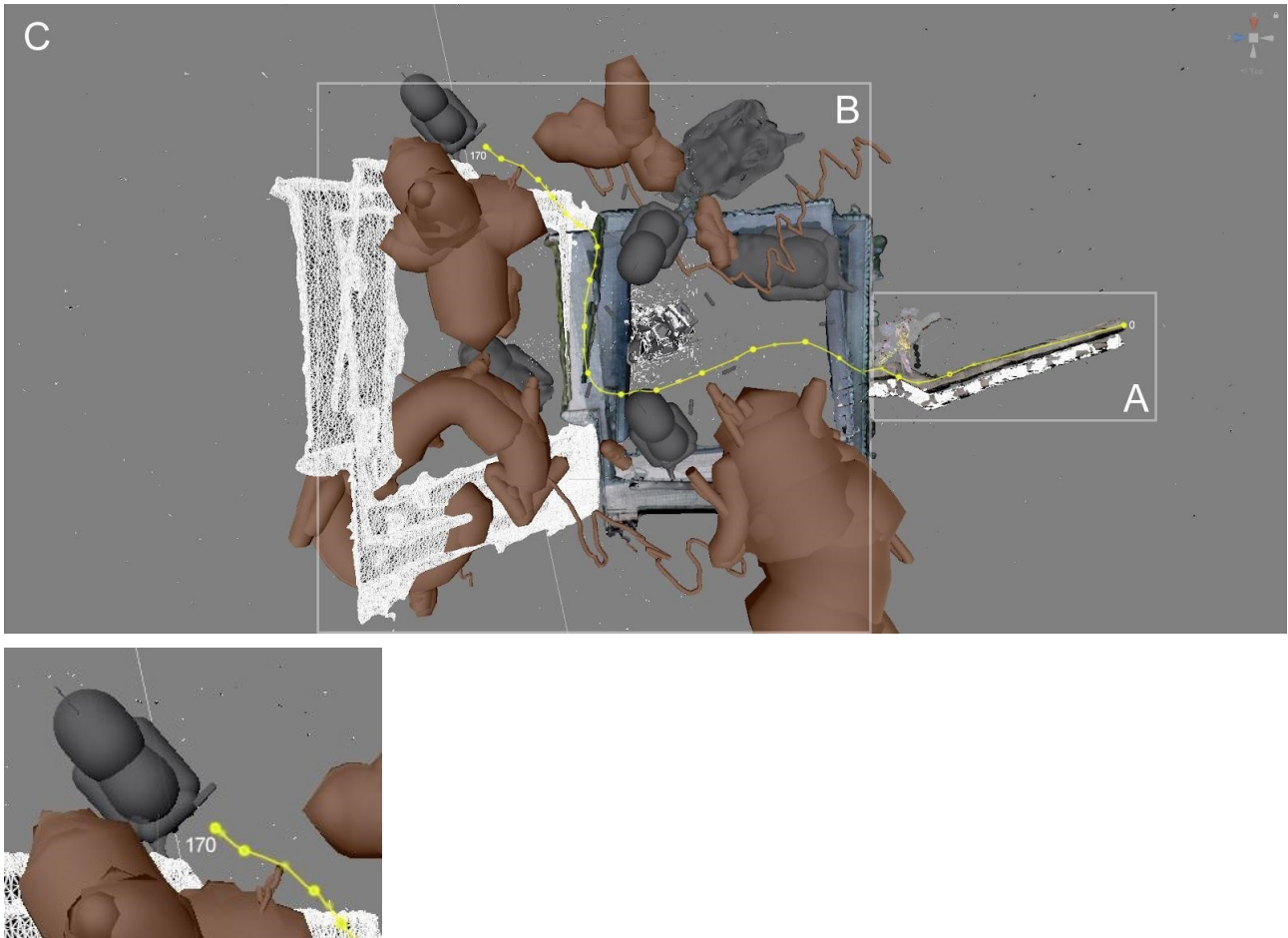


Figure H11. P. A navigation path (bright yellow ■) on the X-Z axis top view, area A: staircase, area B: walled garden, area C: outside walled garden, Garden Portal.

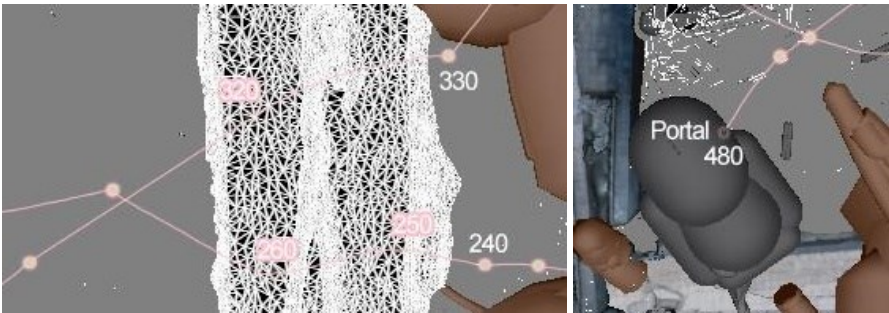
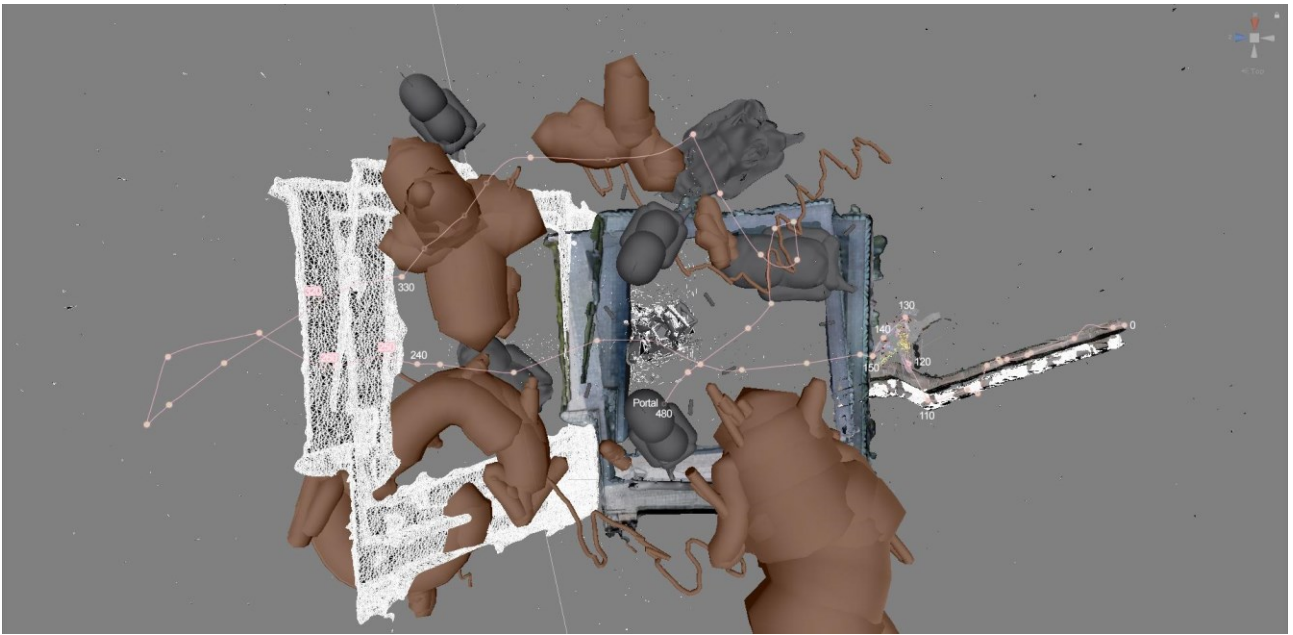


Figure H12. P. F navigation path (pastel pink ■) on the X-Z axis top view, Garden Portal.



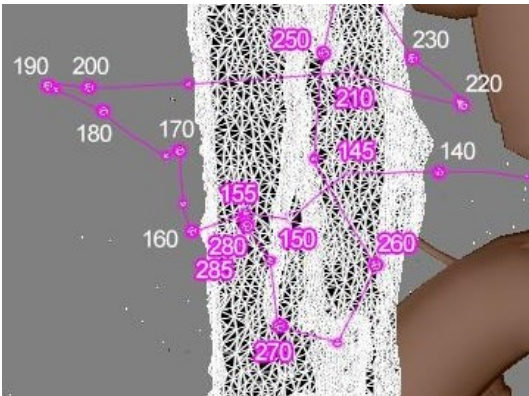
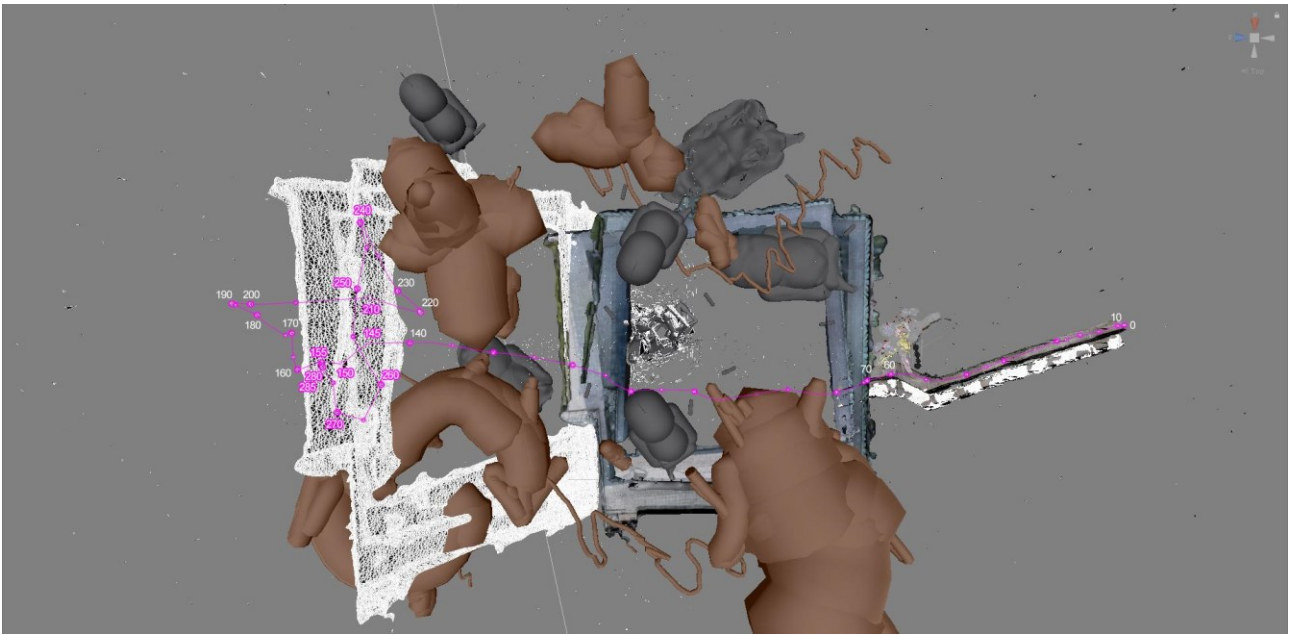


Figure H13. P. G navigation path (magenta ■) on the X-Z axis top view, Garden Portal.

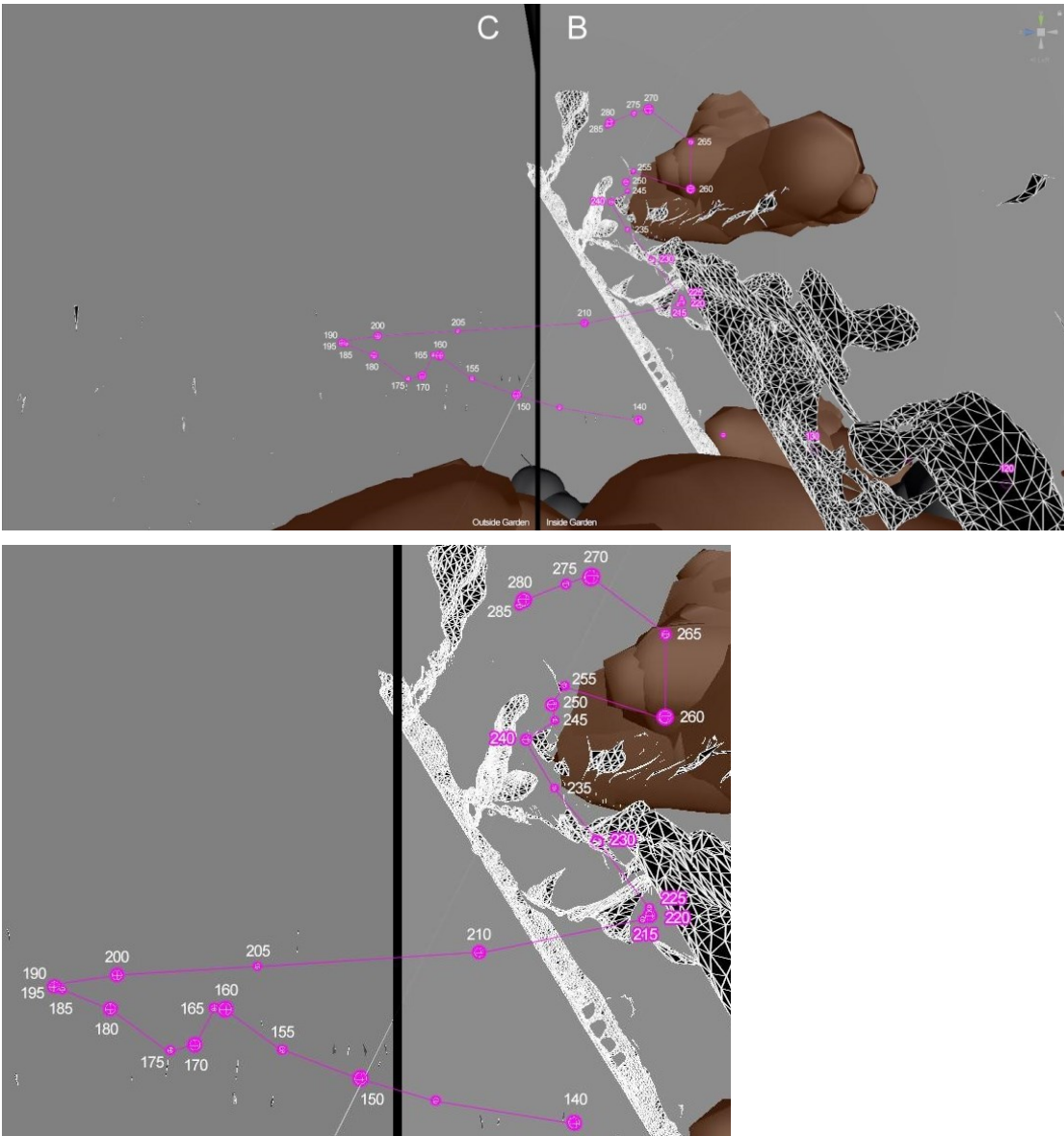


Figure H14. P. G navigation path (magenta ■) in detail Y-Z axis side view, Garden Portal.

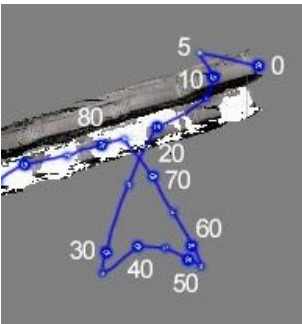
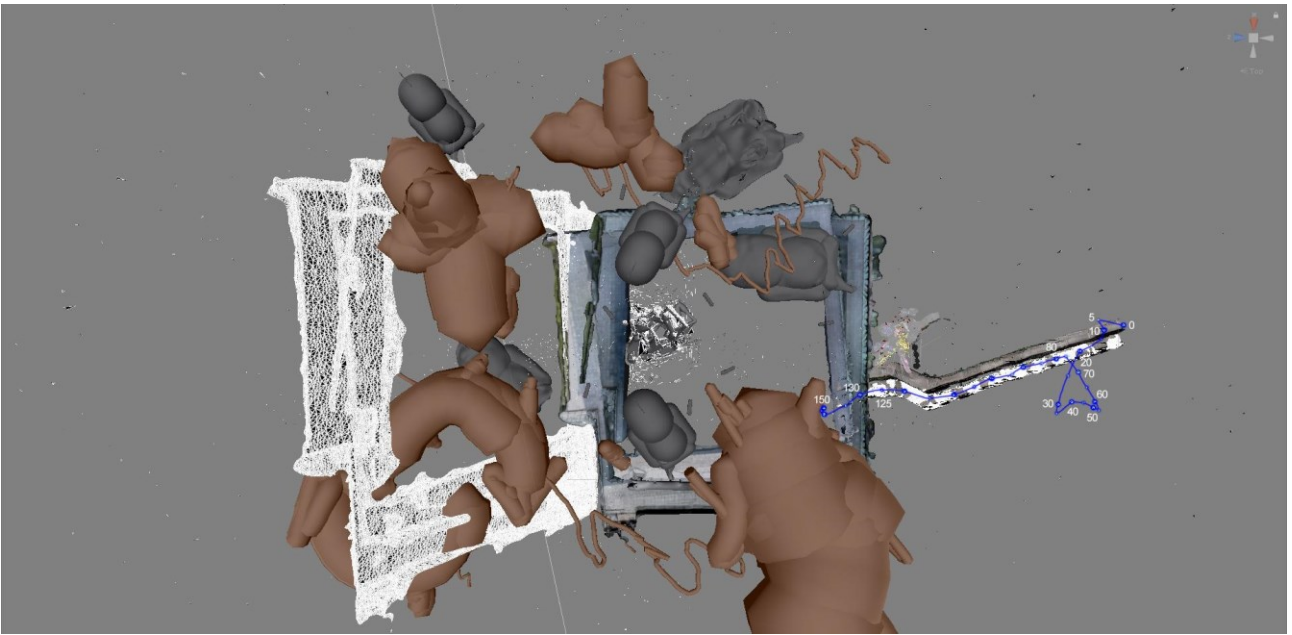


Figure H15. P. J navigation path (blue ■) on the X-Z axis top view, Garden Portal.

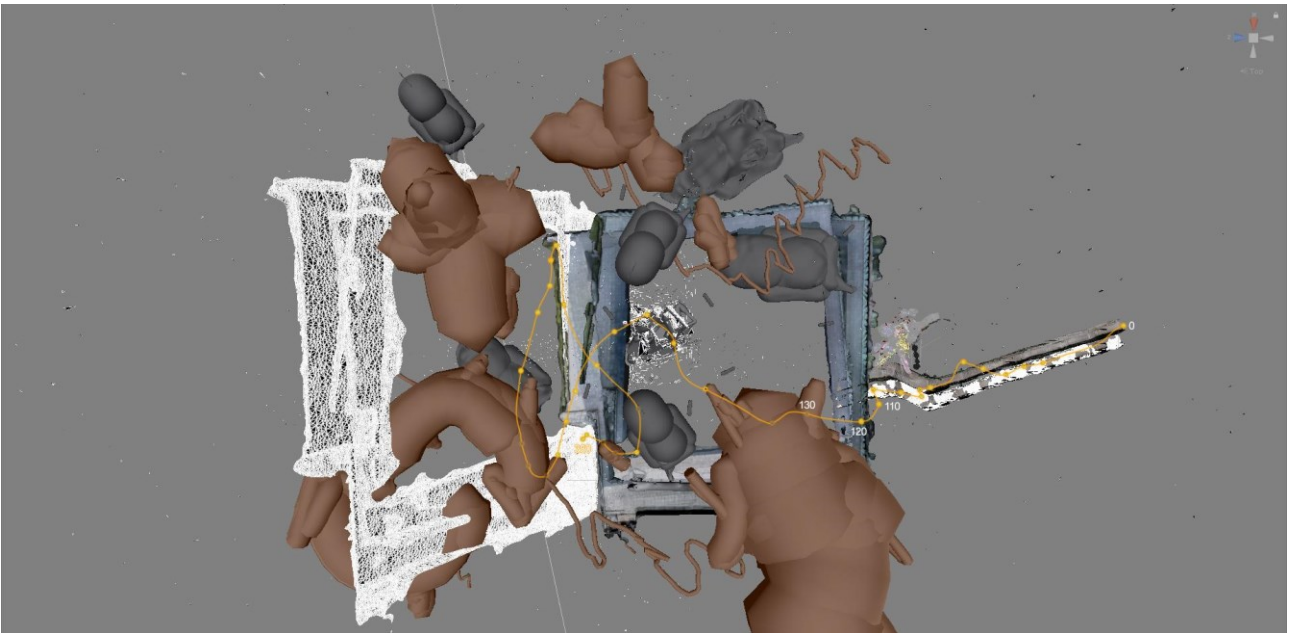




Figure H16. P. I navigation path (orange ■) on the X-Z axis top view, Garden Portal.

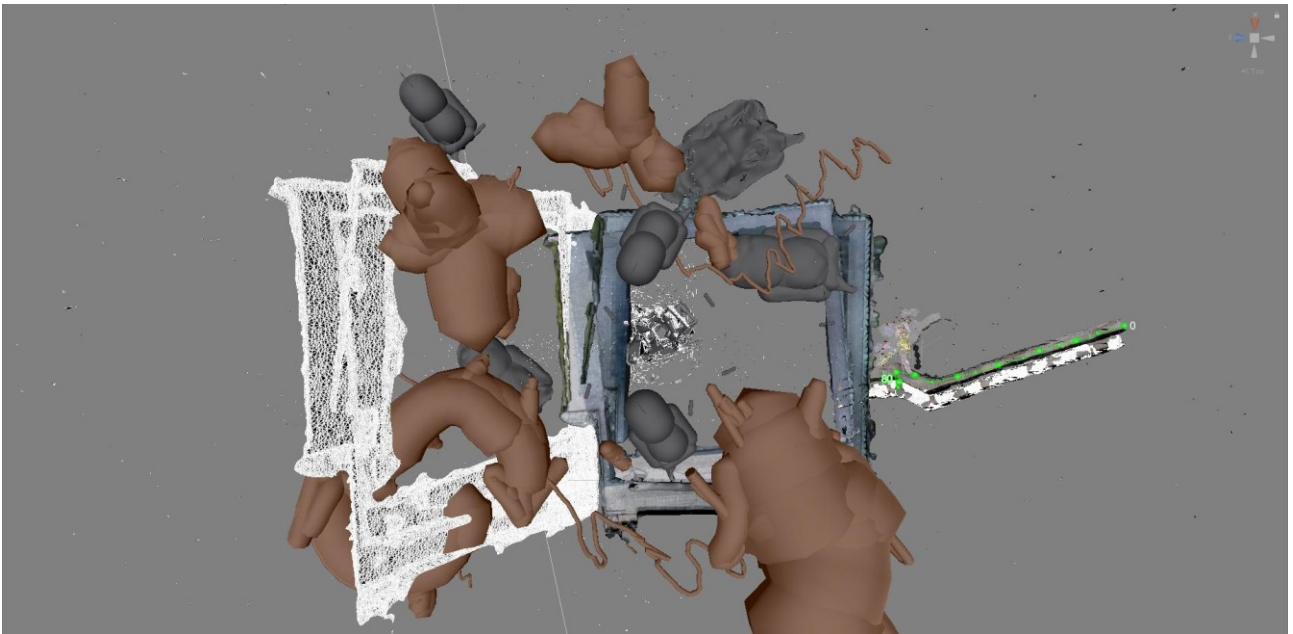


Figure H17. P. E navigation path (green ■) on the X-Z axis top view, Garden Portal.

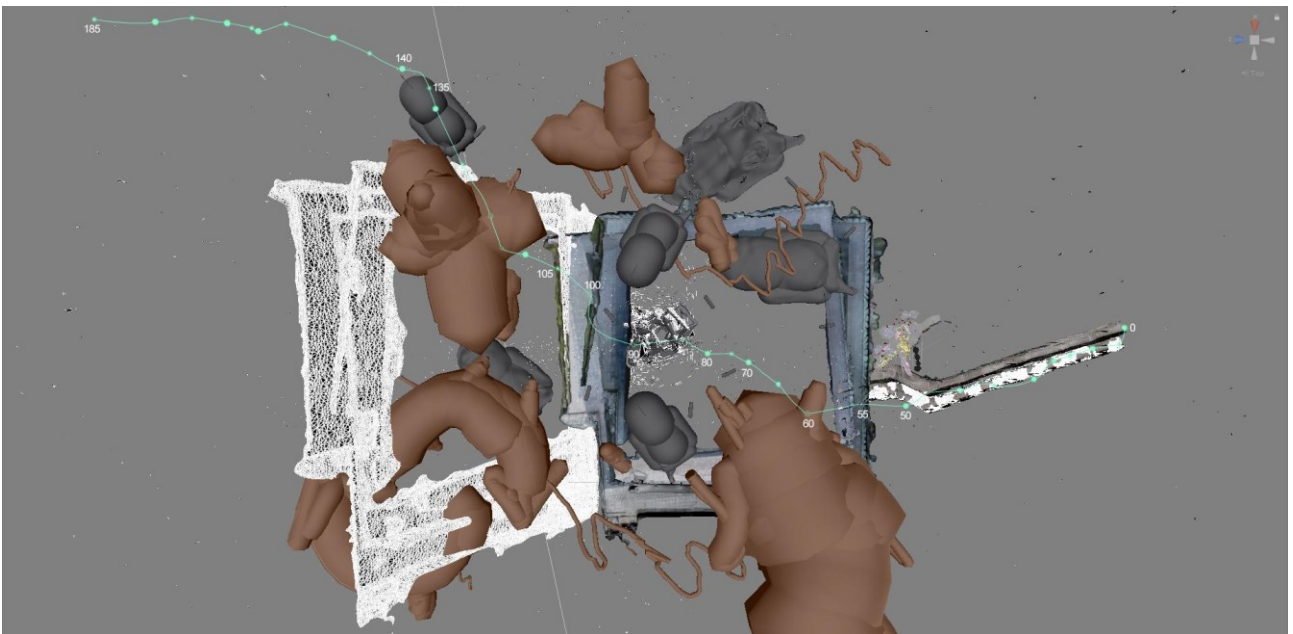


Figure H18. P. H navigation path (turquoise ■) on the X-Z axis top view, Garden Portal.

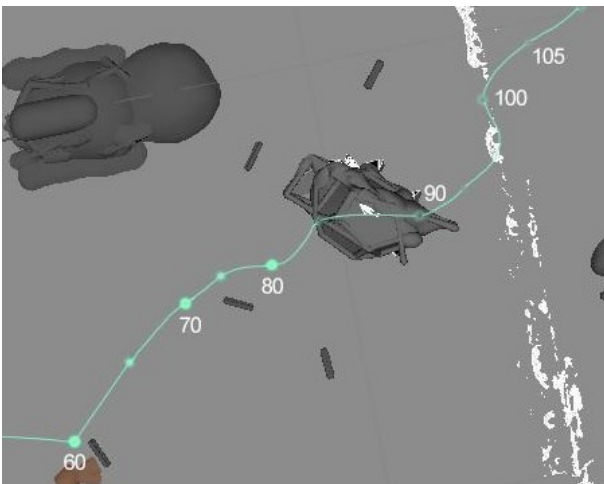
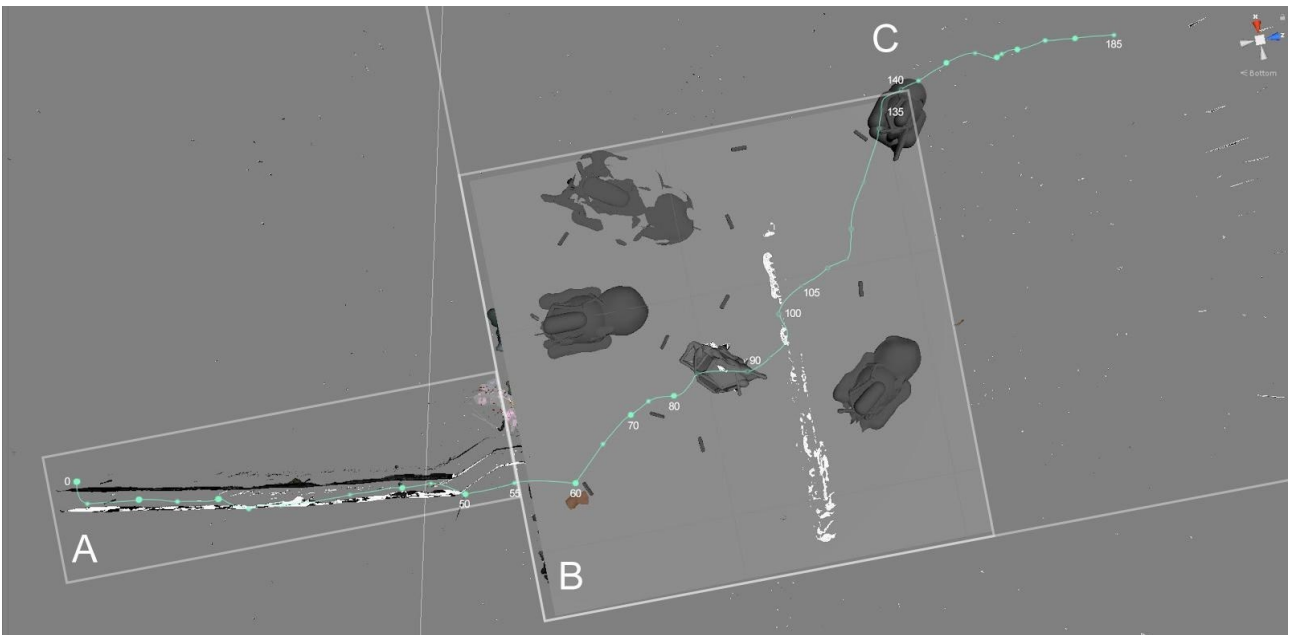


Figure H19. P. H navigation path (turquoise ■) on the X-Z axis bottom view, Garden Portal, looking up towards the top.

In "Garden Portal", P. A quickly navigated into area B - walled garden through area A - staircase in 2 minutes 50 seconds (Figure H11). P. F explored various 3D scans and NPCs inside and outside the walled garden and found the Portal (Figure H12). P. G and P. I also navigated inside and outside the walled garden and instead carefully explored the garden boundary (Figures 6.1.16, 6.1.17, and 6.1.19). P. J found it challenging to control the direction and deal with a collision at first but later entered the walled garden via the staircase (Figure H15). Because of the playtime limit, P. E only played for 1 minute and 20 seconds; he walked through the stairs and wandered around at the walled garden entrance without entering (Figure H17). Interestingly, P. H not only navigated

very far through the stairs to the inside and outside of the walled garden (Figure H18), but from time stamps of 1 minute (60) to 1 minute 30 seconds (90), she explored downwards from 50 seconds after entering the walled garden and discovered hidden gems in the underground of the walled garden (Figure H19).

**Vampire Squid**

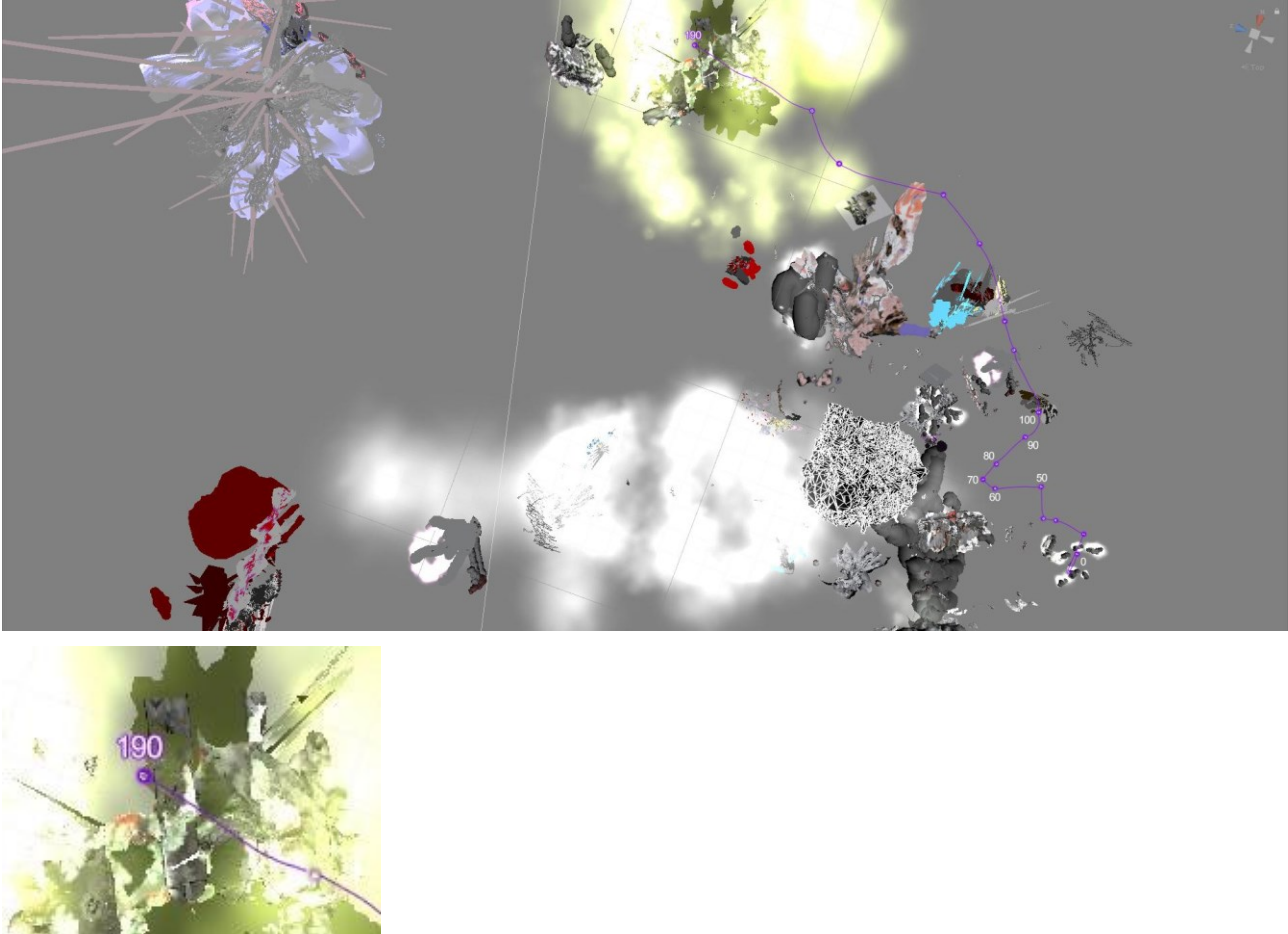


Figure H20. P. C navigation path (blue-violet ■) on the X-Z axis top view, Vampire Squid.

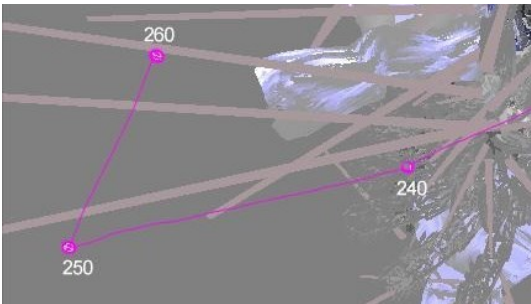
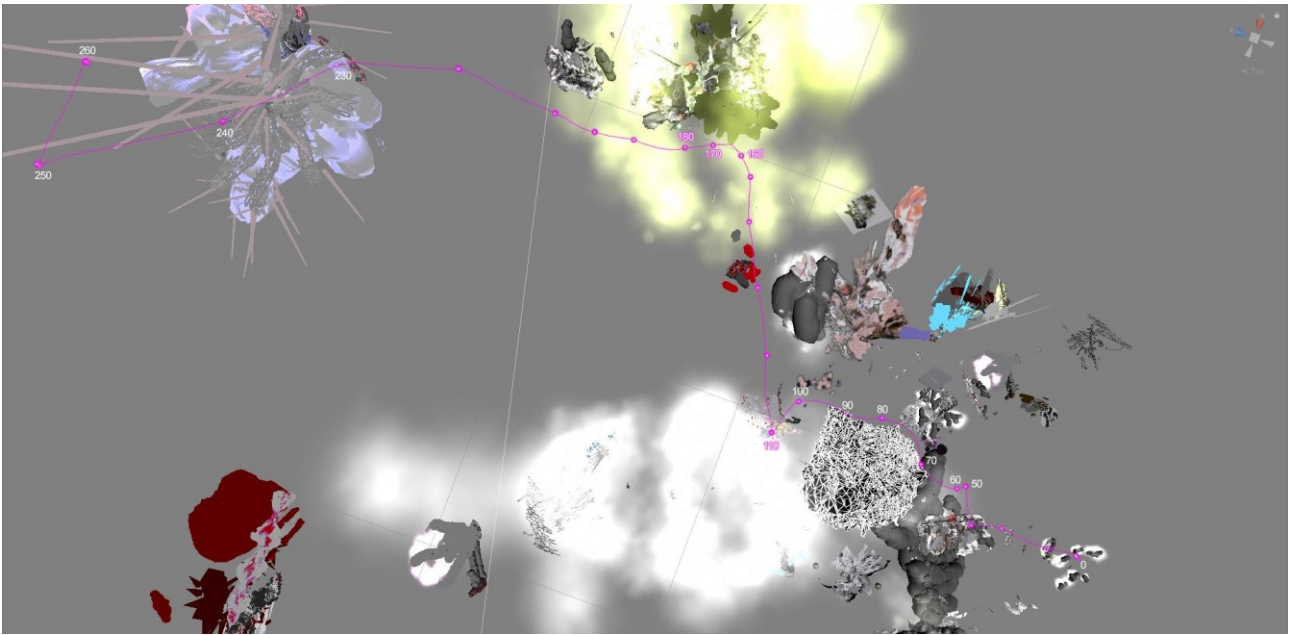


Figure H21. P. G navigation path (magenta ■) on the X-Z axis top view, Vampire Squid.

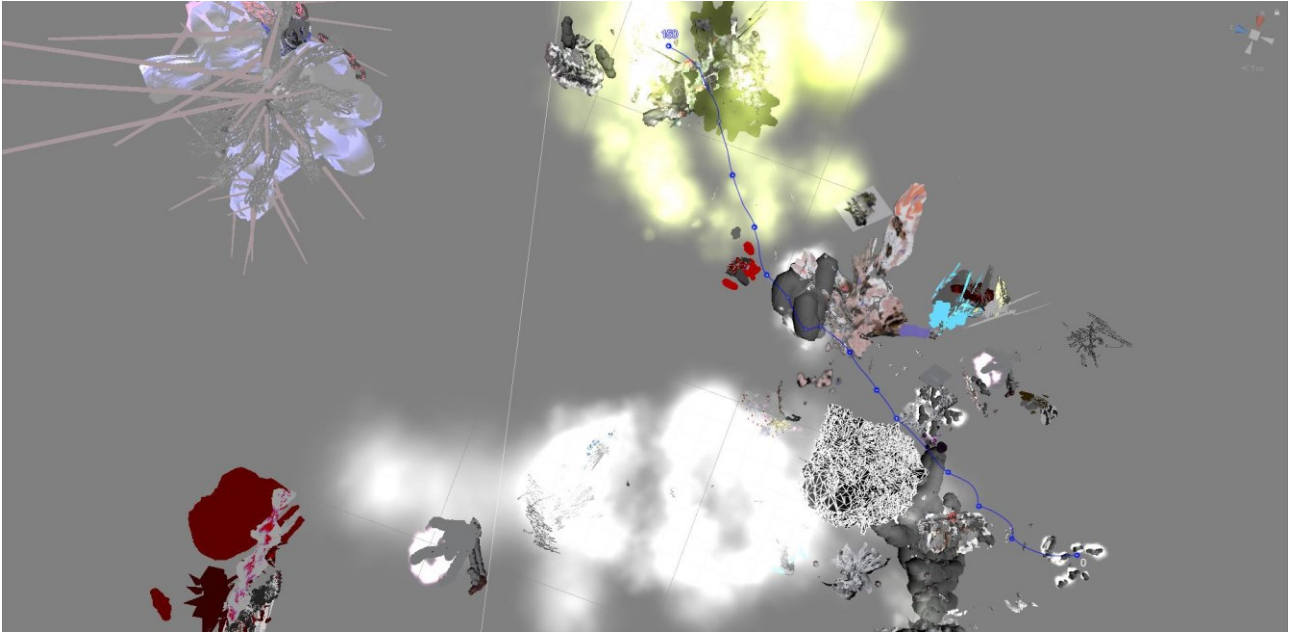




Figure H22. P. J navigation path (blue ■) on the X-Z axis top view, Vampire Squid.

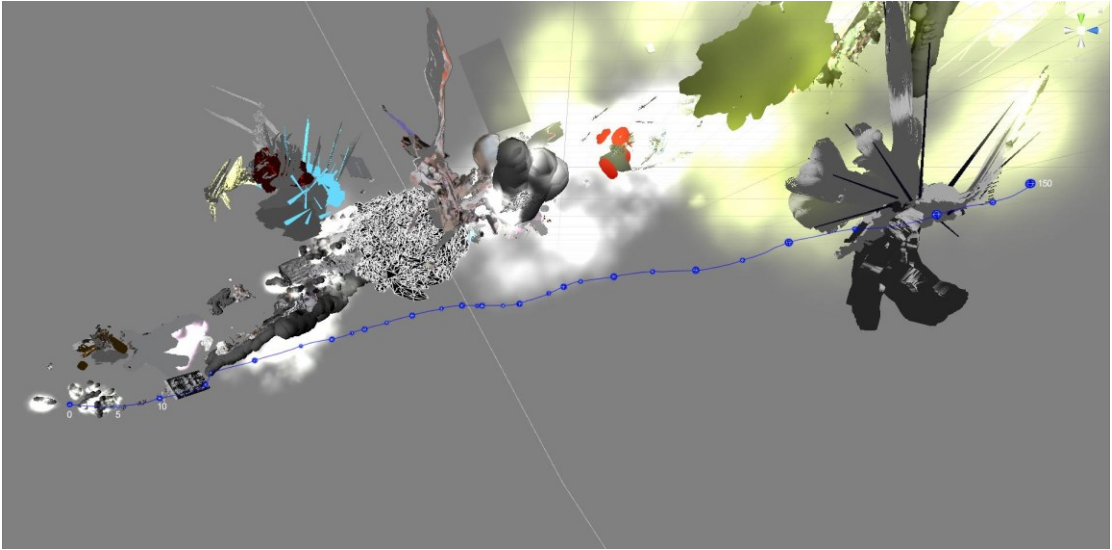


Figure H23. P. J navigation path (blue ■) on the Y-Z axis side view, Vampire Squid.

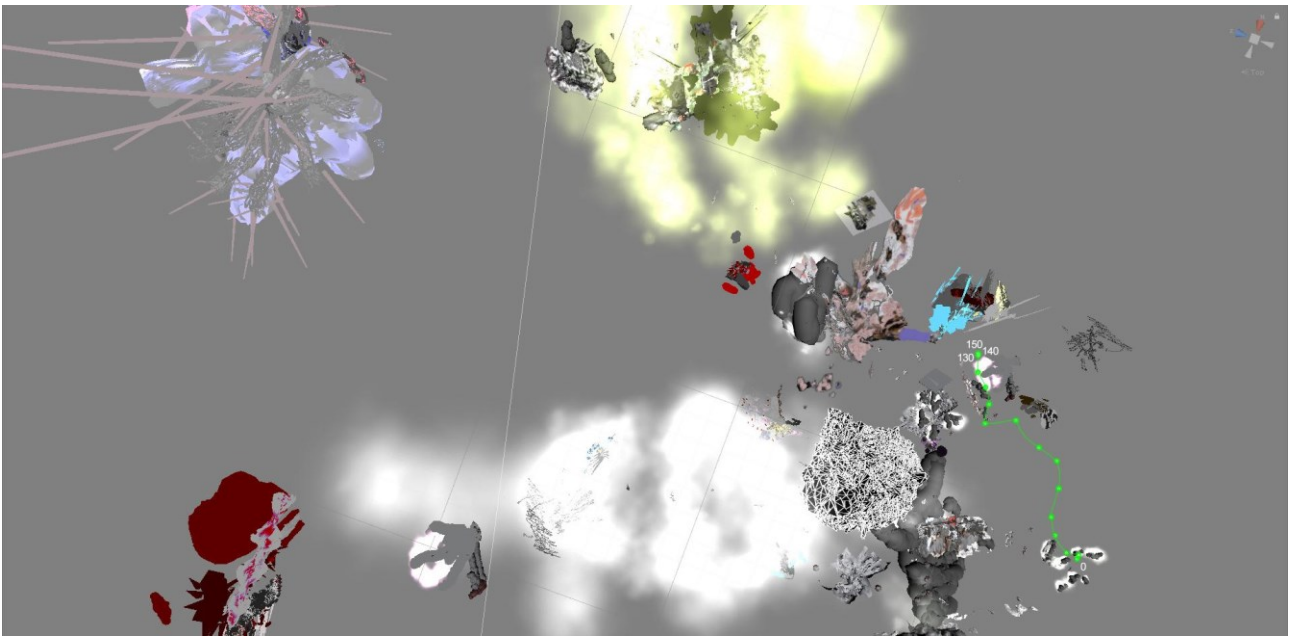


Figure H24. P. E navigation path (green ■) on the X-Z axis top view, Vampire Squid.

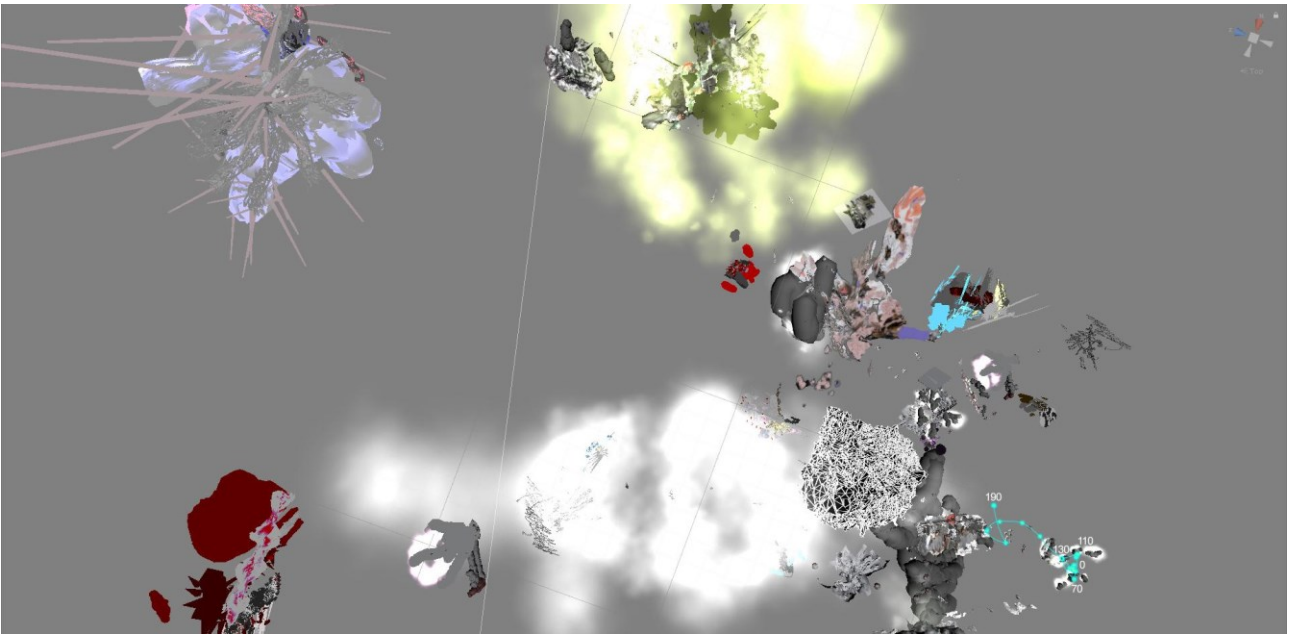


Figure H24. P. D navigation path (cyan ■) on the X-Z axis top view, Vampire Squid.

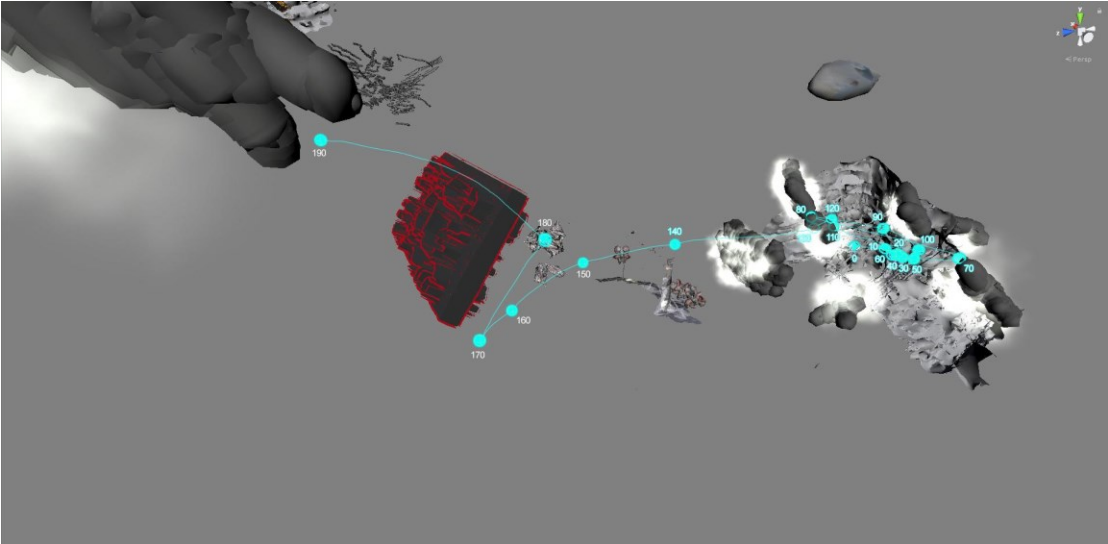


Figure H25. P. D navigation path (cyan ■) in detail, Vampire Squid.

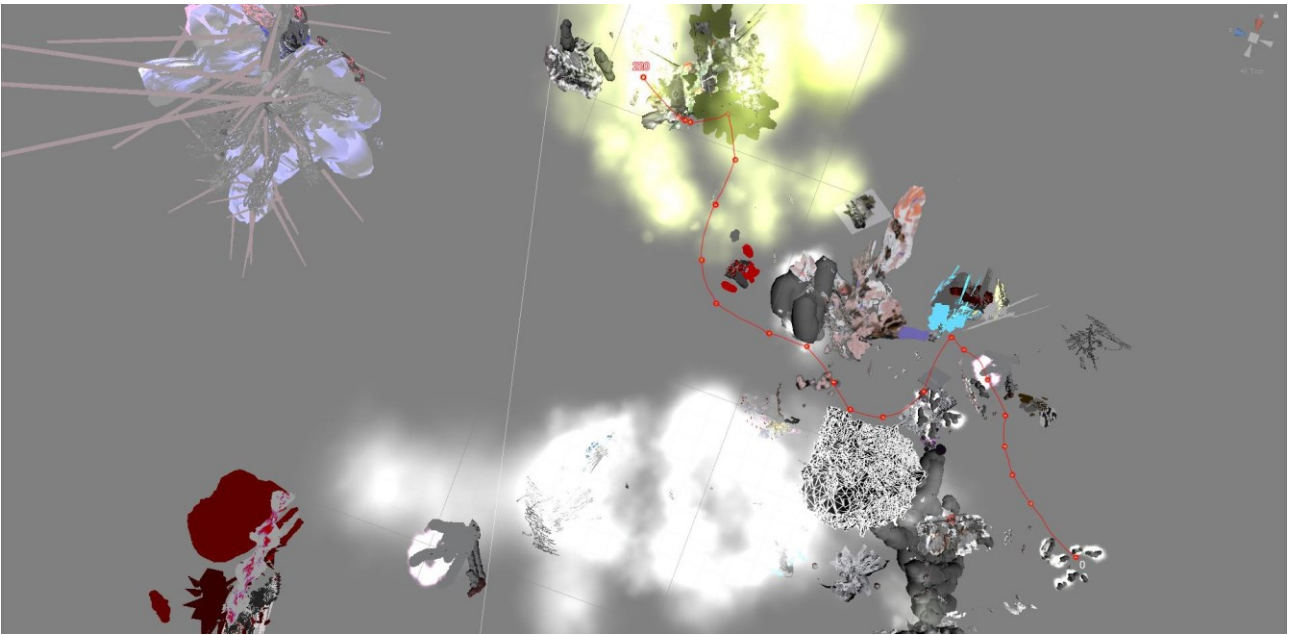


Figure H26. P. B navigation path (red ■) on the X-Z axis top view, Vampire Squid.

## Appendix I: Detailed VR Gameplay Footage for Ten Participants



Figure I1. P. A (bright yellow ■) playing in Garden Portal, falling down the non-collision staircase, gameplay footage.



Figure I2. P. B (red ■) playing in Vampire Squid, right hand holding Oculus Quest VR headset, difficult for focusing because of wearing glasses, gameplay footage.





Figure 13. P. C (blue-violet ■) playing in Vampire Squid, navigation is done through gestures involving full body movements, gameplay footage.



Figure 14. P. D (cyan ■) playing in Pinkray, navigation is done through gestures involving full body movements, gameplay footage.



Figure I5. P. E (green ■) playing in Pinkray, carefully exploring downward, gameplay footage.



Figure I6. P. F (pastel pink ■) playing in Garden Portal, frequently rotating the swivel chair to adjust directions, gameplay footage.



Figure 17. P. G (magenta ■) playing in Typhoon Lionrock, carefully exploring downward, gameplay footage.



Figure 18. P. H (turquoise ■) playing in Garden Portal, carefully exploring upward, gameplay footage.





Figure I9. P. I (orange ■) playing in Typhoon Lionrock, navigation is done through gestures involving full body movements, gameplay footage.



Figure I10. P. J (blue ■) playing in Pinkray, navigating in VR gamespace using consistent gestures, the gameplay footage.

## Appendix J: Questionnaire Design for Evaluating VR Gamespace

The questionnaire can be accessed online via Google Forms:

<https://forms.gle/BiQ4xznomdcsHaz46>



### Survey on Experiences in the VR Gamespaces of "Maximalism HyperBody"

Thank you for your interest in our survey.

The questionnaire has 7 sections include **VR Experience and Engagement**, VR Related Ill Effects (Optional), **Game Experience Core Module**, **Post Game Module**, **Research Question Evaluation**, **Game Elements**, and Comment (Optional).

It will take you about 20 - 30 minutes to fill in the questionnaire. You can work through the questionnaire offline or online.

In the end, you will have access to "Maximalism HyperBody" NFT (Non-fungible Token).

*For any questions, please contact [jqian001@gold.ac.uk](mailto:jqian001@gold.ac.uk)*

## 1. VR Experience and Engagement

I consider my experience with VR technology to be ... \*

Mark only one oval.

	0	1	2	3	4	
Extremely poor (never interfered)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely advanced (worked on creating VR experiences or games)

I consider myself an active member of the VR game community and/or a VR gamer. \*

Mark only one oval.

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

## 2. VR Related Ill Effects (Optional)

Answer **only if** you have experienced some negative effect(s) while playing the VR game "Maximalism HyperBody".

**I felt...**

*Check all that apply.*

- Nausea
- Difficulty concentrating
- Dizziness
- Headache
- Drowsiness
- General discomfort
- Boredom
- Fatigue
- Tired eyes
- Eyestrain
- Blurred vision
- Difficulty focusing
- Sore/aching eyes
- Other:

**3. Game Experience Core Module**

**Please indicate how you felt while playing the game for each of the items on the following scale:**

*Mark only one oval per row.*

- 0 Not at all*
- 1 Slightly*
- 2 Moderately*
- 3 Fairly*
- 4 Extremely*

**I was interested in the game's story. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

**I thought it was fun. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

**I was fully occupied with the game. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

**I felt happy. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely



**I felt frustrated. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

**I thought about other things. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

**I found it tiresome. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

**I felt competent. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

**I thought it was hard. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

**It was aesthetically pleasing. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

**I forgot everything around me. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

**I felt imaginative. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

**I felt that I could explore things. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

**I felt content. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

**I felt skilful. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

**I was fast at reaching the game's targets. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

**I felt annoyed. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

**I felt pressured. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

**I felt irritable. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

**I lost track of time. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

**I felt challenged. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

**I found it impressive. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

**I was deeply concentrated in the game. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

**I felt bored. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

**It felt like a rich experience. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

**I felt time pressure. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

**I had to put a lot of effort into it. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

**It gave me a bad mood. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

**I felt good. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

**I was good at it. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

**I felt successful. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

**I enjoyed it. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

**I lost connection with the outside world. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

#### 4. Post Game Module

Please indicate how you felt after you finished playing the game for each of the items on the following scale:

*Mark only one oval per row.*

0 *Not at all*

1 *Slightly*

2 *Moderately*

3 *Fairly*

4 *Extremely*



**I felt revived. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

**I felt bad. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

**I found it hard to get back to reality. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

**I felt guilty. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

**It felt like a victory. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

**I found it a waste of time. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

**I felt energised. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

**I felt satisfied. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

**I felt disoriented. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

**I felt exhausted. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

**I felt that I could have done more useful things. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

**I felt powerful. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

**I felt weary. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

**I felt regret. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

**I felt ashamed. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

**I felt proud. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

**I had a sense that I had returned from a journey. \***

	0	1	2	3	4	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

## 5. Research Question Evaluation

Please use the following scale to indicate how you felt about the research questions and how the game addressed them after you finished playing, for each item in the module:

Mark only one oval per row.

0: Fully disagree

1: Somewhat disagree

2: Slightly disagree

3: Neither agree nor disagree (neutral)

4: Slightly agree

5: Somewhat agree

6: Fully agree

The "Maximalism HyperBody" VR game provided me with an experimental VR experience. \*

	0	1	2	3	4	5	6	
Fully disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Fully agree

In the experimental VR gamespace I had a sense of "being there". \*

	0	1	2	3	4	5	6	
Fully disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Fully agree

I had a sense of acting and performing in the experimental VR gamespace, rather than operating something from outside. \*

	0	1	2	3	4	5	6	
Fully disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Fully agree

**I was completely captivated by the VR gamespace through the experimental and non-collision settings. \***

0 1 2 3 4 5 6

Fully disagree        Fully agree

**I was completely captivated by the VR gamespace through the misty and rainy settings. \***

0 1 2 3 4 5 6

Fully disagree        Fully agree

**The research tries to measure the VR gamespace reconfigured by players between culture, technology, and affection. I had an unusual navigation experiences that provoked creative and affective thinking. \***

0 1 2 3 4 5 6

Fully disagree        Fully agree

## 6. Game Elements

**Rate the following elements:**

*Mark only one oval per row.*

0 *Very bad*

1 *Poor*

2 *Fair*

3 *Good*

4 *Excellent*

**Motivation** (closely connected to fan studies, game studies, and VR productions) \*

	0	1	2	3	4	
Very bad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Excellent

**Engagement** (experimental gameplay) \*

	0	1	2	3	4	
Very bad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Excellent

**Challenge** (the ideas of what VR gamespace can be) \*

	0	1	2	3	4	
Very bad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Excellent

**Affection/Emotional attachment** (animation, comic, game, and novel) \*

	0	1	2	3	4	
Very bad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Excellent

**Story/Narrative (experimental gameplay) \***

	0	1	2	3	4	
Very bad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Excellent

**Theme and setting (experimental VR gamespaces) \***

	0	1	2	3	4	
Very bad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Excellent

**Interactions and control (experimental VR gamespaces) \***

	0	1	2	3	4	
Very bad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Excellent

**Audio (experimental VR gamespaces) \***

*Sonic experiences*

	0	1	2	3	4	
Very bad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Excellent



**Text (experimental VR gamespaces) \***

*Reading experiences*

	0	1	2	3	4	
Very bad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Excellent

**Body character (experimental VR gamespaces) \***

*Texture, animation, and dialogue*

	0	1	2	3	4	
Very bad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Excellent

**3D scan (experimental VR gamespaces) \***

*Modifying and crossing-over between gamespace and real-life environment*

	0	1	2	3	4	
Very bad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Excellent

**Architectural aesthetics (experimental VR gamespaces) \***

*Incomplete, imperfect, and picturesque*

	0	1	2	3	4	
Very bad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Excellent

## 7. Comment (Optional)

**Do you have additional comments? i.e. What further or as-yet untapped opportunities do you see for the “Maximalism HyperBody” VR gamespace?**

Your answer

---

## Appendix K: Questionnaire Results

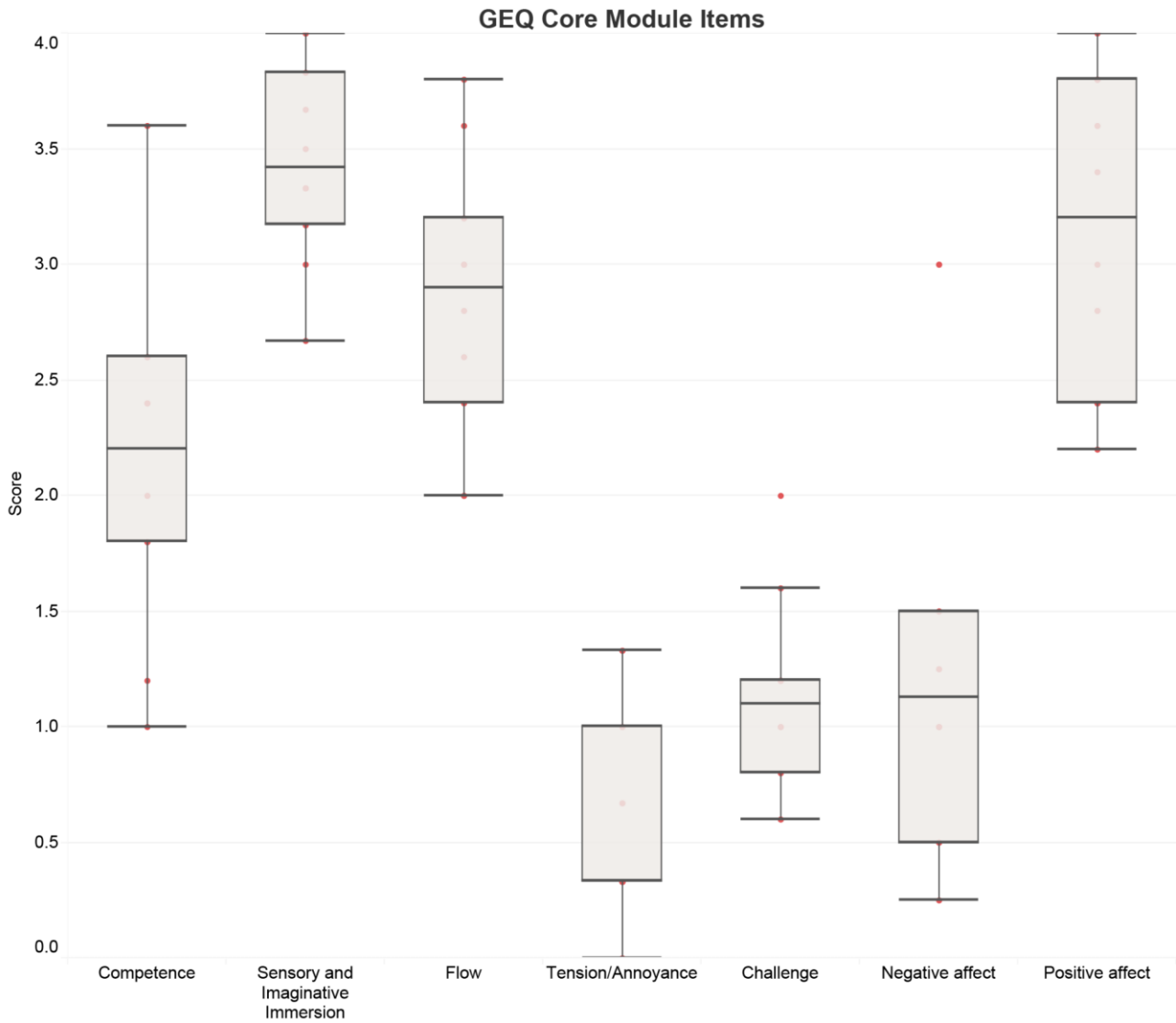


Figure K1. GEQ Core Module results, 5-point Likert scale: 0: not at all, 1: slightly, 2: moderately, 3: fairly, and 4: extremely.

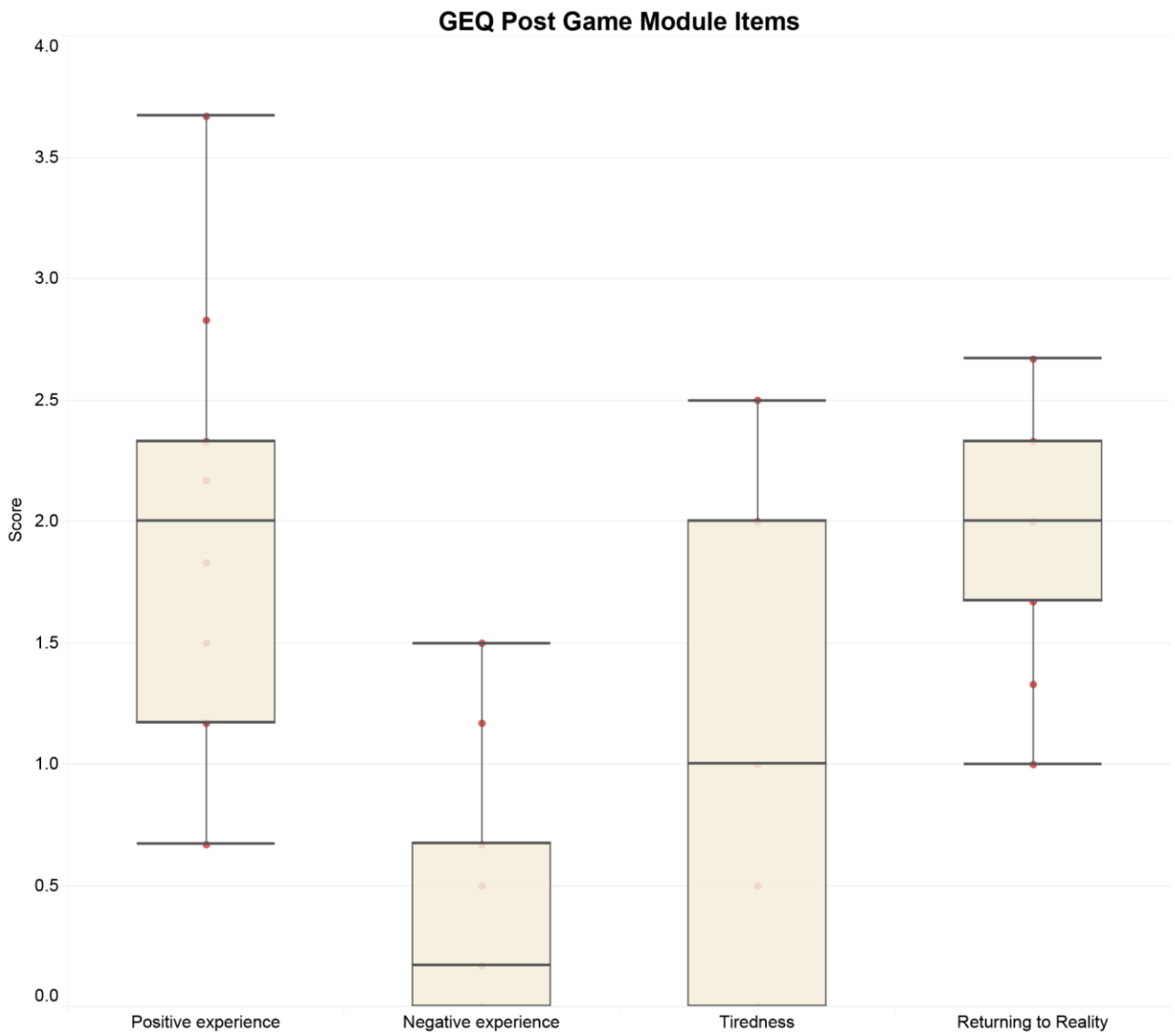


Figure K2. GEQ Post Game Module results, 5-point Likert scale: 0: not at all, 1: slightly, 2: moderately, 3: fairly, and 4: extremely.

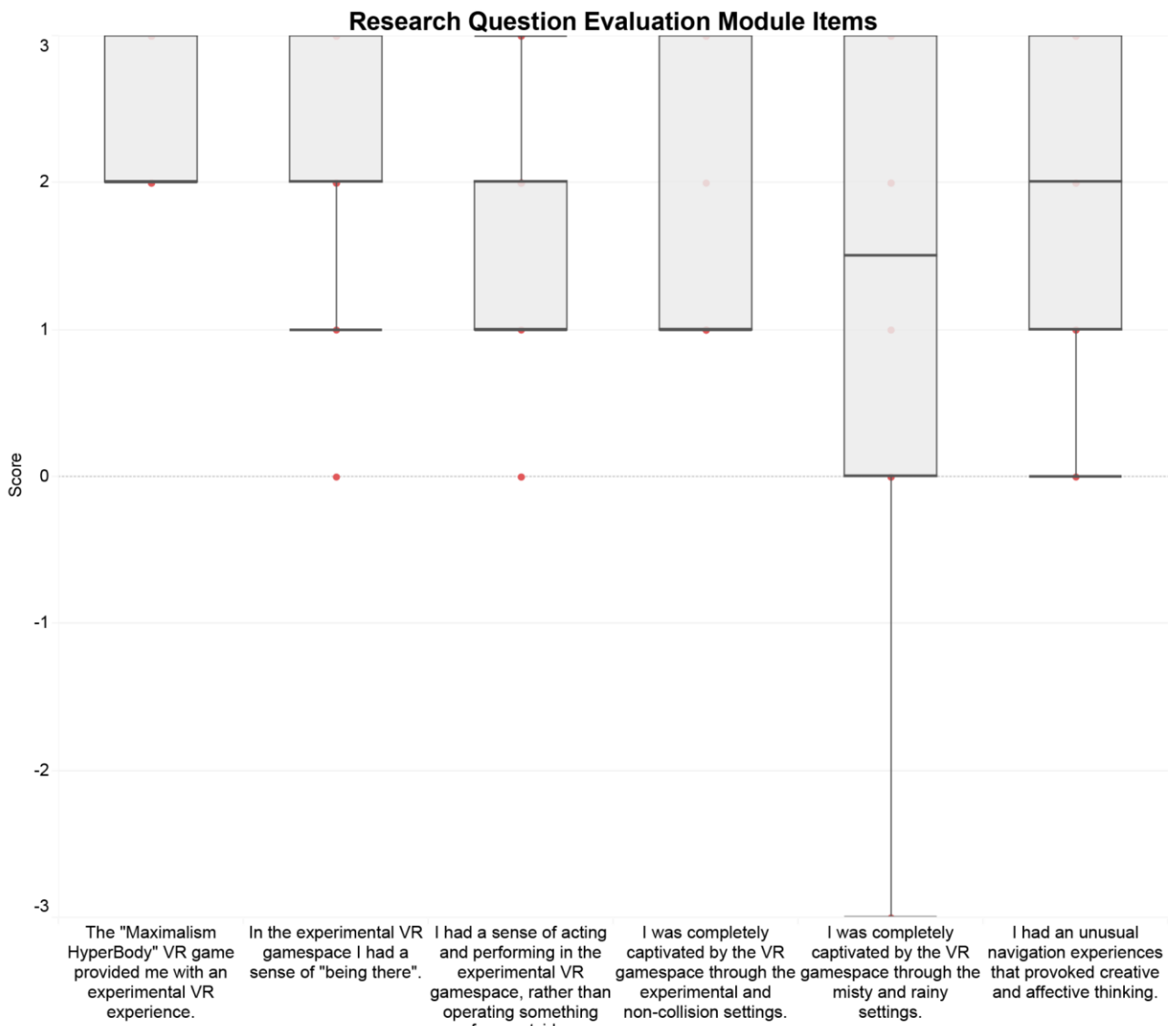


Figure K3. Research Question Evaluation Module result, 7-point Likert scale: -3: fully disagree, -2: somewhat disagree, -1: slightly disagree, 0: Neither agree nor disagree (neutral), 1: slightly agree, 2: somewhat agree, and 3: fully agree.

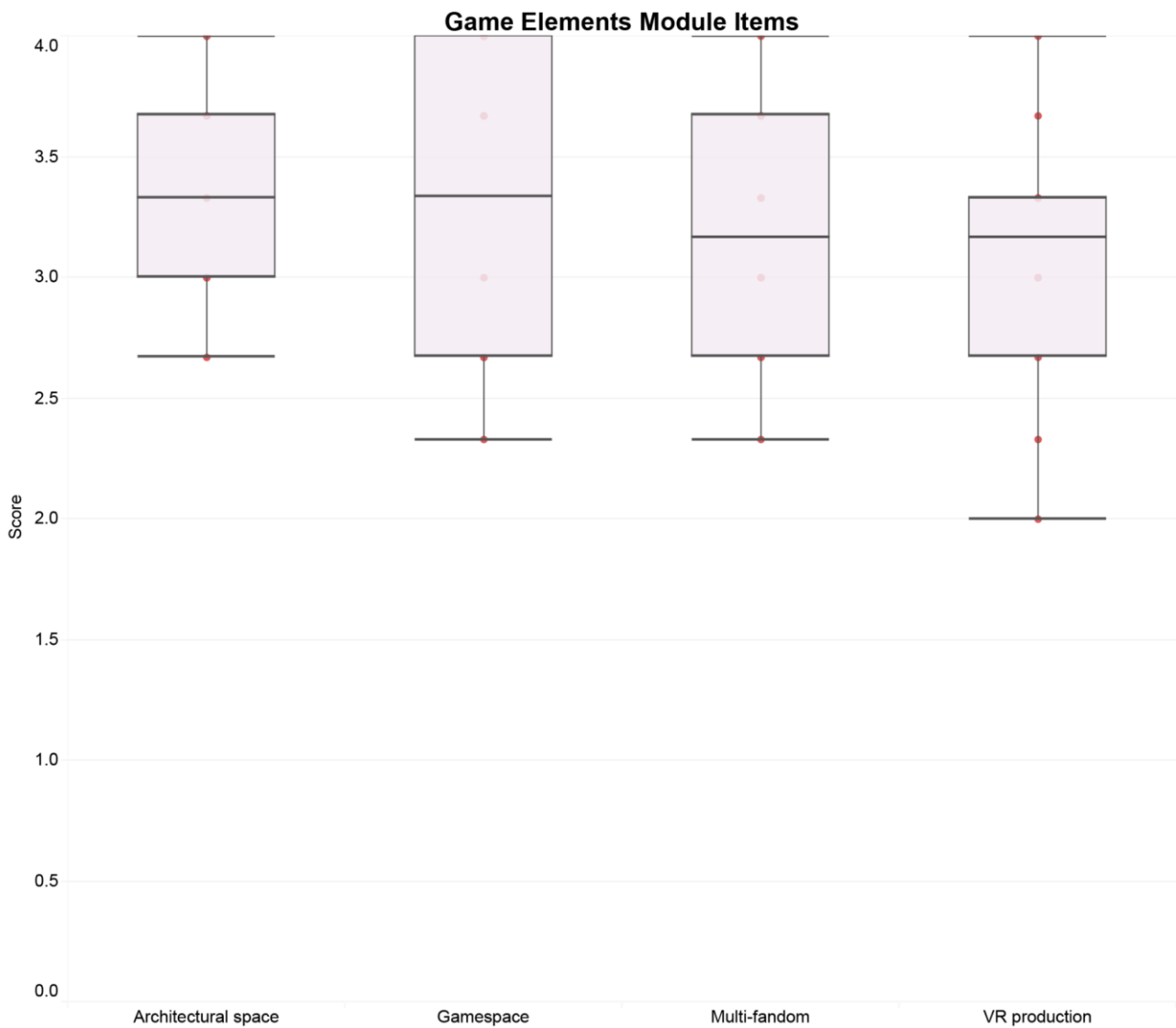


Figure K4. Game Elements Module result, 5-point Likert scale: 0: very bad, 1: poor, 2: fair, 3: good, and 4: excellent.

### Questionnaire Item Score Table

The sections on VR Experience and Engagement and VR Related Ill Effects (optional) can be found in the thesis. The item score table for the Game Experience Core Module, Post Game Module, Research Question Evaluation, and Game Elements sections will be presented here. Please note that no participants filled out the Comment (optional) section.

Number	Item	Score	Individual Score																			
			P	J	P	A	P	B	P	C	P	D	P	E	P	F	P	G	P	H	P	I
<b>Game Experience Core Module</b>																						
1	I felt content	3.3	3	3	3	3	3	4	4	3	2	4	4									
2	I felt skilful	1.5	1	2	1	2	4	0	1	1	3	0										
3	I was interested in the game's story	3.4	2	4	3	4	4	4	4	3	4	2										
4	I thought it was fun	3.2	2	3	3	3	4	4	2	3	4	4										
5	I was fully occupied with the game	3.3	2	3	4	4	4	4	2	2	4	4										
6	I felt happy	3.0	2	3	3	3	4	4	2	2	4	3										
7	It gave me a bad mood	1.0	2	0	1	0	4	0	0	0	3	0										
8	I thought about other things	2.0	0	2	2	0	4	4	3	3	1	1										
9	I found it tiresome	1.7	0	1	1	1	4	4	3	2	1	0										
10	I felt competent	2.2	0	2	2	3	4	4	2	2	0	3										
11	I thought it was hard	1.5	3	1	1	0	4	4	0	1	0	1										
12	It was aesthetically pleasing	3.3	3	3	3	4	4	4	2	4	2	4										
13	I forgot everything around me	2.7	3	2	2	4	4	4	3	1	1	3										
14	I felt good	2.9	2	2	3	4	2	4	2	2	4	4										
15	I was good at it	3.0	1	3	2	3	4	4	3	3	4	3										
16	I felt bored	0.7	0	1	0	0	0	4	0	0	1	1										
17	I felt successful	2.6	1	2	1	3	2	4	4	2	4	3										
18	I felt imaginative	3.7	4	3	4	4	4	4	4	2	4	4										
19	I felt that I could explore things	3.6	3	3	3	4	4	4	3	4	4	4										
20	I enjoyed it	3.3	2	3	3	4	4	4	3	3	3	4										
21	I was fast at reaching the game's targets	1.4	2	1	0	2	4	0	2	1	2	0										
22	I felt annoyed	0.3	0	1	0	1	0	0	0	1	0	0										
23	I felt pressured	0.3	1	1	0	0	0	0	1	0	0	0										
24	I felt irritable	0.2	0	1	1	0	0	0	0	0	0	0										
25	I lost track of time	2.0	2	1	2	3	0	4	3	2	0	3										
26	I felt challenged	1.4	4	2	1	2	0	0	2	2	0	1										
27	I found it impressive	3.4	3	3	3	4	4	4	2	4	3	4										
28	I was deeply concentrated in the game	3.3	3	3	3	4	4	4	3	2	4	3										
29	I felt frustrated	1.3	1	1	0	0	4	4	0	0	2	1										
30	It felt like a rich experience	3.3	3	3	4	3	4	4	1	3	4	4										
31	I lost connection with the outside world	2.9	3	3	4	4	2	2	4	3	1	3										
32	I felt time pressure	0.6	0	1	2	0	0	0	0	0	2	1										
33	I had to put a lot of effort into it	1.8	2	1	2	1	2	4	1	2	3	0										

0: Not at all / 1: Slightly / 2: Moderately / 3: Fairly / 4: Extremely  
Reference: <https://research.tue.nl/en/publications/the-game-experience-questionnaire>

<b>Scoring Game Experience Core Module</b>	
<b>Competence:</b> Items 2, 10, 15, 17, and 21	<b>2.14</b> 1.00 2.00 1.20 2.60 <b>3.60</b> 2.40 2.40 1.80 2.60 1.80
<b>Sensory and Imaginative Immersion:</b> Items 3, 12, 18, 19, 27, and 30	<b>3.45</b> 3.00 3.17 3.33 3.83 <b>4.00</b> 4.00 <b>2.67</b> 3.33 3.50 3.67
<b>Flow:</b> Items 5, 13, 25, 28, and 31	<b>2.84</b> 2.60 2.40 3.00 <b>3.80</b> 2.80 3.60 3.00 <b>2.00</b> <b>2.00</b> 3.20
<b>Tension/Annoyance:</b> Items 22, 24, and 29	<b>0.60</b> 0.33 1.00 0.33 0.33 <b>1.33</b> <b>1.33</b> <b>0.00</b> 0.33 0.67 0.33
<b>Challenge:</b> Items 11, 23, 26, 32, and 33	<b>1.12</b> <b>2.00</b> 1.20 1.20 <b>0.60</b> 1.20 1.60 0.80 1.00 1.00 0.60
<b>Negative affect:</b> Items 7, 8, 9, and 16	<b>1.35</b> 0.50 1.00 1.00 <b>0.25</b> <b>3.00</b> <b>3.00</b> 1.50 1.25 1.50 0.50
<b>Positive affect:</b> Items 1, 4, 6, 14, and 20	<b>3.14</b> <b>2.20</b> 2.80 3.00 3.40 3.60 <b>4.00</b> 2.40 2.40 3.80 3.80

Number	Item	Score	Individual Score																				
			P	J	P	A	P	B	P	C	P	D	P	E	P	F	P	G	P	H	P	I	
<b>Post Game Module</b>																							
1	I felt revived	1.9	2	1	3	2	3	4	2	2	0	0											
2	I felt bad	0.4	0	1	1	0	0	0	2	0	0	0											
3	I found it hard to get back to reality	1.2	0	2	1	0	2	2	3	1	0	1											
4	I felt guilty	0.1	0	1	0	0	0	0	0	0	0	0											
5	It felt like a victory	1.8	0	1	0	2	2	4	4	2	2	1											
6	I found it a waste of time	0.4	0	1	0	0	0	0	2	1	0	0											
7	I felt energised	1.7	1	1	1	4	0	2	2	2	3	1											
8	I felt satisfied	2.8	1	3	2	4	4	4	2	2	3	3											
9	I felt disoriented	1.6	0	3	3	1	0	2	2	3	2	0											
10	I felt exhausted	1.0	0	2	1	0	0	0	2	3	2	0											
11	I felt that I could have done more useful things	0.8	1	2	1	0	0	0	2	1	1	0											
12	I felt powerful	2.3	0	2	1	3	4	4	2	3	3	1											
13	I felt weary	1.2	1	2	3	0	0	2	2	2	0	0											
14	I felt regret	0.5	0	1	1	0	0	0	1	2	0	0											
15	I felt ashamed	0.3	0	1	0	0	0	0	2	0	0	0											
16	I felt proud	1.3	0	1	0	2	0	4	2	0	3	1											
17	I had a sense that I had returned from a journey	3.1	3	3	3	4	4	2	2	3	4	3											

0: Not at all / 1: Slightly / 2: Moderately / 3: Fairly / 4: Extremely  
Reference: <https://research.tue.nl/en/publications/the-game-experience-questionnaire>

#### Scoring Post Game Module

<b>Positive Experience:</b> Items 1, 5, 7, 8, 12, 16.	<b>1.97</b>	<b>0.67</b>	1.50	1.17	2.83	2.17	<b>3.67</b>	2.33	1.83	2.33	1.17
<b>Negative experience:</b> Items 2, 4, 6, 11, 14, 15	<b>0.42</b>	0.17	1.17	0.5	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>1.50</b>	0.67	0.17	0.00
<b>Tiredness:</b> Items 10, 13	<b>1.10</b>	0.50	2.00	2.00	<b>0.00</b>	<b>0.00</b>	1.00	2.00	<b>2.50</b>	1.00	0.00
<b>Returning to Reality:</b> Items 3, 9, and 17	<b>1.97</b>	<b>1.00</b>	<b>2.67</b>	2.33	1.67	2.00	2.00	2.33	2.33	2.00	1.33

Number	Item	Score	Individual Score																				
			P	J	P	A	P	B	P	C	P	D	P	E	P	F	P	G	P	H	P	I	
<b>Research Question Evaluation</b>																							
1	The "Maximalism HyperBody" VR game provided me with an experimental VR experience.	2.6	3	2	3	3	3	3	2	2	3	2											
2	In the experimental VR gamespace I had a sense of "being there".	2.1	2	2	3	3	3	0	2	1	3	2											
3	I had a sense of acting and performing in the experimental VR gamespace, rather than operating something from outside.	1.7	2	2	2	3	3	0	2	0	2	1											
4	I was completely captivated by the VR gamespace through the experimental and non-collision settings.	1.7	1	1	1	3	3	1	3	1	2	1											
5	I was completely captivated by the VR gamespace through the misty and rainy settings.	1.1	2	1	2	3	3	0	-3	0	3	0											
6	The research tries to measure the VR gamespace reconfigured by players between culture, technology, and affection. I had an unusual navigation experiences that provoked creative and affective thinking.	1.9	1	2	1	3	3	0	2	3	2	2											

Fully disagree -3 / -2 / -1 / 0 / +1 / +2 / +3 Fully agree  
Reference: <http://www.igroup.org/pq/ipq/download.php>

#### Scoring Research Question Evaluation

<b>1.85</b>	1.83	1.67	2.00	<b>3.00</b>	<b>3.00</b>	<b>0.67</b>	1.33	1.17	2.50	1.33
-------------	------	------	------	-------------	-------------	-------------	------	------	------	------



Number	Item	Score	Individual Score																
			P	J	A	P	B	P	C	P	D	P	E	P	F	P	G		
	<b>Game Elements</b>																		
1	Motivation (closely connected to fan studies, game studies, and VR productions)	<b>2.8</b>	2	3	2	3	4	2	3	3	4	2	3	3					
2	Engagement (experimental gameplay)	<b>3.3</b>	3	3	4	4	4	4	4	4	4	3	3						
3	Challenge (the ideas of what VR gamespace can be)	<b>3</b>	3	3	3	3	3	4	2	2	3								
4	Affection/Emotional attachment (animation, comic, game, and novel)	<b>3.4</b>	3	3	4	4	4	4	2	3	3								
5	Story/Narrative (experimental gameplay)	<b>3.3</b>	3	4	3	3	4	4	3	2									
6	Theme and setting (experimental VR gamespaces)	<b>3.2</b>	3	3	3	2	4	4	2	3									
7	Interactions and control (experimental VR gamespaces)	<b>2.9</b>	3	4	2	3	4	4	1	1									
8	Audio (experimental VR gamespaces)	<b>3.3</b>	2	4	2	4	4	4	3	2									
9	Text (experimental VR gamespaces)	<b>3.4</b>	4	4	1	4	4	4	3	2									
10	Body character (experimental VR gamespaces)	<b>3.4</b>	2	4	4	4	4	4	3	3									
11	3D scan (experimental VR gamespaces)	<b>3.3</b>	3	3	3	3	4	3	4	3									
12	Architectural aesthetics (experimental VR gamespaces)	<b>3.4</b>	4	4	3	2	4	4	3	3									

0: Very bad / 1: Poor / 2: Fair / 3: Good / 4: Excellent

Scoring Game Elements																				
	<b>Multi-fandom:</b> Items 1, 4, 9.	<b>3.20</b>	3.00	3.33	<b>2.33</b>	3.67	<b>4.00</b>	2.67	3.00	2.67										
	<b>VR production:</b> Items 2, 3, 7.	<b>3.07</b>	3.00	3.33	3.00	3.33	<b>4.00</b>	3.33	<b>2.00</b>	2.33										
	<b>Gamespace:</b> Items 5, 6, 8.	<b>3.27</b>	2.67	3.67	2.67	3.00	<b>4.00</b>	<b>4.00</b>	2.67	<b>2.33</b>										
	<b>Architectural space:</b> Items 10, 11, 12.	<b>3.37</b>	3.00	3.67	3.33	3.00	<b>4.00</b>	3.67	3.33	3.00										

## Appendix L: Group Discussion Transcript

*Pete is the researcher.*

### Discussion Part 1

04:41:05 - 05:10:17 **Participant J:**

I really liked the one with the quotes (the narrative path in Pinkray game level) and I feel great because we're in a kind of psychedelic event. So just it was nice, the readings and the quotes I found were like out of context. They were great as well.

05:10:17 - 05:43:01 **Participant J:**

I think it was yeah, it was on purpose, but then I'm just reading them and then suddenly I think the facial expressions of those things (the NPCs along the narrative path in Pinkray game level) are weird, yes, that was the end. Yeah. So it was angry, maybe they did die. They (referred to as the quotes) are very like strong Candid (an mobile app where you are completely anonymous and can join different discussion groups - post, ask, and comment anonymously with other anonymous users) quotes kind of.

05:43:09 - 05:47:17 **Pete:**

Yeah, it is just like a love story between two male superstars.

05:57:03 - 06:17:16 **Participant J:**

But yeah it's more like kind of a niche area of the study, all that. But it's nothing you have to know all about that, I think is also hard because like, you know, the quotes are a lot, you know, yeah, we tend to run random ones and it doesn't make sense.

06:17:16 - 06:36:17 **Participant J:**

I guess the atmosphere was kind of sad. On the other hand, I didn't like the environment of the cosmic (Vampire Squid game level). It was too slow (movement).

06:36:17 - 06:39:03 **Pete:**

Yes, it is too slow.

06:48:21 - 06:53:20 **Participant J:**

So I mean, yeah. But it's also like something which is normally not used to. it's not like the real feel of a movement, you know, dynamic. At another basic level (Garden Portal), I thought I was trying to go onto the stairs.

07:24:20 - 07:27:22 **Participant J:**

The moment is like we go onto the stairs. I was hitting there all the time. It was like the first level I was practicing movement. I was really frustrated with the way I was. It was just like my goal and as if I am not gonna go for the walls.

07:48:09 - 07:59:03 **Participant J:**

So it was the first level so I was kind of practicing and most were very difficult, which they did. I think I was pretty high already at this point, I should have practising movements with the curbs.

08:12:06 - 08:19:02 **Pete:**

Yes, the VIVE Pro controllers are not something I prefer to use (by using Vive Pro controllers, Participant J took a longer time to control the navigation in the VR game compared to other participants). I certainly use the Oculus ones.

08:19:02 - 08:26:14 **Participant A:**

Well, for me, this is the most interesting one I was climbing the staircase (Garden Portal level).

08:26:34 - 08:27:10 **Participant J:**

The basic one (Garden Portal level)?

08:27:21 - 08:49:12 **Participant A:**

Yeah, I was in trouble, losing control and falling down the staircase and falling into the dark. But essentially it provided a very interesting architectural space as well. You know, like, because the scale is enormous, different.

08:49:13 - 08:55:09 **Participant A:**

And also my height in the building seems, I don't know how you define my height in that. But I use the staircase I fall in.

08:55:09 - 09:01:04 **Participant A:**

So it's not the right proportion. But it results in a very interesting thing to think about architectural differences and design.

09:07:10 - 09:30:11 **Pete:**

Yeah. It is deliberately designed not as a human scale that sometimes you are small and sometimes you are bigger. When you play you probably think who I am? And is it a game?

09:30:11 - 09:36:20 **Participant J:**

Because I didn't realize whether it is the same width. Is it something to walk? It was difficult for me to measure it properly and go through the wall.

09:38:07 - 09:43:20 **Pete:**

Yeah. I think that's the difference between the architectural students.

09:43:20 - 09:48:21 **All:**

[Laugh]

10:07:02 - 10:13:09 **Participant J:**

I think the thing challenging me was that there were like no elements (collision and interaction) in any of the models. And in a lot of these (standard VR games), I can grab something.

10:16:11 - 10:22:23 **Participant J:**

You can just go for everything in your environment and is there anything you can touch and throw?

10:23:02 - 10:24:02 **Pete:**

A few objects in the space are interactive (with collision).

10:45:09 - 10:56:11 **Pete:**

Like the controllers, you are probably in a ghost form and passing through spaces.

11:06:18 - 11:23:23 **Pete:**

I'm kind of examining the notions of interactive objects in particular spaces, but that's a really good idea for me as a proper VR game designer.

11:24:15 - 11:31:11 **Participant J:**

I don't know why my right-hand controller is in a weird shape. I don't know. What do I do with this and I was trying to hit things.

11:31:20 - 11:36:02 **Participant J:**

And maybe they have another function?

## **Discussion Part 2**

00:00:10 - 00:03:20 **Participant J:** Maybe with some different functions to why with this shape.

00:04:05 - 01:02:19 **Participant B:**

I thought the same things, you can see the white wired things (controllers design), I barely use my right hand to watch things. I thought it might be some chemistry (interactions) to the left (controller).

Actually, I think the overall space and visual experiences are very different to someone (a standard VR game designer and architectural designer) I expected, the previous one is trying to push vision or what you think is logical, but this one (Vampire Squid game level) is like octopus and so it is not that logical or rational to navigate these places.

01:04:05 - 01:55:04 **Participant B:**

Another interesting point is the expansion of the space. I saw this mess it is very clear you place the different objects in linear or non-linear ways but everyone is seeing in the first-person view, everything is changing, and you view yourself in a very large space not that something constraining.

Something you don't know what you are doing, where is the next portal, it's all those uncertainties that filled in my heart when I was exploring the spaces.

01:56:23 - 02:05:15 **Participant B:**

Because from an architectural point of view, everything should be in control and I need to have a plan before I go into a space, and these things, I think it revolts that psychology if I said make sense.

02:17:12 - 02:17:23 **Participant B:**

I think if there are more interactive responses will be great.

02:28:10 - 02:29:10 **Pete:**

I think the right-hand controller has a hidden feature of a spotlight (flashlight).

02:29:15 - 02:38:07 **ALL:**

[Laugh]

02:39:03 - 02:40:20 **Participant B:**

Yeah, it is.

02:41:06 - 02:45:10 **Participant J:**

I'm like I wasn't sure like there is something.

02:47:04 - 02:53:17 **Pete:**

Probably my design is very very passive.

02:54:21 - 03:17:06 **Pete:**

Also, the interaction design starts with texts, visual novels, 3d scans, it's more (static), and some of them are intractable compared to hand gestures.

03:19:15 - 04:01:10 **Pete:**

The hand gestures this is also something I feel it's not (complex), as I deliberately do it because most of the people who come don't or never play VR games. And my experience for my exhibitions, they can just start it and this onboarding experience is really important for everyone who loves VR games but never had the chance to probably play them and even they had the experience of motion sickness before so this is also practical but also do it into my way you know kind of pessimistic and softness.

04:01:13 - 04:13:19 **Pete:**

But you are right this is the way to further highlight the importance of assets (controllers). I said too much.

04:16:16 - 04:17:09 **Participant H:**

Do you think you maybe use the hand tracking feature (Oculus) instead of using controllers?

04:19:06 - 04:50:04 **Pete:**

These are choices with different opinions. I like more nostalgia because I think games with a controller mean something for people.

04:50:21 - 05:18:04 **Pete:**

I think hand-tracking is really interesting. like martial arts etc. I think for me I don't have so many complicated interactions. It's almost moving and touching things and sort of sometimes you have the collision of objects.

05:19:07 - 05:45:14 **Pete:**

Yeah. So this is why I still like to be the controller also from the pragmatic reasons during the exhibition and workshop, that kind of thing (hand-tracking) is just not working properly (not robust and stable). Yes, but I think this is a good idea of making those involved.

05:46:20 - 05:56:22 **Participant H:**

In the level of stars (Typhoon Lionrock Level). If you have some specific hand gesture being responded to it (falling star)?

05:58:08 - 06:19:21 **Pete:**

Yeah, that's probably something you can only do on a VR game. Interesting.

06:19:21 - 06:30:21 **Participant I:**

Yeah, I use the Vive pad (controller) to fly so I think I quite like the kind of unity experience I can turn it (pad) and change the directions.

06:33:03 - 07:02:07 **Participant I:**

I quite like the controller experience naturally, because the movement is quite subtle so I can feel floating in the sky, so feel kind of like a ghost.

07:02:09 - 07:02:23 **Participant I:**

Such feelings are quite natural.

07:03:09 - 07:56:14 **Participant I:**

Become sometimes if we use the controller to teleport, I feel it is less natural. So that feeling (flying) is quite good. But I also feel like because I also watch my hand, my hand is in limbo. So I may try to do something like a ghost so yeah you can feel it so I just go around yeah and I quite like the audio just because I feel this sound is quite immersive in the space.

07:56:15 - 08:21:18 **Participant I:**

So I feel like I can be very calm down and be quiet in that space. Yeah. So I quite like the sound when I doing the two supermans (NPC Laike in Pinkray game level). And so when I go into their body I can feel they are sinking.

08:22:10 - 09:01:02 **Pete:**

Yes, go inside their body you find the hidden gems sound. That space has an inverse texture I deliberately made it without collision. I'm super happy you found it.

09:03:03 - 10:00:21 **Participant I:**

In that level (Pinkray), I feel because the sound becomes quite loud so I feel it's quite strong I can feel the difference, and I also like the way I can move in the space because like you didn't have a very specific item I can follow that.

10:30:06 - 10:30:20 **Participant I:**

You used the sentence, I feel like because we usually play, there will be a road, so I feel quite natural to follow that and I feel the whole experience is quite natural. I also quite like the level-change experiences (the level-changing scene design).

10:31:02 - 10:52:12 **Participant J:**

For me, I was the opposite. Actually, I didn't appreciate it that much because I think it will be different if I can walk on the stairs (with collision) and then if I step outside of them, then I would just fly (Garden Portal level).

10:52:12 - 10:54:05 **Participant J:**

That will probably be more noticeable sort of.



10:54:07 - 11:03:21 **Participant J:**

Because right now in the basic space you're flying all the time, you are used to doing. You don't see it fly unless you have the element to walk on it.

11:15:01 - 11:23:16 **Pete:**

Yeah, There can be a way of transitioning and guiding people.

11:24:08 - 11:26:01 **Participant J:**

Yeah. Everything's more noticeable.

### **Discussion Part 3**

00:06:15 - 00:30:06 **Participant I:**

I was thinking maybe I want to have more of a strong connection, maybe I can hit it (stairs) but I cannot pass it and see what will happen.

00:34:12 - 00:34:23 **Pete:**

Great suggestions.

00:38:12 - 01:04:11 **Participant H:**

For me, I just tried to find the boundaries and don't wanna follow the storylines. Also if I hit something out of the controllers it makes some differences. I think big experiences like this must have a size, so I want to find the boundary that is not in this area (Garden Portal level).

01:05:08 - 01:08:18 **Participant F:**

I think I could have a goal of how to break your game.

01:08:08 - 01:09:00 **All:**

[Laugh]

01:09:15 - 01:36:11 **Participant F:**

I remember when I play a game I need a goal. This time is something like a portal and you can tell me in this experience you have a goal of finding a portal. It gives me kind of a feeling of achievement.

01:37:11 - 01:43:10 **Participant J:**

Yeah, maybe somebody might not know what they are doing.

01:46:12 - 02:26:24 **Participant C:**

But I am quite opposite. And I barely play games in my life. So when I played Pete's game, I think I have the same thing (Pinkray game level) as your (referring to Participant J's feedback on quotes) experience. It's like the sentences forming a way. And so I just like keep looking and reading those sentences and I paid a lot of attention to the voices. Because it's like reading a book for me and a kind of background music for me.

02:27:15 - 02:36:07 **Participant C:**

And then I hear sounds like some dialogue. They are talking to each other in a rainy sound. And then suddenly (going) to the famous Chinese cartoon characters (NPCs White Cat Monitor in Pinkray game level), it's super huge characters with sentences on the ground. They look very sad, but you know in that cartoon it's not supposed to be a sad story. You change the light and the colour of the cartoon character. Because I am very familiar with those characters so it provides a super opposite feeling for me.

03:37:16 - 03:39:08 **Participant J:**

Are they teddy bears (referring to Chinese cartoon characters)?

03:40:08 - 03:42:02 **Participant C:**

It's not a bear but actually a cat!

03:43:08 - 03:45:02 **ALL:**

[Laugh]

03:46:18 - 03:49:02 **Pete:**

Yes, White Cat Monitor.

03:51:18 - 03:53:02 **Participant J:**

That's the cultural differences probably.

03:54:01 - 03:58:12 **ALL:**

[Laugh]

03:59:21 - 04:09:12 **Pete:**

That's fine. Even most Chinese have no idea about it because it's too old like the 1990s and 1980s. I am also too old.

04:12:11 - 04:13:02 **Participant J:**

Like what year are you in?

04:14:12 - 04:15:02 **Pete:**

(I was born in) 1991.

04:16:10 - 04:18:22 **Participant J:**

I'm 92. So don't say you are old.

04:19:01 - 04:39:04 **ALL:**

[Laugh]

04:40:10 - 04:41:14 **Pete:**

More ideas?

04:43:17 - 04:55:08 **Participant G:**

Yeah, I have this kind of feeling because I think about a ghost when playing your game. Usually, I do find a goal, and if there is no goal, I will feel sad and ask why I'm doing it.

04:55:17 - 05:13:07 **Participant G:**

But in your game, I feel it's a different thing because I'm just sitting there and feel the visions, going very nice, so I was hiding in the stair as well. I feel it's kind of the Great Wall (stair in Garden Portal), but a dark vision of the Great Wall.

05:14:02 - 05:40:00 **Participant G:**

And I also want to mention the movement method. Because I just want to look around the scenery, if I look up so I would go up, but I don't want to go up. You can change that and it will be better.

05:39:08 - 05:50:06 **Participant J:**

Like you just want to see what's upstairs and don't wanna move.

05:50:06 - 06:06:10 **Pete:**

Ah, right I understand, If you turn up your head and you don't wanna go up, just don't use the thumbsticks. If you push the thumbstick forward you will go forward.

06:06:11 - 06:11:09 **Participant J:**

So it's impossible that in movement you can look around. And it's confusing.

06:11:09 - 06:12:23 **Pete:**

Oh, yeah. I know what you mean.

06:13:22 - 06:20:04 **Participant H:**

But I tried it and very like, entering the sea? (Participant H stretched her arms down, held the controller with both hands and pressed the thumbsticks forward, and raised her head to look upwards. With this method, Participant H can move downwards but look upwards, movement direction is not confused with head direction.)

06:20:14 - 06:22:02 **ALL:**

[Laugh]

06:22:14 - 06:25:24 **Pete:**

You are right! It's very delicate and very detailed.

06:26:09 - 06:40:07 **Participant J:**

But that's not very intuitive to do it.

06:40:09 - 06:41:17 **ALL:**

[Laugh]

06:41:24 - 06:49:15 **Participant C:**

I also feel you know the right hand (controller) is causing different functions (flashlight). I feel like it's a sword in my hand, I'm like a knight.

06:50:01 - 07:18:00 **Pete:**

Oh yeah, interesting! Because I designed it from a sword but a distorted version. With this shape, I want people to have their imaginations of who they are, what the scale of it really is, and what is the relationship between them and the space. So again, that's interesting, sword man.

07:18:01 - 07:47:07 **Participant E:**

May I ask the question: why would you prefer to use a lot of objects in 3D scans? Is it due to the narrative?

07:51:16 - 08:02:02 **Pete:**

Because I'm from an architectural background and I have a specific way of using it for space (making).

08:02:18 - 08:04:13 **Participant E:**

Ah, the space (with 3D scans) can bring out memories.

08:05:05 - 08:30:14 **Pete:**

Yes, you're right. It's like the memories from the ghost. These objects also relate to my interview stories and interviewees because they are from a real-life space (environment).

08:30:15 - 08:32:08 **Participant E:**

So so I think it's (3D scans and memories) far more important than the interactives.

08:45:19 - 10:17:01 **Participant I:**

I guess maybe the first one (Garden Portal level) I played with was 3D scanning. I feel that 3D scanning brings different feelings. Spaces have different feelings (transitioning between Garden Portal and Typhoon Lionrock levels). You feel unreal, it's like the tuner, the technological world, like the Hollywood movie, it's more emotional (Typhoon Lionrock level).

10:18:01 - 10:32:20 **Pete:**

Yes, you're right. What time is it? Anymore?

10:40:01 - 12:32:20 **Participant D:**

Because of the unique design of 3D scans and sound, I can connect and immerse into the narrative. It's between a VR film and a VR game, bringing a spirit world to me, I don't think basic interactions and mechanics are needed (as priorities). It's more important to have space relationships rather than simple interactions (hitting, walking, collision in standard VR game). It brings different modes of play and immersiveness.

## Appendix M: In-depth Interviews Transcript

### Participant G

- Did the VR game "HyperBody" provide you with a significantly different experience compared to other VR games you have played? If so, can you describe a specific incident or scenario?

The thing I was reminded of was a big object. Maybe it's a black wall beside me. So that reminds me of a dream I had and in that dream, I was in the space and there was a very huge black wall. That dream I think it was related to sci-fi films like Interstellar (2014) and 2001: A Space Odyssey (1968). So that really interests me because it's minimal and very attractive to me.

- How did you perceive the "HyperBody" ACGN game fandom context in terms of cosmotechnics?

So this actually reminds me of the kind of Oriental philosophy (Daoism, Yin and yang) that everything is connected. Like everything, there is a connection behind each other. Because in your game it is very poetic and everything is connected with one thing (ACGN references). Regarding the the fandom culture of today, it's quite like that (cosmotechnics). There are some specific characters and also avatars make people think of those ideas.

- How did the specific aesthetics of the VR navigations in "HyperBody" impact your gameplay experience?

I quite like the black and white aesthetic, because for me it's very Gothic. It's very dark and I'm very into some gothic rock bands. I've recently listening to The Cure and Bauhaus. And it's very gloomy. It's very misty, and the lighting is a bit sharp and it's not like (other levels), so misty and so vague.

- In your opinion, how did the experimental, non-collision, misty, and rainy VR gameplay in "HyperBody" communicate with you as a player?

I think experimental is a bit difficult for me, question is the experimental are not expectable, or to become useful. Actually I played some experimental games and watched experimental films. I

don't quite know the logic behind it actually. I think it's just to do something totally different from the previous things. So it doesn't need to be logical or you don't need to be adhered to some rules. Like your game, so everyone just watch it, play it and see how it will go, how it will develop.

- Did the ACGN game fandom context help provoke different understandings of culture, technology, and affection based on your cultural situatedness? If so, can you describe a specific incident or scenario?
- In your opinion, how did the experimental VR gamespace in "HyperBody" manifest queer tunings? Furthermore, how do you envision the manifestation of queering notions in future experimental VR games?

If talking about the queerness in China. it's quite like a split. Because some young people have their own thoughts. But some young people are still kind of traditional. I play with some young people like rock'n'roll music and they sometimes use "Tree Hole". I don't know if you know the "Tree Hole" culture in Weibo.

It's quite insane. I think they are kind of depressed or suppressed by the government and by the censorship. So they have to find a way to express themselves, but they still will have the risk of being banned. So they have invented lots of nicknames of the characters (queered avatars/accounts). It's also very delicate because they don't want to get banned. So they have to be very careful.

- Between experimental and queer

Based on my experiences of mainland China context, I don't think queer actually exists, because like everything are established like the female and male, the sexuality and the patriarchal society. So it's all like invented by people in the past. Something (queer) people imagined. So it's actually great to make queer idea concrete and useful, like in an ideal world (like VR gamespace), I think you can just be anything you want and like. It doesn't matter of biological sex and the age you are and how you look. And you can just do everything you want. So in that case, we need this concept (queer) to get rid of the traditional things, yeah. So we need to make something experimental to express the queerness in VR game.



## Participant F

- During the previous group discussion, were there any doubts, difficulties or other issues that you did not fully understand? If so, could you elaborate on these issues now?
- Did the VR game "HyperBody" provide you with a significantly different experience compared to other VR games you have played? If so, can you describe a specific incident or scenario?

Architecture background participant gave a concept I'm not really fully understand. The (architectural/body scale distortion). The inaccurate scale, that's interesting. Because this connect to the kind of ghost of floating or something.

Also, I don't know whether you're familiar with VR locomotion.

Maybe because I'm too familiar with the VR technologies. Yeah. So I just ignore the scale of the space. Technically, I think for (scale/body), I don't need a reason or concept behind of the camera (in the game engine). I'm not really thinking like I'm a user. I'm thinking like the designer. But the interesting point is like I realized I ignore something.

- How did the specific aesthetics of the VR navigations in "HyperBody" impact your gameplay experience?
- Did the ACGN game fandom context help provoke different understandings of culture, technology, and affection based on your cultural situatedness? If so, can you describe a specific incident or scenario?

For me, it's more like a drawing style. You created a kind of experiment, it's quite an artistic things for me. I need more description and explanation. And I need a story. If we have more time to talk more stories.

For the text (Pinkray level narrative), I think I have the patience to read the text during the experiment. And I go through the text although I'm not completely sure if the text continues one by one as a complete story. it's quite colourful as well.

And I have to move myself, pushing through, and to read the text. It's interesting. So it is like a new idea. So experimental. For me it's very fresh.

- Goal and Breaking the game

I want to be clear of having a goal and then thinking of break game. It is separate. I will lost my (patience) if no goal.

But for me, like, I have a question: is the goal really linked to your experiment?

If you told me the goal is finding portal. So for me as a user, OK, I know. What should I do? And I will just go to complete the task, and at the same time I will wonder, is there anything you didn't tell me? And there is any treasures are hidden to be hunted?

if you give the simple goal for finding that the portal and I think I will easily ignore the spaces as well. So if your experiments wants people to experience the space or to to find some more textures or different things maybe I will explain it. And I don't know, maybe it's too complicated.

Your game is a like worm holes connected by portals, so maybe breaking your game is find a exit to your game, what is the end.

- In your opinion, how did the experimental VR gamespace in "HyperBody" manifest queering notions? Furthermore, how do you envision the manifestation of queering notions in future experimental VR games?

It's a bit difficult to answer because the queer definition is different in different countries (mainland China). Also I'm not really familiar with it.

When I go inside your game, it is immersive. So I have a very different experience, and experimental mode of play, I guess it could be related to queer.

But I think it's great from your workshop and gamespace, I was not informed with pre-existing notions of queer or am I belonging to queer or not. But after playing the game, if you explained it to me a bit, I will understand it, that's good compared to a stereotype of queer analysis and practice.

So, this could related to the relearning through your multiple cosmos (queer tuning, a sea receives all rivers, soft, passive).

## **Participant H**

- Did the VR game "HyperBody" provide you with a significantly different experience compared to other VR games you have played? If so, can you describe a specific incident or scenario?

The Pinkray level with the text really impressed me. To be honest, I knew Pinkray/Katto fandoms and this ship before I played your game. Personally I had negative feelings regarding this ship.

I actually don't really like the QINS Entertainment (manages the boy idol group ONER). I saw these four people (Pinkray, Katto, Kwin, and Didi) on the talent show, and Katto and Kwin are also my seniors (Katto, Kwin, and the interviewee all studied at Beijing Institute of Fashion Technology), so I paid lots of attention to their company at the time. However, I found it didn't have a specific plan for their artists, and they are too commercialised (agency operation model) without decent understanding of fan's affections. So I didn't have a lot of realism towards the ship of Pinkray/Katto, I feel it's just a business.

However, when I played Pinkray level, this was the first time I read the shipping story in VR gamespace, it was a very different experience. Also I confirmed with you after, this is the story between Pinkray/Katto, so, I think my attitude and affection on it changed and I can focus more on ship's affection (without distraction from the agency operation model). I think it maybe relate to the mode of experience and atmosphere in VR. I also tried to look at their fandoms again found some interesting fanworks I loved. (to "relearn" the cultural, technological, and affective specificities within and beyond gaming and fandom practices).

- In your opinion, how did the experimental VR gamespace in "HyperBody" manifest queering notions? Furthermore, how do you envision the manifestation of queering notions in future experimental VR games?

Are you familiar with the idea of auto-tune in fandom?

I believe auto-tune is a good idea relate to your queer tuning, because you created a gamespace with corrections and adjustment of various pitches and tones, you also remixed them together and bring them to a new level of your world. I think this is also like using your understanding of different technologies and form multiple cosmos.

### **Participant E**

- Did the VR game "HyperBody" provide you with a significantly different experience compared to other VR games you have played? If so, can you describe a specific incident or scenario?

The first is the aesthetics of different game levels, some are very intricate with rich colours, and some are entirely black and white. This makes me feel like you are making efforts in saturation, perhaps doing subtraction. Additionally, your game aesthetics have a strong connection with the drawings and animations you made during your study of architecture.

The second is that your VR space is easy to let people relax, the 3D scans and characters create instantaneous memories, giving a sudden feeling of presence.

Finally, the Pinkray text, while playing, I feel the story is advancing, then gradually with images, characters, and complex coloured scenes. This gradual immersion is similar to a film.

- How did you perceive the "HyperBody" ACGN game fandom context in terms of cosmotechnics?

I think this multiple universes gives me the feeling of information overload at first. But at the same time, I can quickly locate what I like and explore it.

For example, the VR games I played in BFI (London Film Festival) give you an objective and a main story line, and you move forward objectively. I feel you give me a more subjective feeling, you give me multiple lines of information at once, allowing me to play based on my interests, to think and make decisions myself.

- How did the specific aesthetics of the VR navigations in "HyperBody" impact your gameplay experience?
- Did the ACGN game fandom context help provoke different understandings of culture, technology, and affection based on your cultural situatedness? If so, can you describe a specific incident or scenario?
- In your opinion, how did the experimental, non-collision, misty, and rainy VR gameplay in "HyperBody" communicate with you as a player?

Regarding aesthetics, I think after playing your game, one will feel you have a lot of passion, because you have an explosive emotional impact. Your drawings, colours, and atmosphere fill the entire picture (gamespace) with a sense of power.

In addition, when pursuing maximum saturation, you try another approach. In the black and white level, you may concentrate on architecture, seeking light and shadow, especially those especially bright materials and building profile lines. From colour to black and white, I think it's a shift from focusing on self-expression to submerging existing styles, and then allowing players to understand more things in space on their own. Then, the rain and fog bring me more emotional thinking, perhaps with a healing element, I think.

- In your opinion, how did the experimental VR gamespace in "HyperBody" manifest queering notions? Furthermore, how do you envision the manifestation of queering notions in future experimental VR games?

About the concept of queerness, what interests me is that your work is not driven by a rebellious (resistance) theme. Instead, in order to advance the development of the game, you hope to make more diverse people accept your concept, so it is more gentle.

I think it's similar for the concept of auto-tune, it presents in a soft and relaxed manner, making the work highly accepted, even though it may not belong to the queer group. When playing your game, you don't become fully aware, but you see that you are gradually accepting this culture and effect of tuning.

On the other hand, if you told everyone upfront that this is a queer game, many people would feel like it has nothing to do with them. Instead, your game has a nature of education (cultivating queer notions), and can be accepted by people of different ages and cultural circles, in a gentle emotional way.

For example, in the game, two girls keep kissing and having conversations, you plant many similar clues. I think many queer works just rebel and find problems within. You go one step further, you are solving problems and finding a way to generate stronger inclusiveness among different age groups, cultural and technological universes, and fan groups.

I hope to learn more about your work and have a longer conversation!

## **Participant J**

- Did the VR game "HyperBody" provide you with a significantly different experience compared to other VR games you have played? If so, can you describe a specific incident or scenario?

And I definitely think it's different, play like the art games. I was there it's like I think the feeling of space and time is very different. When you play like standard games, it's like very similar to to real life.

Sometimes when I was moving it was super slow to me (game level: vampire squid), it was my first time doing like this. The time was perceived very differently like, moving really slow, but then it was very fast (game level: Pinkray).

It was definitely my first time, when I had a chance to, feel like I was flying in the VR. It felt a bit kind of overwhelming as well. it's so much space. it's kind of impossible to explore everything.

- VR space / distorted scale / time

I think what was nice is kind of feeling of freedom when flying and it was kind of relaxing and there are so many choices you can make, which direction you're gonna fly to.

And actually, from my point of view, it's like the the feeling of time. It was like it was going slow, but then when you were looked from the perspective of being free, it was actually kind of relaxing because you were just like moving slowly and that's relax.

- How did you perceive the "HyperBody" ACGN game fandom context in terms of cosmotechnics?

It's a feeling of cosmos, but like with all the techs arounds. It was definitely an interesting experience because like, I'm used to VR games like being just like standard. The things I remember the most is like firstly when I was flying and they were like those huge elements and when you were from distance they are so close. But when you were flying you realize that it's actually so far away but still. I think VR changes your perception of the size as well a lot. like an ant, basically.

- Did the ACGN game fandom context help provoke different understandings of culture, technology, and affection based on your cultural situatedness? If so, can you describe a specific incident or scenario?

I remember the environment where you had quotes (Pinkray texts). it was a different experience. Those quotes, but there were so many, and you were moving quite quickly. Makes you more immersed into the atmosphere of the environment because they're kind of nostalgic and sad like lost love, broken heart. Like it's kind of thing like rainy.

More or less the vibe, it's really what I didn't know, like the contexts (Pinkray/Katto fandom), but I was reading it was like, I just need to read a few of them to be more immersed into the

environment. Putting yourself in some specific mood, you are trying to focus on the lyrics and the quotes, I was trying to make sense out of it because I'm a psychologist.

I think this environment (game levels: garden portal) when you don't have text, they kind of like more raw and cosmic.

(In game level: Pinkray) there were about human experience as well. All cozy humans, more colourful (NPCs). This makes you more comfortable. Compared to super rough, slow, huge (game levels: vampire squid).

- In your opinion, how did the experimental VR gamespace in "HyperBody" manifest queering notions? Furthermore, how do you envision the manifestation of queering notions in future experimental VR games?

Because basically looking from the design point of view, I am genderless maybe? I can see it (queer tuning). I didn't have a vibe or, stereotypically like male or female like environment. And it's like basically how you played with colours. It shows so much freedom and so much diversity as well. it's kind of extravagant thing (excessively elaborate and spending much more than necessary for an experimental tuning).

Normally like in design, you don't use many colours. Extravagant colours like here, like you had many different patterns like flowery vibes. It was the aim as well. Like cosmic is different than the other and it was also like it was appropriate in this context because you wanted to show, I think it helps to show the space.

Like that, time perception changes as well, I think it was appropriate then. It was colours but also the shapes (architectural forms) as well. I can say the shapes were also extravagant. I think that the fandoms, they were like everyone, like all generations, can find something for themselves, I can say that like older people maybe more like to find something in black and white environment.

I don't look for culture directly. They don't mean anything to me (vibes, fandoms). But I was thinking like I'll go out there. Looks like all those young kids are like, I love cartoons vibe.



I think you represented all kinds of generations and the environments, moving fast and also more slow in terms of time perceptions, space.

### **Participant C**

- Did the VR game "HyperBody" provide you with a significantly different experience compared to other VR games you have played? If so, can you describe a specific incident or scenario?

It was the first time I played the VR game, and just at the beginning, I didn't know which direction to go and just wandering around. I slowly discovered that I could explore anywhere, plus there was a torch function (controller), which had a progressive feel.

(Pinkray's level) Concentrating on the text, being not much of a gamer, it was like I was entering a scene where I was reading a novel, I wanted to know what the piece was about, to capture the sensuality, I naturally noticed the background music as I read the text, and the dialogue. It was as if I became a character in the environment, either the protagonist or a bystander. As if I was in a hotel, in the mountain city of Chongqing, the sound of rain pattering, and I became one of the ship (Pinkray/Katto), talking to my own lover, suddenly thinking of the characters of my childhood cartoons, a very fractured slice of life, so natural, it was a new feeling. This experience allowed me to break the boundaries between the audience and the game, resonating with it (reconfigurations between players, 3D scans, objects, and characters).

- How did the specific aesthetics of the VR navigations in "HyperBody" impact your gameplay experience?

With the the aesthetic treatment, I think it's completely integrated into your own identity.

The controller in particular is like a sword, it's a boundary for me to enter and integrate into the virtual world, but at the same time it makes me feel the presence of the individual in it, whether I'm entering as a character or whether I'm fully integrated (player-gamespace blended).

- How did you perceive the "HyperBody" ACGN game fandom context in terms of cosmotechnics?
- Did the ACGN game fandom context help provoke different understandings of culture, technology, and affection based on your cultural situatedness? If so, can you describe a specific incident or scenario?

Although I didn't know about the fandom, I don't often play the game, but I really felt the collision and integration of characters (voices, dialogues, and texts) from different universes in the work.

The process of creation, caused by the fandom, by which you created the game and brought the game experience to me, I loved this process of translation and overlay, do you know the film *Lost in Translation* (2003)? It's the similar idea.

I can totally relate to the emotion, from the story and romance of boys' love, to the re-creation and the output of the emotional state of the multiverse.

This emotion allowed me to connect with my own memories, to break down barriers, to associate with what I thought was a sad but beautiful and loving story that went beyond the boundaries of the fandom.

- In your opinion, how did the experimental VR gamespace in "HyperBody" manifest queering notions? Furthermore, how do you envision the manifestation of queering notions in future experimental VR games?

I'm not in the queer community myself, but I support the stance of expressing individuality, expressing myself and recognising gender fluidity.

I think that whatever the community/fandom is, I come at it more from fandom the point of view of being an individual, I think it's more important to find our own identity than a very clear idea within the queer, instead I don't know my identity, I think it can't be too politically correct.

I think it should be, sea receive all rivers, I don't feel there should be barriers about being or not being queer, there are no community boundaries, it should be possible to integrate quickly.

And then to tune your own position instead of being too aggressive, to fight, to have angry emotions.

I don't think your work is logical in terms of game design and definitely not part of a certain game paradigm. This queer tuning is like a dream for me to reconcile my identity.

## **Participant B**

- Did the VR game "HyperBody" provide you with a significantly different experience compared to other VR games you have played? If so, can you describe a specific incident or scenario?

The spaces in your game are all uncertain, I have no way of having a specific expected value, the randomness of playing is very strong. In normal VR games, most of which look more like reality, immerse you, while you allow me to break away from reality and provide an experience completely detached from reality.

This infinite space cannot form specific knowledge of where to go, it is very confused, you can wander, you can follow the route, you can see huge characters, you can stay in different places for a long time. This game is not aimed at continuous progress, but rather a sense of wandering (The Naked City).

- How did you perceive the "HyperBody" ACGN game fandom context in terms of cosmotechnics?

Regarding cosmotechnics, what interests me is the degree of fusion of content and context from different cultural backgrounds in your work. In your game, is this fusion unified or fragmented? (further talked with queer tuning/white noise notion)

- Did the ACGN game fandom context help provoke different understandings of culture, technology, and affection based on your cultural situatedness? If so, can you describe a specific incident or scenario?

If you see familiar things, you will recall your thoughts about the character or space. The human spirit is in an uncertain state, wandering, the degree of acceptance of the content is in a chaotic, ambient state.

For example, if I see White Cat Monitor, I have a nostalgic that is triggered, and I realise that White Cat Monitor/Laike can be also a ship, this is a process of relearning. My original story was just childhood cognition, in this space, seeing this cosmos will re-correspond to the relationship and my relationship with them.

- In your opinion, how did the experimental VR gamespace in "HyperBody" manifest queering notions? Furthermore, how do you envision the manifestation of queering notions in future experimental VR games?

I feel that when deep immersed in the environment, naturally, the queerness emerges, it's not necessarily queer with obligated slogans, it's a soft experience, for example, your guiding texts (Pinkray texts), floating objects (NPCs and 3D scans), these will trigger your rethinking, and automatically associate, the space is a fandom, seems to be about love, the overall large environment and objects are a kind of cloud textures (floating, fluid) with white noise, you absorb like a sponge.

## **Participant I**

- Did the VR game "HyperBody" provide you with a significantly different experience compared to other VR games you have played? If so, can you describe a specific incident or scenario?

Because I'm also a non-gamer, it's all about the understanding of the VR film, I haven't seen anything like your style before. (game level Pinkray) around the words (texts), I don't know what the surroundings are, but it's certainly not a realistic space, from the colours and also the dolls (NPCs), I feel like the space of a nostalgic video game, a feeling of entering into the TV, into a different world, where the texts are stories and feelings. I follow the texts down, even though in the

abstract space, instead there is direction, it's not that clear message (text as sign of direction), it's natural. I see the colours of the space, against a dark background. I can associate it with Japanese ACGN world and Ximending (Harajuku of Taipei).

- How did the specific aesthetics of the VR navigations in "HyperBody" impact your gameplay experience?
- Did the ACGN game fandom context help provoke different understandings of culture, technology, and affection based on your cultural situatedness? If so, can you describe a specific incident or scenario?

Even though it's black and white (game levels Project search and Garden Portal), there's a lot of stuff in there, a lot of richness, I'm exploring all the way through it, a lot of fragments, looking closer, a bit of a connection to reality, like a tunnel, especially with the 3D scans, the combination of reality and non-reality, the mix of things, I'm thinking how you combine, build up the world, what exactly is being combined, with the rain, the fog, the light, and the falling objects (game level Garden Portal), I can enjoy and relax.

For the controller, my hand is not a hand, it becomes a different person, a ghost, and I slowly gets familiar with, and slowly plays with a game world.

- How did you perceive the "HyperBody" ACGN game fandom context in terms of cosmotechnics?

Reminds me of the alchemy of the Daoist, the methodology of cultivation, where you cultivate in your own universe, and you cultivate a universe of your own.

- Sound

The subtle sounds, which have an intimate relationship with objects, I would get close enough to listen, especially the sound of objects falling (Garden Portal game level). You want to see everything, the sound has a lot of detail, the wind, it makes me think of ninjas, an ethereal world.

- In your opinion, how did the experimental VR gamespace in "HyperBody" manifest queering notions? Furthermore, how do you envision the manifestation of queering notions in future experimental VR games?

Because of friendly environment, and willing to invite me into this colourful world, it doesn't feel uncomfortable, it doesn't require you to seem like you have to be like that (being a typical queer), to have a specific goal so you can relax.

There are many elements of the world, novelties, like Pinkray, there are feelings, through conversations, I feel like reading a person's story, but not a very specific love story, I think of playing in an amusement park, a couple, a break up scenario, love letters, a mixed memory between myself and space.

It's a sea of curiosity and then exploration, looking for clues, resonance and reflection. This sense of fragmentation, of letting one feel for oneself, of building one's own relationship with the person, I find queer tuning a state of looseness, of relaxation, of enjoyment.

## **Participant A**

- Did the VR game "HyperBody" provide you with a significantly different experience compared to other VR games you have played? If so, can you describe a specific incident or scenario?

Compared to other VR gaming experiences, your connection to reality is not strong and you blends game and reality together, with mods that allow me to experience space in another identity. I can't see things in the distance clearly, every space has small spaces within it, and each space has linkages (non-collision go through), making it like a world within a world with many textures, where every angle and direction of exploration is interesting.

Additionally, the scale is different from reality, for example: to see a world in a grain of sand and a heaven in a wild flower, hold infinity in the palm of your hand. Every object's scale is misplaced, making me feel like I am constantly growing and shrinking (body scaling up and down volumetrically).

- How did you perceive the "HyperBody" ACGN game fandom context in terms of cosmotechnics?
- How did the specific aesthetics of the VR navigations in "HyperBody" impact your gameplay experience?

I am not familiar with the ACGN fandom, but I can feel the fusion of it as different spatial realities from an aesthetic perspective. It's like a paint palette being overturned, and you have real-life textures, like 3D scanning, creating a special space that's different from normal games. You're a combination of cartoon and reality (photo realistic), a gap (interstice) aesthetic that can't possibly exist. I experienced narrow staircases and passages, channels of spatial fusion, with a feeling of clearing the clouds to see the sun (get inspired and become suddenly enlightened).

Technology is organic and spiralling upward, not just artificial, reminding me of the intersection of technology and the organic (nature-culture-technology), a complex fusion point. In architecture, it's like in a mirror, the spatial sequence is disrupted, there's no fixed path, it's an infeasible path. In the dark room, you have to find your own way and signs, choosing how to go and where, all leading to another different path.

- In your opinion, how did the experimental VR gamespace in "HyperBody" manifest queering notions? Furthermore, how do you envision the manifestation of queering notions in future experimental VR games?
- Reflecting to current Hong Kong's cultural condition

I know that many fandom contents, including text, photos, and videos, on Lofter and Weibo have been deleted. Your game serves as an archive, preserving what has been forbidden, like a cyber graveyard. In Hong Kong, queer is not always easily accepted by older generations due to moral obligations. Your queer tuning is more like a metaphor, having a subtle and indirect influence, existing in an intermediate state, along with other colourful things.

I think about the sad fandom narratives in the tuning, which can be experienced from each individual's perspective, full of affections.

## Participant D

- Did the VR game "HyperBody" provide you with a significantly different experience compared to other VR games you have played? If so, can you describe a specific incident or scenario?

Your gamespace has no end, no goal, no idea of exactly what to do, so it's the one person exploring, and I also wonder if the ships (Pinkray/Katto, White Cat Monitor/Laike) in the game are with me, so there's also a sense of fear of being in a chaotic world that is separate from the real world. This feeling of immersion is probably stronger than a VR film.

- How did you perceive the "HyperBody" ACGN game fandom context in terms of cosmotechnics?

The universe and the technology cannot be separated, they complement the context of a certain area, it is pluralistic, decentralised, not mono-hegemonic, you are influenced by ACGN cultural environment, so your work is not a centralised production, there are multiple ships in it, architecture, interdisciplinary ideas, people (NPCs), words, rain, fog, objects, all exist on one level.

- How did the specific aesthetics of the VR navigations in "HyperBody" impact your gameplay experience?

From Pinkray to Vampire Squid to Garden Portal experiences, I felt a shift from an excessive explosion of information to a state of embodied incompleteness.

For example, the black and white levels, they are not elaborate, they are ruins, like the 3D scans of the Crystal Palace, which were not originally black and white, what colour they were before, would leave me with more imagination, black and white gives me: no limits, span of time, in the past or future space concurrently. In contrast, the colour is set up, too much information, overwhelming.

This aesthetic is as chaotic, random, rough and disorienting.



- Did the ACGN game fandom context help provoke different understandings of culture, technology, and affection based on your cultural situatedness? If so, can you describe a specific incident or scenario?

I'm interested in your treatment (sound engine - randomisation) of dialogue and sound effects of ships (NPCs).

Although I don't know much about ACGN, this kind of sounds makes me think of my own favourite ship Denise Ho/Joey Yung. Because of lyricist Wyman Wong, there will be a correspondence between Joey and Denise's songs, giving a lot of fans huge space to imagine the romantic relationship. Seeing as you can't achieve that relationship in real life, you can go in the direction you want in the game. Although Denise Ho is banned, but the shipping content is still circulating (gamespace can be an archive).

The chaotic field is created by the artist, and as a player, there is no way to change or regulate it, from ACGN, to art making, and the political environment, maybe this aesthetic is a kind of metaphor for you, only to move forward and figure it out. As a rational player, immersed in a chaotic world, one might ask oneself what is real and what is not, and whether one needs to escape?

- In your opinion, how did the experimental VR gamespace in "HyperBody" manifest queering notions? Furthermore, how do you envision the manifestation of queering notions in future experimental VR games?

In real life, as a queer group, one may be labelled so that in different scenarios, one needs to show a different identity and must do something.

In the game, the labels disappear, there is no bondage, the body is purposeless, non-collision, and one can forget about one's body. I have queer friends who may dislike their bodies, and perhaps in the virtual world, can better face themselves, an existence parallel to the real world. Finding a new body relationship in the real world and the virtual world.

## Appendix N: In-depth Interview Screenshots



Figure N1. P. G screenshot, describing the personal experiences in "Garden Portal", online interview in Microsoft Teams.

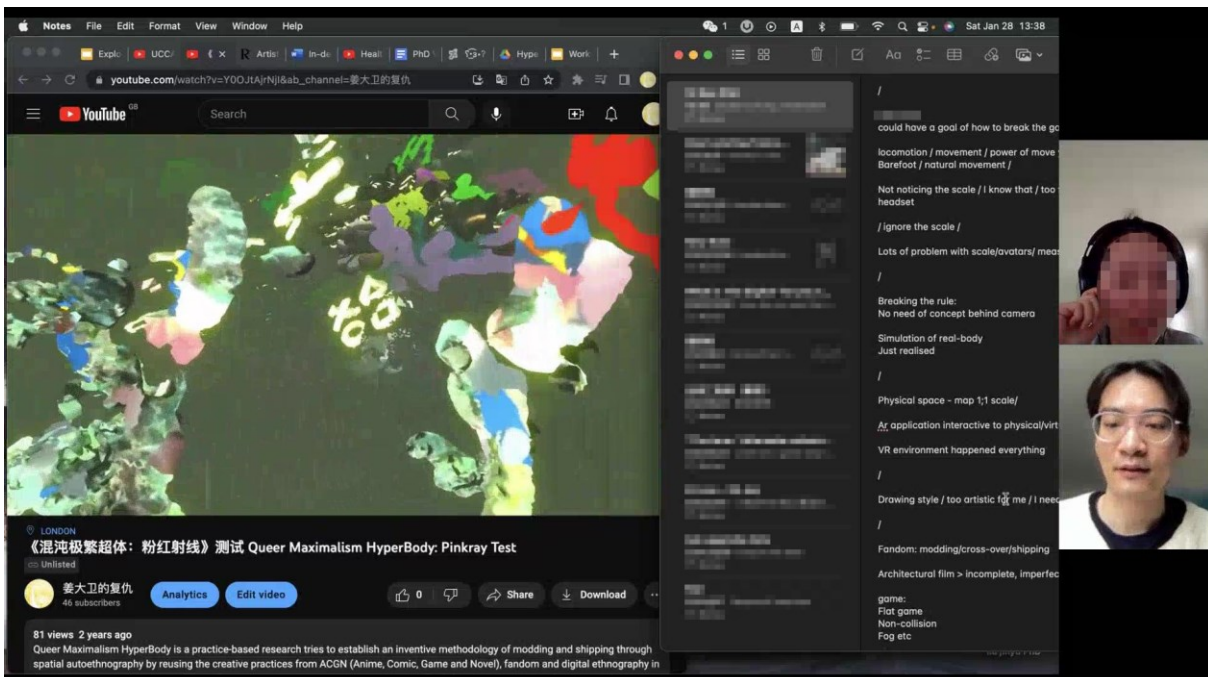


Figure N2. P. F screenshot, describing the personal experiences in "Pinkray", online interview in Microsoft Teams.

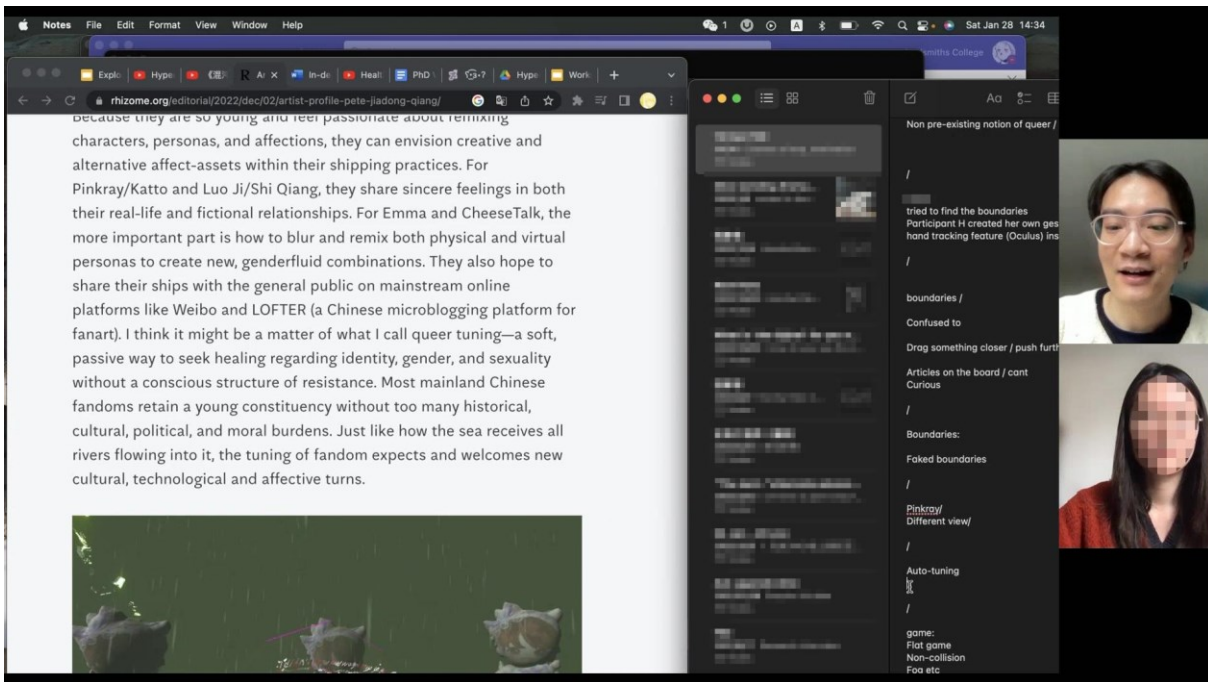


Figure N3. P. H screenshot, describing the personal experiences of Pikray/Katto fandoms, online interview in Microsoft Teams.



Figure N4. P. E screenshot, describing the personal experiences in "Garden Portal", online interview in Tencent Meeting.

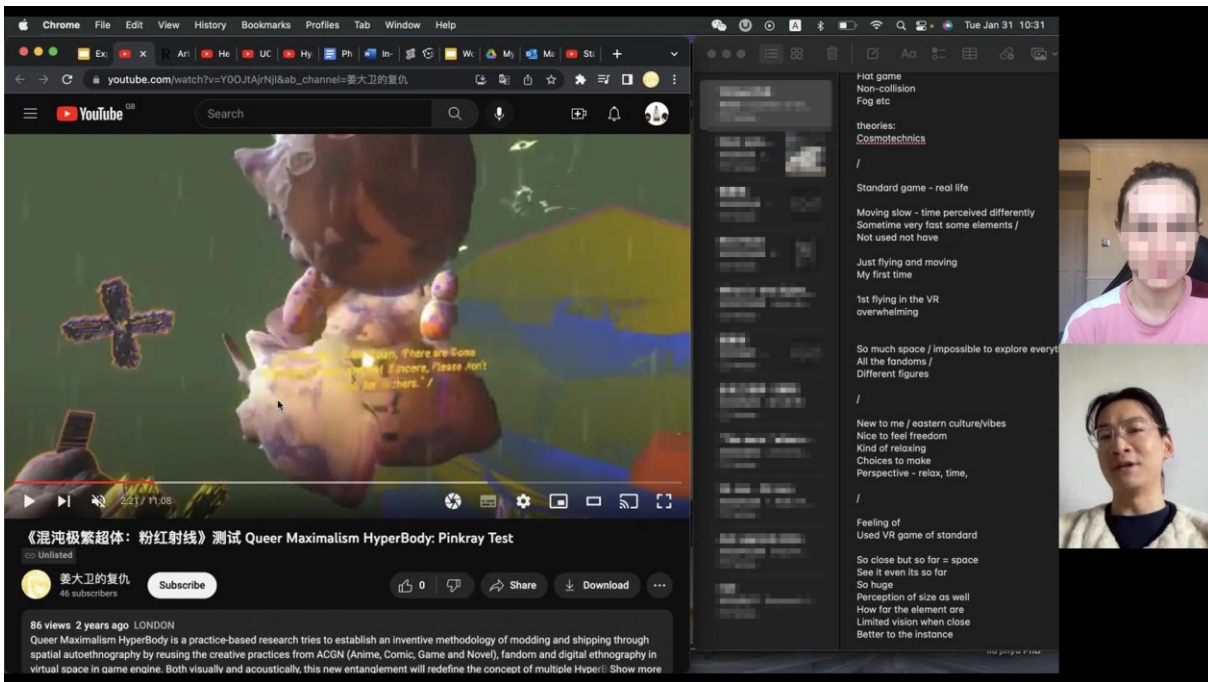


Figure N5. P. J screenshot, describing the personal experiences in "Pinkray", online interview in Microsoft Teams.

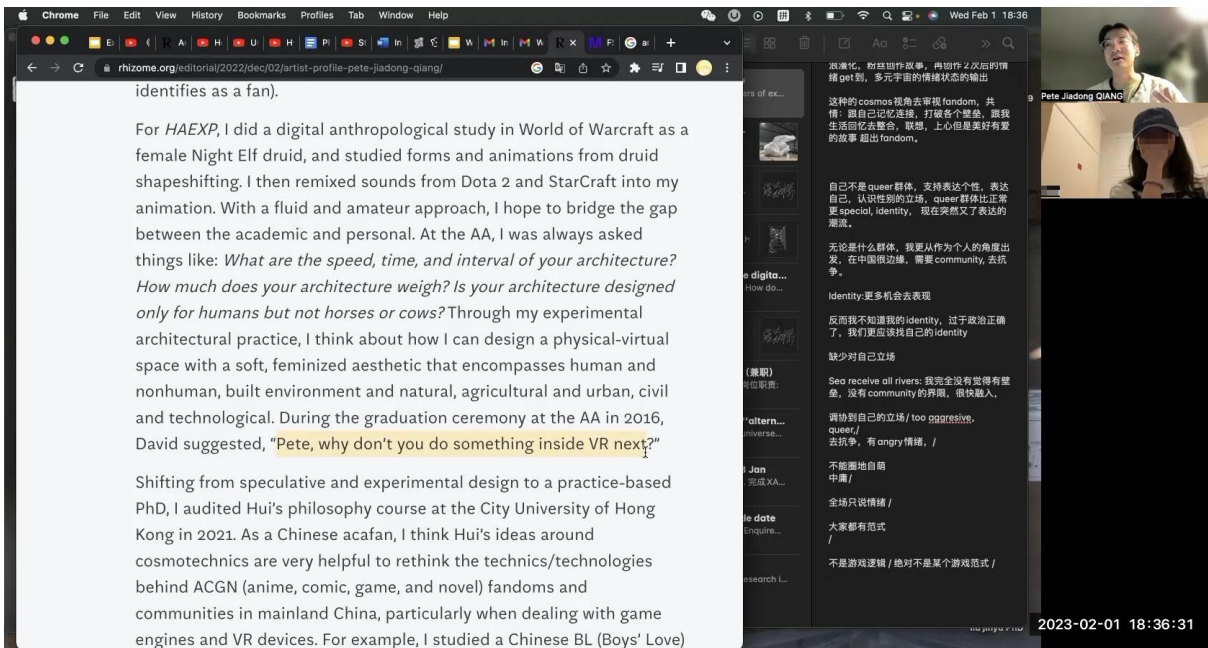


Figure N6. P. C screenshot, discussing the architectural references, online interview in Zoom.



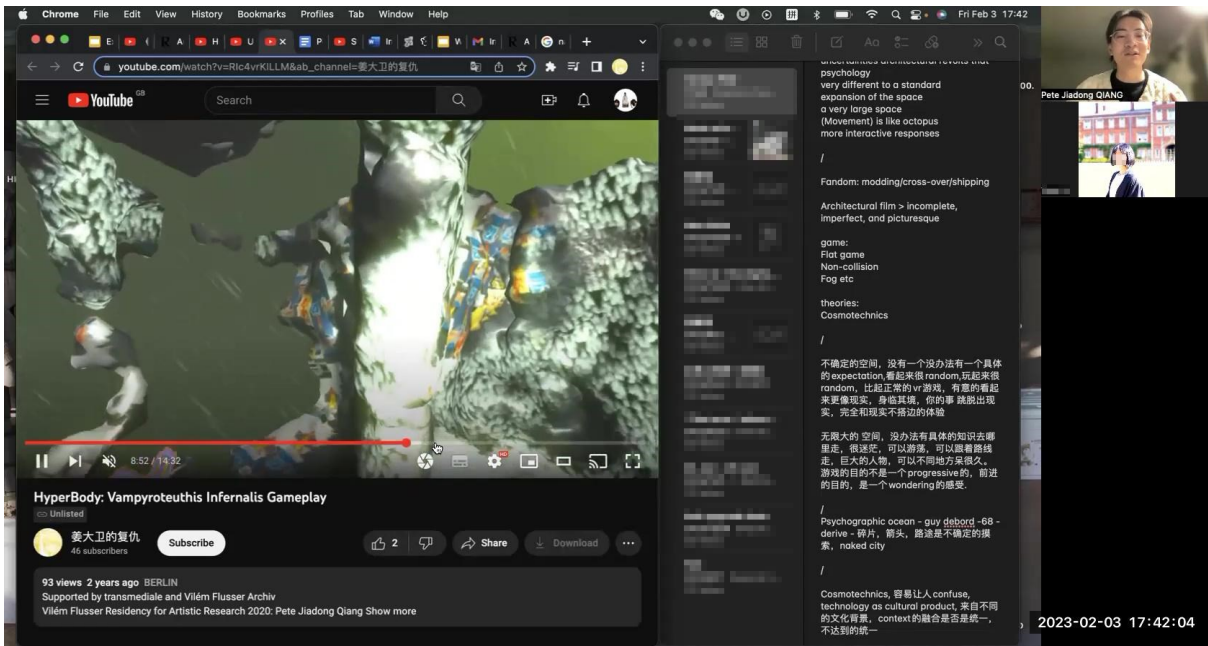


Figure N7. P. B screenshot, describing the personal experiences in "Vampire Squid", online interview in Zoom.

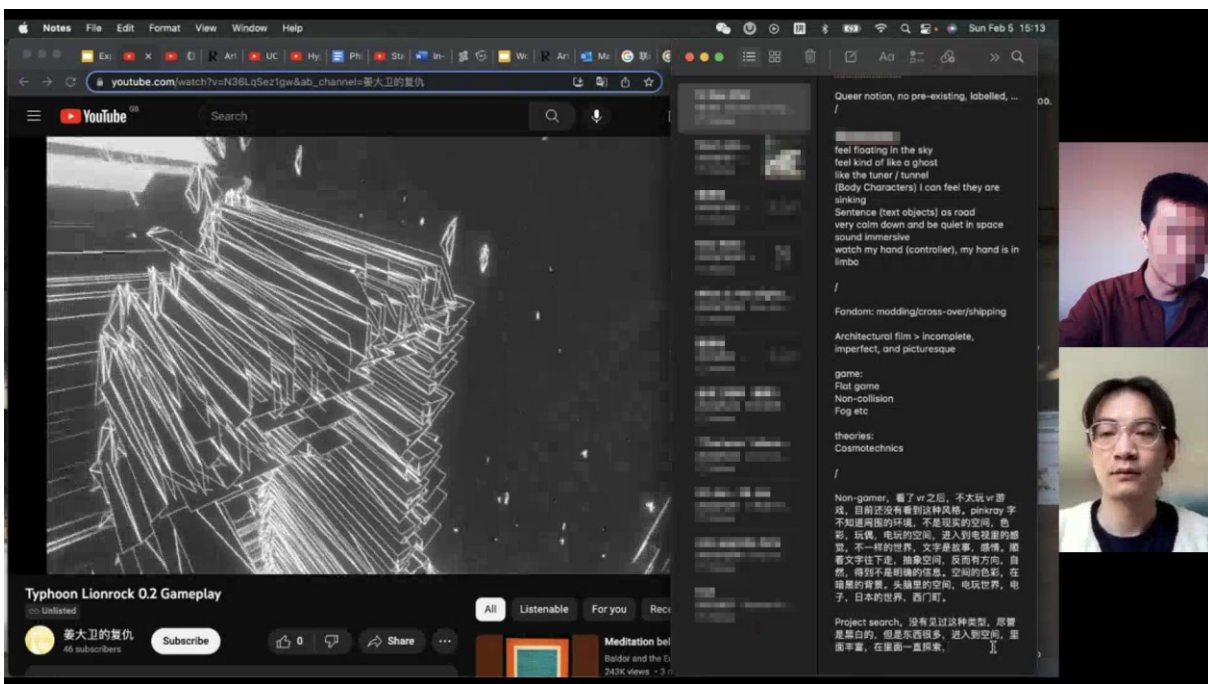


Figure N8. P. I screenshot, describing the personal experiences in "Typhoon Lionrock", online interview in Microsoft Teams.

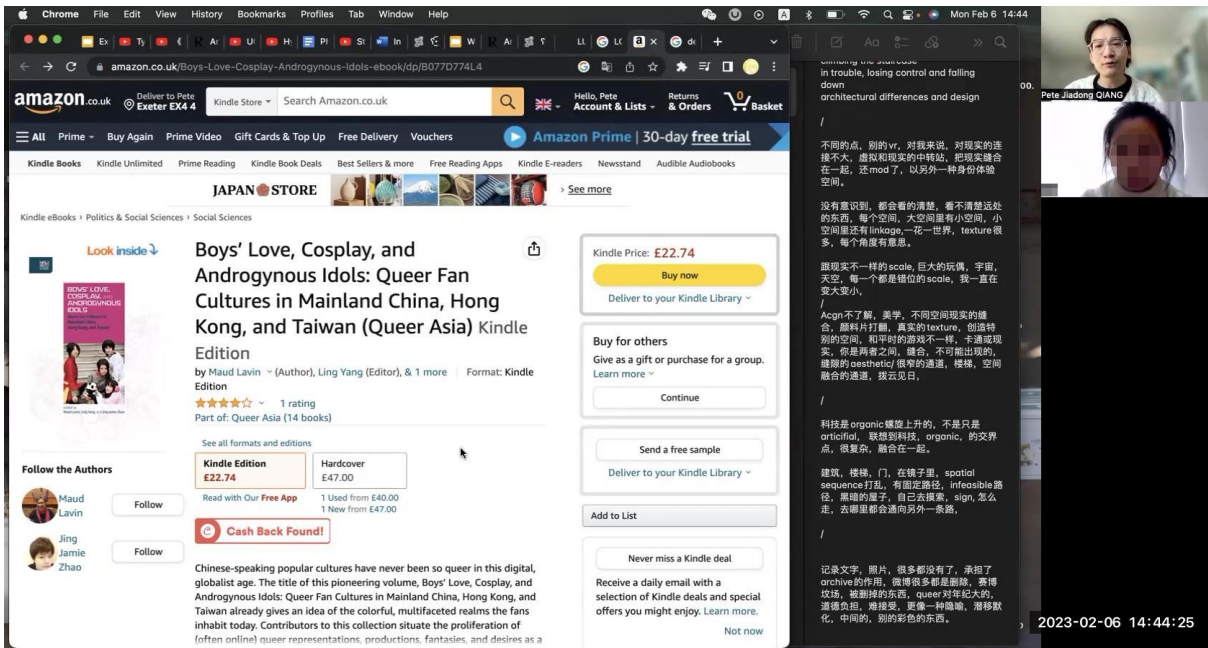


Figure N9. P. A screenshot, discussing the queer references in Hong Kong, online interview in Zoom.

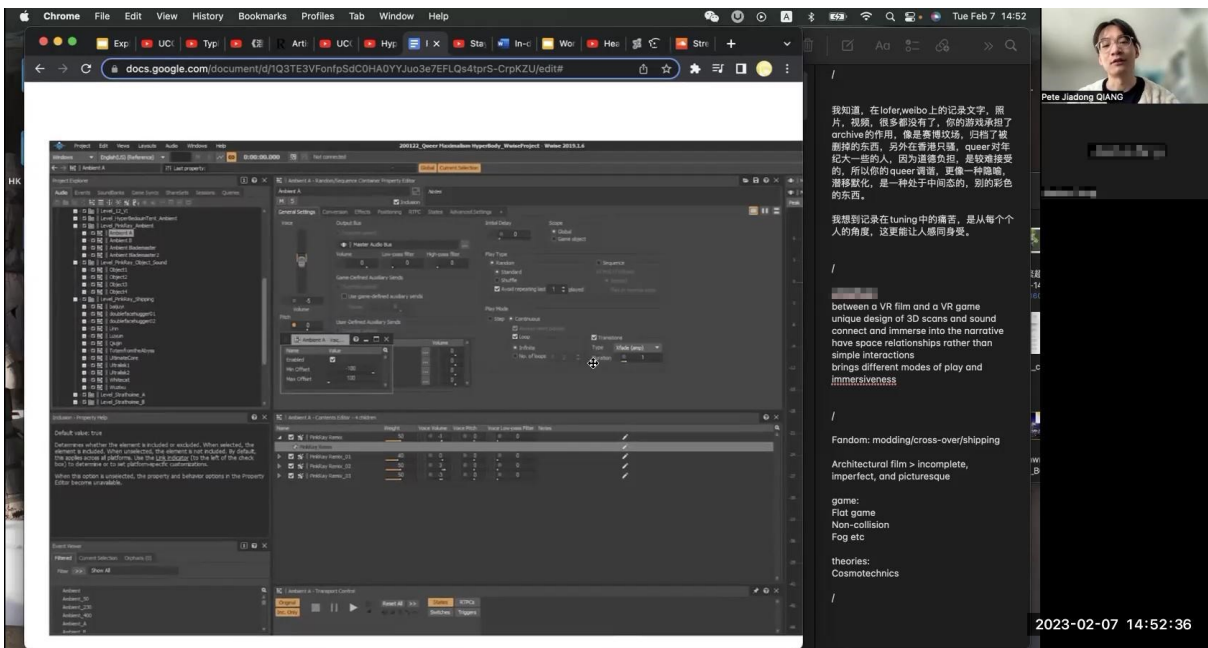


Figure N10. P. D screenshot, discussing the shipping dialogue sound effects and its process of making in Wwise sound engine, online interview in Zoom.

## Appendix O: Ethical Statement

In line with the ethical assessment form for the HyperBody project, I have adhered to ethical standards approved by the Goldsmiths Research Ethics Committee. UK norms underpin these ethical procedures. The project aligns with the privacy and confidentiality guidelines delineated in the UK ESRC's "Research Ethics Framework" (REF). The ethical norms applied in my research are aligned with the guidelines and methods stipulated in the broader scope of the HyperBody project.

### Creating and Evaluating HyperBody

As an academic fan, I used autoethnography and digital ethnography to develop the HyperBody VR game. I worked with seven fandom members, including Emma, Tang Fei, Aristo, Jingzhi, CheeseTalk, Linn, and Tianqi. Through interactive interviews, I encouraged them to share their personal experiences and interests related to their ACGN and fandoms. All of them were interested in participating in collective research practices and co-creating within the game. I will securely store only physical field notes, and participants will have the opportunity to review any details. With their consent, I will credit their full names or fandom nicknames at public events like conferences, workshops, and exhibitions. These events will serve as a new fanworks archive and contribute back to specific fandoms.

### Evaluating HyperBody

To evaluate the HyperBody VR game, I conducted a VR gameplay workshop and post-workshop in-depth interviews. Prior to the sessions, I informed the participants about the research objectives. I explained how the data they provided would be used. To protect their privacy, all participants were anonymised during the session.

I invited ten interdisciplinary and multi-lingual participants to join. During the workshop, the camera recorded participants' gameplay; their navigation paths in different game levels were recorded; each participant was asked to complete an online questionnaire after gameplay. Then, all participants joined the group discussion, which also was recorded. I conducted an individual online in-depth interview with each participant for the post-VR gameplay workshop. Online in-depth interviews were recorded. The recorded videos (gameplay, group discussion, in-depth interview), navigation path data, and questionnaire results will be stored safely by myself on my external hard drive. They will be allowed to review any details.

Before conducting my research, I informed all participants that any information collected during the process, such as their field notes, interview transcripts, and videos, may reveal their identity to others. I ensured they fully understood this before agreeing to participate and signing an Informed Consent form. This form explained the nature of the study. It allowed them to withdraw anytime, including after the research had concluded. As of 01/05/2023, participants have yet to request to withdraw from the study.

For participants in creating, describing, and evaluating HyperBody, all the collected data will eventually be destroyed once HyperBody is complete.

The following are two examples of the participation information sheets and informed consent forms distributed to participants creating, describing, and evaluating HyperBody. The first is for creating and describing the HyperBody; the second is for evaluating the HyperBody. All the fields have been anonymised, excluding the printed names of the researchers, for inclusion in this thesis.



## Participant Information Sheet

### **Title of the research study:**

Jiadong Qiang, Computing, +447421876716, jqian001@gold.ac.uk

### **Invitation paragraph**

You are being invited to take part in a research study. Before you decide whether or not to take part, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully.

### **What is the purpose of the study?**

HyperBody is a four-year practice-based PhD research. It tries to establish an inventive methodology of modding and shipping through spatial autoethnography by reusing the creative practices from ACGN (Anime, Comic, Game and Novel), fandom and digital ethnography in virtual space in the game engine. Both visually and acoustically, this new entanglement will redefine the concept of multiple HyperBodies intra-acting of physical-virtual multi-temporal spaces. The interactive interviewing, as part of the collective research process, will contribute to the archive of spatial autoethnography as a VR game.

### **Why have I been invited to participate?**

The individual chosen to participate in the study is a cultural member of ACGN and related fandoms. Some of the participants were also architectural professionals. 7-10 other people will be asked to participate.

### **Do I have to take part?**

It is entirely up to you to decide whether or not to take part. If you decide to do so, you will be given this information sheet to keep and will be asked to give your consent.

### **Can I withdraw from the study?**

You can withdraw from the study at any time without giving a reason.

If you do decide to withdraw from the study, you will be asked what you want to happen to data you have provided up to that point, but please note that after 1<sup>st</sup> May 2020 anonymised data can no longer be removed from the study.

### **What will happen if I take part?**

The individual will be asked to discuss their personal experiences and interests in their specific ACGN and fandoms. If you are interested, you are further invited to participate in collective research practices within HyperBody VR game. Only field notes will be recorded, and you will be given the opportunity to review any details.

### **What are the possible disadvantages and risks of taking part?**

N/A

**What are the possible benefits of taking part?**

Your fandoms and practices might contribute to the archive of spatial autoethnography. It might be presented to wider audiences beyond cultural boundaries at various conferences, workshops and exhibitions.

**Will what I say in this study be kept confidential?**

All the information that we collect about you during the course of the research will be kept strictly confidential. You will not be able to be identified in any ensuing reports or publications.

The details of your personal fandoms and creative practices will be collected. They will contribute to the archive of spatial autoethnography in the VR game HyperBody. The field notes will be physically kept in a safe place and only backed up on the researcher's personal laptop. Only you will be given the opportunity to review any details. The field notes will eventually be destroyed once HyperBody is complete.

You are offered choices with regard to anonymity or identification in the archive of spatial autoethnography.

Depending on the nature of the study, the data collected during the course of the study might be used for additional or subsequent research.

**Limits to confidentiality**

Confidentiality will be respected subject to legal constraints and professional guidelines. Please note that assurances on confidentiality will be strictly adhered to unless evidence of wrongdoing or potential harm is uncovered. In such cases Goldsmiths may be obliged to contact relevant statutory bodies or agencies.

**Use of deception**

Research designs often require that the full intent of the study cannot be explained prior to participation. Although we have described the general nature of the tasks that you will be asked to perform, the full intent of the study will not be explained to you until after the completion of the study [at which point you may withdraw your data from the study.

**What will happen to the results of the research study?**

The research and collective research practices will be used in the conference presentation of 4S/EASST conference in Prague in August, 2020. A copy of the findings will be offered to each participant.

**Who is organising and funding the research?**

Goldsmiths department of Computing is organising the research. The research has been approved by a departmental ethics committee, Goldsmiths, University of London.

**What if something goes wrong?**

If you have any concerns about your participation or about the study in general, you should first contact Jiadong Qiang (listed above). If you feel your complaint has not been satisfactorily handled, you can contact the Chair of the Goldsmiths Research Ethics and Integrity Sub-Committee via Research Services (020 7919 7770, [reisc@gold.ac.uk](mailto:reisc@gold.ac.uk)).

Thank you for reading this information sheet and for considering whether to take part in this research study.

The Participant Information Sheet must include the following  
Data Protection Privacy Notice in its entirety

## Data Protection Privacy Notice

### The General Data Protection Regulation [GDPR] and Goldsmiths Research: guidelines for participants

Please note that this document does not constitute, and should not be construed as, legal advice. These guidelines are designed to help participants understand their rights under GDPR which came into force on 25 May 2018.

#### Your rights as a participant (data subject) in this study

The updated data protection regulation is a series of conditions designed to protect an individual's personal data. Not all data collected for research is personal data.

Personal data is data such that a living individual can be identified; collection of personal data is sometimes essential in conducting research and GDPR sets out that data subjects should be treated in a lawful and fair manner and that information about the data processing should be explained clearly and transparently. Some data we might ask to collect falls under the heading of **special categories data**. This type of information includes data about an individual's race; ethnic origin; politics; religion; trade union membership; genetics; biometrics (where used for ID purposes); health; sex life; or sexual orientation. This data requires particular care.

Under GDPR you have the following rights over your personal data<sup>1</sup>:

- **The right to be informed.** You must be informed if your personal data is being used.
- **The right of access.** You can ask for a copy of your data by making a 'subject access request'.
- **The right to rectification.** You can ask for your data held to be corrected.
- **The right to erasure.** You can ask for your data to be deleted.
- **The right to restrict processing.** You can limit the way an organisation uses your personal data if you are concerned about the accuracy of the data or how it is being used.
- **The right to data portability.** You have the right to get your personal data from an organisation in a way that is accessible and machine-readable. You also have the right to ask an organisation to transfer your data to another organisation.
- **The right to object.** You have the right to object to the use of your personal data in some circumstances. You have an absolute right to object to an organisation using your data for direct marketing.
- **How your data is processed using automated decision making and profiling.** You have the right not to be subject to a decision that is based solely on automated processing if the decision affects your legal rights or other equally important matters; to understand the reasons behind decisions made about you by automated processing and the possible consequences of the decisions, and to object to profiling in certain situations, including for direct marketing purposes.

Please note that these rights are not absolute and only apply in certain circumstances. You should also be informed how long your data will be retained and who it might be shared with.

#### How does Goldsmiths treat my contribution to this study?

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<sup>1</sup> <https://ico.org.uk/your-data-matters/>

Your participation in this research is very valuable and any personal data you provide will be treated in confidence using the best technical means available to us. The university's legal basis for processing your data<sup>2</sup> as part of our research findings is a "task carried out in the public interest". This means that our research is designed to improve the health, happiness and well-being of society and to help us better understand the world we live in. It is not going to be used for marketing or commercial purposes.

In addition to our legal basis under Article 6 (as described above), for **special categories data** as defined under Article 9 of GDPR, our condition for processing is that it is "necessary for archiving purposes in the public interest, scientific or historical research purposes or statistical purposes".<sup>3</sup>

If your data contributes to data from a group then your ability to remove data may be limited as the study progresses, when removal of your data may cause damage to the dataset.

**You should also know that you may contact any of the following people if you are unhappy about the way your data or your participation in this study are being treated:**

- Goldsmiths Data Protection Officer – [dp@gold.ac.uk](mailto:dp@gold.ac.uk) (concerning your rights to control personal data).
- Chair, Goldsmiths Research Ethics and Integrity Sub-Committee - via [reisc@gold.ac.uk](mailto:reisc@gold.ac.uk), REISC Secretary (for any other element of the study).
- You also have the right to lodge a complaint with the Information Commissioner's Office at <https://ico.org.uk/make-a-complaint/>

*This information has been provided by the Research Ethics and Integrity Sub-Committee with advice from the Research Services and Governance and Legal Teams.*

*Version: 13 August 2018*

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<sup>2</sup> GDPR Article 6; the six lawful bases for processing data are explained here: <https://ico.org.uk/for-organisations/guide-to-the-general-data-protection-regulation-gdpr/lawful-basis-for-processing/>

<sup>3</sup> Article 9 of the GDPR requires this type of data to be treated with great care because of the more significant risks to a person's fundamental rights and freedoms that mishandling might cause, eg, by putting them at risk of unlawful discrimination.



## Informed consent form

This is a *template* devised by the UK Data Service to assist researchers in the design of their informed consent form. You may adapt this template to the requirements of your particular project, using the notes and suggestions provided.

**The informed consent form should always be accompanied by a Participant Information Sheet [see Goldsmiths guidelines]**

- Notes**
- Black text forms the standard content of a consent form
  - **[Insert specific information in the highlighted square brackets]**
  - Text notes in the grey boxes provide guidance only and are to be removed in the final consent form
  - Blue text indicates optional statements to add

### Informed Consent for [HyperBody Interactive Interviewing]

Please tick the appropriate boxes

Yes No

**1. Taking part in the study**

I have read and understood the study information dated **[13 December 2019]**, or it has been read to me. I have been able to ask questions about the study and my questions have been answered to my satisfaction.

I consent voluntarily to be a participant in this study and understand that I can refuse to answer questions and I can withdraw from the study at any time, without having to give a reason.

Goldsmiths addition:

I understand that if I do decide to withdraw, anonymised data can no longer be removed from the study after **[1 May 2020]**.



I understand that taking part in the study involves **[interactive interviews and possibly collective research practices]**.

Describe in a few words how information is captured, using the same terms as you used in the information sheet, for example: an audio-recorded interview, a video-recorded focus group, a survey questionnaire completed by the enumerator, an experiment, etc.].

For interviews, focus groups and observations, specify how the information is recorded (audio, video, written notes).

For questionnaires, specify whether participant or enumerator completes the form.

For audio or video recordings, indicate whether these will be transcribed as text, and whether the recording will be destroyed.

## 2. Use of the information in the study

I understand that information I provide will be used for [publications, websites and VR game].

List the planned outputs, e.g. reports, publications, website, video channel etc., using the same terms as you used in the study information sheet.

Consider whether knowledge sharing and benefits sharing needs to be considered, e.g. for indigenous knowledge.

I understand that personal information collected about me that can identify me, such as my name or where I live, will not be shared beyond the study team.

At times this should be restricted to the researcher only.

I agree that my information can be quoted in research outputs.

I agree that my real name can be used for quotes.

I agree to joint copyright of the **[interactive interviewing field notes]** to [Jiadong Qiang].

## 3. Future use and reuse of the information by others

I give permission for the **[interactive interviewing field notes]** that I provide to be deposited in [HyperBody VR game] so it can be used for future research and learning.

Specify in which form the data will be deposited, e.g. de-identified (anonymised) transcripts, audio recording, survey database, etc.; and if needed repeat the statement for each form of data you plan to deposit.

Specify whether deposited data will be de-identified (anonymised), and how. Make sure to describe this in detail in the information sheet.

Specify whether use or access restrictions will apply to the data in future, e.g. exclude commercial use, apply safeguarded access, etc.; and discuss these restrictions with the repository in advance.

Version: November 2019

**4. Signatures**

Name of participant [IN CAPITALS]                      Signature                      **13 December 2019**  
Date

For participants unable to sign their name, mark the box instead of signing

I have witnessed the accurate reading of the consent form with the potential participant and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.

Name of witness [IN CAPITALS]                      Signature                      Date

I have accurately read out the information sheet to the potential participant and, to the best of my ability, ensured that the participant understands to what they are freely consenting.



**JIADONG QIANG**  
Name of researcher [IN CAPITALS]                      Signature                      **13 December 2019**  
Date

**5. Study contact details for further information**

[Jiadong Qiang, +447421876716, jqian001@gold.ac.uk]

## Participant Information Sheet

### **Title of the research study:**

Jiadong Qiang, Computing, +447421876716, jqian001@gold.ac.uk

### **Invitation paragraph**

You are being invited to take part in a research study. Before you decide whether or not to take part, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully.

### **What is the purpose of the study?**

HyperBody analyses game-fandom practices through the lens of Karen Barad's materialist discourse and Yuk Hui's cosmotechnics. Focuses on the practices and phenomena in the audio-visual VR game artwork "HyperBody", which acts as a spatial archive of digital ethnography and autoethnography - a companion to the written thesis. The study aims to evaluate the VR game "HyperBody" through an offline VR gameplay workshop and online in-depth interviews.

### **Why have I been invited to participate?**

The individual chosen to participate in the study is a cultural member of ACGN and related game fandoms. Some of the participants were also VR game professionals. 10 people will be asked to participate.

### **Do I have to take part?**

It is entirely up to you to decide whether or not to take part. If you decide to do so, you will be given this information sheet to keep and will be asked to give your consent.

### **Can I withdraw from the study?**

You can withdraw from the study at any time without giving a reason.

If you do decide to withdraw from the study, you will be asked what you want to happen to data you have provided up to that point, but please note that after 1<sup>st</sup> May 2023 anonymised data can no longer be removed from the study.

### **What will happen if I take part?**

In the offline VR gameplay workshop, the individual will be asked to play the VR game "HyperBody", complete questionnaires, and join a group discussion. The individual will be asked to provide personal feedback on their VR experiences in the online in-depth interviews. The VR gameplay recorded video, gameplay navigation path data, questionnaires, group discussion video, and in-depth interview videos will be only stored in the researcher's external hard drive offline. You will be allowed to review any details.

### **What are the possible disadvantages and risks of taking part?**

N/A



**What are the possible benefits of taking part?**

Your fandoms and practices might contribute to the VR game as an archive of spatial autoethnography. It might be presented to wider audiences beyond cultural boundaries at various conferences, workshops and exhibitions.

**Will what I say in this study be kept confidential?**

All the information that we collect about you during the course of the research will be kept strictly confidential. You will not be able to be identified in any ensuing reports or publications.

The details of your personal fandoms and creative practices will be collected. They will contribute to the archive of spatial autoethnography in VR games. The videos, navigation paths data recorded and questionnaire during the workshop and in-depth interview will be physically kept in an external hard drive at a safe place and only backed up on the researcher's personal laptop. Only you will be given the opportunity to review any details. All collected data will eventually be destroyed once HyperBody is complete.

You are offered choices with regard to anonymity or identification during the VR gameplay.

Depending on the nature of the study, the data collected during the course of the study might be used for additional or subsequent research.

**Limits to confidentiality**

Confidentiality will be respected subject to legal constraints and professional guidelines. Please note that assurances on confidentiality will be strictly adhered to unless evidence of wrongdoing or potential harm is uncovered. In such cases Goldsmiths may be obliged to contact relevant statutory bodies or agencies.

**Use of deception**

Research designs often require that the full intent of the study cannot be explained prior to participation. Although we have described the general nature of the tasks that you will be asked to perform, the full intent of the study will not be explained to you until after the completion of the study [at which point you may withdraw your data from the study.

**What will happen to the results of the research study?**

The results will be used to evaluate various VR game levels in HyperBody.

**Who is organising and funding the research?**

Goldsmiths department of Computing is organising the research. The research has been approved by a departmental ethics committee, Goldsmiths, University of London.

**What if something goes wrong?**

If you have any concerns about your participation or about the study in general, you should first contact Jiadong Qiang (listed above). If you feel your complaint has not been satisfactorily handled, you can contact the Chair of the Goldsmiths Research Ethics and Integrity Sub-Committee via Research Services (020 7919 7770, [reisc@gold.ac.uk](mailto:reisc@gold.ac.uk)).

Thank you for reading this information sheet and for considering whether to take part in this research study.

The Participant Information Sheet must include the following  
Data Protection Privacy Notice in its entirety

## Data Protection Privacy Notice

### The General Data Protection Regulation [GDPR] and Goldsmiths Research: guidelines for participants

Please note that this document does not constitute, and should not be construed as, legal advice. These guidelines are designed to help participants understand their rights under GDPR which came into force on 25 May 2018.

#### Your rights as a participant (data subject) in this study

The updated data protection regulation is a series of conditions designed to protect an individual's personal data. Not all data collected for research is personal data.

Personal data is data such that a living individual can be identified; collection of personal data is sometimes essential in conducting research and GDPR sets out that data subjects should be treated in a lawful and fair manner and that information about the data processing should be explained clearly and transparently. Some data we might ask to collect falls under the heading of **special categories data**. This type of information includes data about an individual's race; ethnic origin; politics; religion; trade union membership; genetics; biometrics (where used for ID purposes); health; sex life; or sexual orientation. This data requires particular care.

Under GDPR you have the following rights over your personal data<sup>1</sup>:

- **The right to be informed.** You must be informed if your personal data is being used.
- **The right of access.** You can ask for a copy of your data by making a 'subject access request'.
- **The right to rectification.** You can ask for your data held to be corrected.
- **The right to erasure.** You can ask for your data to be deleted.
- **The right to restrict processing.** You can limit the way an organisation uses your personal data if you are concerned about the accuracy of the data or how it is being used.
- **The right to data portability.** You have the right to get your personal data from an organisation in a way that is accessible and machine-readable. You also have the right to ask an organisation to transfer your data to another organisation.
- **The right to object.** You have the right to object to the use of your personal data in some circumstances. You have an absolute right to object to an organisation using your data for direct marketing.
- **How your data is processed using automated decision making and profiling.** You have the right not to be subject to a decision that is based solely on automated processing if the decision affects your legal rights or other equally important matters; to understand the reasons behind decisions made about you by automated processing and the possible consequences of the decisions, and to object to profiling in certain situations, including for direct marketing purposes.

Please note that these rights are not absolute and only apply in certain circumstances. You should also be informed how long your data will be retained and who it might be shared with.

#### How does Goldsmiths treat my contribution to this study?

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<sup>1</sup> <https://ico.org.uk/your-data-matters/>

Your participation in this research is very valuable and any personal data you provide will be treated in confidence using the best technical means available to us. The university's legal basis for processing your data<sup>2</sup> as part of our research findings is a "task carried out in the public interest". This means that our research is designed to improve the health, happiness and well-being of society and to help us better understand the world we live in. It is not going to be used for marketing or commercial purposes.

In addition to our legal basis under Article 6 (as described above), for **special categories data** as defined under Article 9 of GDPR, our condition for processing is that it is "necessary for archiving purposes in the public interest, scientific or historical research purposes or statistical purposes".<sup>3</sup>

If your data contributes to data from a group then your ability to remove data may be limited as the study progresses, when removal of your data may cause damage to the dataset.

**You should also know that you may contact any of the following people if you are unhappy about the way your data or your participation in this study are being treated:**

- Goldsmiths Data Protection Officer – [dp@gold.ac.uk](mailto:dp@gold.ac.uk) (concerning your rights to control personal data).
- Chair, Goldsmiths Research Ethics and Integrity Sub-Committee - via [reisc@gold.ac.uk](mailto:reisc@gold.ac.uk), REISC Secretary (for any other element of the study).
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*Version: 13 August 2018*

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<sup>2</sup> GDPR Article 6; the six lawful bases for processing data are explained here: <https://ico.org.uk/for-organisations/guide-to-the-general-data-protection-regulation-gdpr/lawful-basis-for-processing/>

<sup>3</sup> Article 9 of the GDPR requires this type of data to be treated with great care because of the more significant risks to a person's fundamental rights and freedoms that mishandling might cause, eg, by putting them at risk of unlawful discrimination.



## Informed consent form

This is a *template* devised by the UK Data Service to assist researchers in the design of their informed consent form. You may adapt this template to the requirements of your particular project, using the notes and suggestions provided.

**The informed consent form should always be accompanied by a Participant Information Sheet [see Goldsmiths guidelines]**

### Informed Consent for [HyperBody Offline VR Gameplay Workshop and Online In-depth Interviews]

Please tick the appropriate boxes

Yes No

#### 1. Taking part in the study

I have read and understood the study information dated **[17 October 2022]**, or it has been read to me. I have been able to ask questions about the study and my questions have been answered to my satisfaction.  Yes  No

I consent voluntarily to be a participant in this study and understand that I can refuse to answer questions and I can withdraw from the study at any time, without having to give a reason.  Yes  No

I understand that if I do decide to withdraw, anonymised data can no longer be removed from the study after **[1 May 2023]**.  Yes  No

I understand that taking part in the study involves **[VR gameplay, group discussion, in-depth interviews being recorded by the camera, different game levels navigation paths being recorded, and a complete questionnaire. The gameplay, group discussion, in-depth interview video recording, navigation path, questionnaire, and group discussion and in-depth interview transcripts will be stored offline in the author's external hard drive]**.  Yes  No

**2. Use of the information in the study**

I understand that information I provide will be used for [publications, websites and VR games].

I understand that personal information collected about me that can identify me, such as my name or where I live, will not be shared beyond the study team.

I agree that my information can be quoted in research outputs.

I agree that my real name can be used for quotes.

I agree to the joint copyright of the [VR gameplay, group discussion, in-depth interview videos, navigation paths, and questionnaire] to [Jiadong Qiang].

**3. For future use and reuse of the information by others**

I give permission for the [VR gameplay, group discussion, in-depth interview videos, navigation paths, and questionnaire] that I provide to be deposited in [Hyperbody thesis writing] so it can be used for future research and learning. All the data will be only digitally deposited in the author's external hard drive. The use or access restrictions will apply to the data in future, exclude commercial use, and only be stored for offline access.



#### 4. Signatures

Name of participant [IN CAPITALS]

Signature

Date

For participants unable to sign their name, mark the box instead of signing

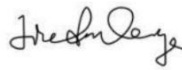
I have witnessed the accurate reading of the consent form with the potential participant and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.

Name of witness [IN CAPITALS]

Signature

Date

I have accurately read out the information sheet to the potential participant and, to the best of my ability, ensured that the participant understands to what they are freely consenting.



**JIADONG QIANG**

Name of researcher [IN CAPITALS]

Signature

Date

#### 5. Study contact details for further information

[Jiadong Qiang, +447421876716, jqian001@gold.ac.uk]

## Appendix P: Glossary of Terms

**Aca-fan:** A portmanteau of "academic" and "fan", this term refers to individuals who are both active participants in fan communities and scholarly researchers of fandom. Aca-fans use their engagement with fan culture to inform their academic research, often leading to a more nuanced understanding of fan practices, communities, and culture. This dual role can help bridge the gap between fandom and academia, encouraging more inclusive, participatory research approaches.

**ACGN:** An acronym standing for Anime, Comics, Games, and Novels. This term originates from East Asian digital cultures, primarily Japan, China, and South Korea. It represents a wide range of media consumed and produced by fan communities. These mediums are significant content sources for creative practices like modding, cross-over, and shipping in VR games and interactive media.

**Affect as an asset:** In fan studies, it involves recognising and utilising emotions and affective responses as valuable resources in research. It challenges the dichotomy between emotion and rationality, embracing the researcher's emotional attachment to the subject. Affect provides insight and informs research questions while acknowledging the researcher's dual position as a fan and a researcher. It promotes community-based research, cooperation, and sensitivity to power imbalances. A fannish methodology encourages interdisciplinary approaches and values the field's diversity of methodological and theoretical approaches. It aims to foster a sense of community among fan studies researchers and enhance knowledge within the field.

**Agential realist framework** (Karen Barad): This theoretical framework posits that entities or agents do not precede their interaction but rather emerge through specific intra-actions. The critical aspect is the focus on intra-action, which goes beyond the traditional interaction concept between predefined separate entities. Instead, entities and their boundaries materialise within these intra-actions. In this framework, the agency is not an attribute of individuals or entities. However, it is a part of the ongoing reconfigurations of the world. The agential realist framework emphasises the entanglement of matter and meaning, the material and the discursive, and rejects any ontological division between them.

**Auto-tune:** A digital audio processing technique used in music to correct or enhance pitch. In fandom, fans use it creatively to remix or cover songs, altering the pitch and creating unique interpretations.

**Beauty of passive virtue:** Introduced by Florence Chia-ying Yeh, it refers to an aesthetic concept in Cí poetry, a form of classical Chinese poetry. It expresses desire, affection, and feminised topics, portraying an opaque and non-linear stance towards established cultural and moral values. The beauty of passive virtue embraces vulnerability, softness, and an ambisexual mindset, challenging gender norms. Contemporary Chinese-speaking queer fandom has been explored concerning queerness, gender, and sexuality, offering a different perspective within fan studies. The concept of passive virtue emphasises vulnerability and a fluid presentation of gender and sexuality.

**Bills of quantities:** Bills of quantities is a document commonly used in construction and architecture projects to itemise and quantify the required materials, labour, and costs. In video game design, Bills of quantities refers to a similar concept of itemising and quantifying the various elements required to develop a game. It includes resources such as artwork assets, sound effects, music, programming hours, testing time, and other components necessary to create the game. Game developers can estimate the resources needed, allocate budgets, and effectively manage the production process by creating a detailed breakdown of these elements. Bills of quantities in video game design help ensure efficient resource allocation, cost control, and timely delivery of the final product.

**Boys' Love (BL):** A genre of fictional media originating from Japan that features romantic or sexual relationships between male characters. It is often created by and for women. The genre includes manga, anime, novels, and games. BL is part of a larger group of genres collectively known as "yaoi". This term is widely used in international fandom communities. In China, BL fandoms incorporate diverse cultural influences, including indigenous homosexual traditions, feminist and LGBT perspectives, Japanese ACGN culture, the Korean Wave, and Western slash culture. It is a sea that receives all rivers.

**Cosmotechnics (Yuk Hui):** Cosmotechnics is a philosophical concept introduced by Yuk Hui that proposes a more diverse understanding of technology. Instead of considering technology as a universally applicable concept, Hui argues that technology is inherently linked with culture and nature, intertwined with cosmological views and ethical and metaphysical values of different civilisations. In essence, cosmotechnics suggests that technological development and innovation are deeply influenced and shaped by local cultures and cosmologies, highlighting the relationship between the cosmos, the human, and the technical. In "HyperBody", Cosmotechnics explores how technology and culture shape our understanding of queerness. It examines the interplay between queerness and technology in VR productions in Chinese and Western fandoms. Queer tuning,



within the framework of cosmotechnics, involves a deliberate vulnerability and gentle affection that can create novel genderfluid works. This approach allows for disseminating queerness within and beyond Chinese cultural and technological contexts.

**C-Pop:** Short for Chinese Pop, refers to popular music originating from China and performed in Mandarin Chinese. It encompasses various musical genres, including pop, rock, hip-hop, R&B, and ballads. C-Pop has unique cultural and linguistic characteristics, often reflecting Chinese traditions, contemporary themes, and social issues. It has gained popularity in China and among Chinese-speaking communities worldwide. C-Pop artists are known for their catchy melodies, heartfelt lyrics, and visually appealing performances.

**Creating and describing experimental VR gamespace method:** It involves a cross-disciplinary approach that integrates elements from fandom studies, indie game practices, and architectural principles. The focus is on designing a non-player-centred VR gamespace beyond traditional game design methods. The framework uses various technical parameters such as text, image, video, mesh, texture, scale, collision, fog, and audio to create an immersive and interconnected experience. By embracing imperfections and glitches, the emphasis is on celebrating relationships and contributing to the world-making of cosmotechnics. This approach allows nuanced analysis and new possibilities for unconventional VR game design in a posthuman performative context.

**Cross-over:** Refers to fan-created works that combine different fandoms, merging characters, settings, or concepts to create alternate universes or narratives. Examples include fusions, actor crossovers, same-name crossovers, shared traits, location crossovers, historical crossovers, same-creator crossovers, crackfic crossovers, and het/slash-focused crossovers. In "HyperBody", crossover connects modding and shipping, merging collaborators and their fandoms to create a convergence of fan and gaming communities. The gamespace features diverse NPCs, environments, and objects, forming a new world system. Affect-focused crossover is proposed in the VR game to explore the intra-actions of collaborators.

**Diffraction approach** (Karen Barad): A methodological framework for analysis that focuses on understanding how differences get made and matter in the world. Unlike traditional methods of analysis that tend to maintain the separation of entities under study, Barad's diffractive approach considers the entanglements and intra-actions between phenomena. By looking at how differences travel through and emerge from these intra-actions, this approach offers a way to explore the co-constitution of entities and the mutual shaping of their identities.

**Entanglement** (Karen Barad): Refers to the interconnectedness and inseparability of entities within a system. According to Barad's agential realist framework, entities are not isolated and independent but emerge through their entanglement with other entities. Entanglement recognises that all entities are mutually constituted and intertwined, shaping and being shaped by their intra-actions. It challenges the idea of individuality and highlights the relational nature of existence, emphasising the entangled nature of matter, discourse, and agency. In Barad's perspective, entanglement calls for a shift in understanding reality as a complex web of interconnectedness rather than discrete and separate entities.

**Ethico-onto-epistem-ology** (Karen Barad): Represents an intertwining of ethics, ontology (the nature of being), and epistemology (the nature of knowledge). Barad contends that the way we understand the world (epistemology), the way the world exists (ontology), and the way we ethically engage with it cannot be disentangled from one another. In her view, each intra-action in the world simultaneously involves the creation of knowledge, the shaping of being, and ethical considerations, indicating a responsibility in our methods of knowing and being.

**Flatgame:** A game design approach that emphasises accessible and understandable gaming experiences within game-fandom. Developed by LLaura with Mark Wonnacott and Siobhan Gibson, flatgames focus on the raw combination of movement, art, and sound. They feature minimal interactions, prioritising movement and animation while breaking traditional game design rules. Flatgames transcend traditional 2D games, highlighting movement and art in a powerful and impactful way. They encourage players to decentre from mechanical interactions and reject visual primacies, offering posthuman performative experiences and enhancing game-fandom entanglement.

**Game-fandom** (In the context of Chinese ACGN and the integration of Yuk Hui's cosmotechnics and Karen Barad's posthumanist approach): This concept represents a culturally specific and technologically nuanced understanding of fan engagement with video games. In addition to traditional fan activities associated with gameplay, narrative, and community engagement, this framework acknowledges the diverse techno-cultural influences and the entanglement of human and nonhuman agencies in shaping game experiences. Through this lens, game-fandom is a site of consumption, participation, and a space for creative, technological, and philosophical experimentation in VR game development.

**Glocal:** A term combining "global" and "local", referring to the idea that in a globalised world, the global and local influence continuously. In the context of cultural products or practices, glocal refers

to blending global elements (such as popular tropes or standards) with local cultural nuances. This term is often used in studies examining the local adaptation of global products, phenomena, or trends.

**Idol group:** Refers to a pop music group composed of young members trained and marketed as idols. These groups are popular in East Asian entertainment industries like South Korea, Japan, and China. Idol groups undergo rigorous training and have dedicated fan bases that support them through various activities. The fans play a significant role in promoting and supporting their favourite idols.

**Intra-action** (Karen Barad): Unlike interaction, which assumes that entities exist independently before they affect each other, intra-action posits that entities (or agencies) emerge through their mutual entanglements, implying a mutual co-constitution of interacting elements, thus challenging individualistic and anthropocentric assumptions in understanding causality and agency. In "HyperBody", focusing on practices and actions instead of subjects and objects stresses the need to reconsider separate definitions of fandom producer, consumer, game designer, player, spectator, AI bots, and NPC within a game-fandom entanglement. The game-fandom entanglement is transversal, vertical, multiple, and virtual, and it goes beyond human-based activities and produces specific material (re)configurings.

**Iterative evaluation framework:** A comprehensive method for evaluating unconventional VR productions. It combines quantitative and qualitative data across stages of VR gameplay, group discussions, and online interviews. The framework captures participant behaviours, reflections, and design choices related to culture, mechanics, and VR navigation. It also explores audio-visual scenarios, situatedness, and queer notions. The framework goes beyond traditional approaches by including diverse participants, integrating UX research, analysing navigation paths and hotspots, using customised questionnaires, conducting online interviews, employing thematic and discourse analysis, and focusing on affective experiences. This framework contributes to interdisciplinary research in VR, game design, architecture, and fandom studies.

**Material-discursive practice** (Karen Barad): The inseparable processes of materialisation and discursive practices that help form phenomena. In Karen Barad's posthumanist performativity framework, matter and discourse are not separate entities but are intertwined in a dynamic relationship, producing and reconfiguring each other. Material-discursive practices highlight how matter and meaning are mutually constitutive, as they continually intra-act and shape each other. This interplay produces phenomena, the primary ontological units in Barad's framework.

**Modding:** Refers to user-generated modifications in the gaming industry, including new game models, textures, sounds, mechanics, or complete game rewrites. Modders are the creators and distributors of these modifications, forming a modding community. In the context of "HyperBody", modding involves altering and generating new images, sounds, videos, and 3D objects through collaboration with different fandoms and gaming communities. It contributes to the VR fanwork and bridges real-life places and online fandom sites. The architectural models by Jingzhi and Aristo provide further insights into modding.

**NPC:** An abbreviation for "Non-Player Character". In video games, an NPC is a character not controlled by a player. These characters serve various functions, such as story advancement, providing quests or challenges, acting as vendors or guides, or populating the game world to enhance immersion. NPCs are crucial in establishing the game's narrative, mood, and environment.

**Non-collision physics:** The objects in Unity do not interact or collide with each other unless they have Rigidbody and Collider components. Unlike standard games with defined boundaries and colliders, a non-collision gamespace allows players to navigate through 2D or 3D objects in any direction freely. This dynamic environment blurs the distinction between positive and negative spaces, constantly reshaping based on player movements. It challenges traditional notions of space and requires reevaluating the relationships between text, drawing, body, architecture, 3D scan, and player. The non-collision gamespace incorporates voids seamlessly with positive spaces, allowing players to explore the omnipresent negative space that emphasises their insignificance within a non-player-centric system.

**Non-player-centric:** Gamespace shifts the focus from the human player to consider the agency of nonhuman entities. It challenges traditional distinctions of subject and object in gameplay, recognising the significance of AI, procedural generation, and player-NPC intra-actions. Karen Barad's posthumanist approach informs this perspective. By embracing non-player-centricity and highlighting the player's insignificance within a system, game experiences can redefine player-environment relationships.

**Posthumanist principles** (Karen Barad): It challenges traditional humanist notions of human-centric causality, knowledge, and agency. Barad's posthumanism suggests that humans and nonhumans (including non-living entities) are fundamentally entangled in the world's becoming, resisting the binary separation of nature/culture, subject/object, or human/nonhuman. This

perspective emphasises intra-action, suggesting that all entities inherently participate in the ongoing reconfiguring of the world.

**Prosume:** A portmanteau of "produce" and "consume" refers to the contemporary phenomena where product consumers are also involved in its production. It can be seen in various digital cultures, including online fandoms and user-generated content platforms, where users are both consumers of the original content and producers of derivative or original content. This interplay between production and consumption challenges traditional economic and media roles, suggesting a more participatory and collaborative model.

**Queer games avant-garde** (Bonnie Ruberg): It is a movement of queer independent video game developers creating games that challenge traditional notions of gender, sexuality, and representation. It has the chaos of identity, experimenting on affection, experience, and intimacy, constantly questioning empathy, seeking its alternative, and is essentially intersectional. These games often feature queer characters, narratives, and themes, and they often experiment with new game mechanics and aesthetics. The queer games avant-garde is part of a more significant movement of queer artists and activists who are using their work to challenge heteronormativity and promote queer visibility.

**Queer tuning:** A concept that extends the possibilities of queerness beyond gender and sexuality. It involves a particular tuning to queerness, nurtured through ordinary scenes, dialogues, practices, softness, elastic identity, and various personas within a community. It signifies a welcoming stance towards new cultural, technological, and affective turns. Queer tuning is demonstrated in the "HyperBody" VR game as an approach to practice, utilising an auto-tune technique that encourages new cultural, technological, and affective transformations. It fosters emotional connections, enhances immersive experiences, and offers a subtle and indirect way to explore queerness in VR. Queer tuning has implications for various fields, such as VR productions, queer studies, digital cultural studies, computational art, and architecture, providing new insights into intimacy and relationships.

**Shipping:** A practice in fandom that involves creating new romantic relationships between fictional characters or celebrities in fanfiction. It includes various forms of media such as memes, illustrations, videos, and fanfiction shared online. It embraces excessiveness, intangibility, and the affective pleasures of art and fandom. Shipping has the potential to challenge hegemonic authority and create alternate worlds. In the context of "HyperBody", shipping creates an affective

gamespace by combining various NPCs. The goal is to expand the concept of shipping beyond ACGN fandom and into Chinese mainstream online culture, encompassing fandom, art, and space.

**Spatial archive:** It combines digital ethnography, autoethnography, and architecture to create a gamespace that documents personal experiences. It integrates writing, methodology, and ethics to construct a comprehensive research record within fandom and academia. This approach challenges traditional architectural notions, emphasising exchange and blurring boundaries between human and nonhuman elements. The spatial archive aims to bridge nature, culture, and technology while rethinking the role of architecture.

**Speedrunning:** The practice of completing a video game or specific objectives as quickly as possible. Players employ strategies, glitches, and optimisations to achieve fast completion times. It is a popular and competitive gaming aspect, pushing game mechanics and showcasing impressive skills.

**Voidscape:** Refers to exploring the vast expanse of negative space within a game environment. It emphasises the player's sense of insignificance and smallness within a non-player-centric system. In a typical game with collision and interaction, objects are bounded by front and back surfaces. However, players may occasionally fall into the void of negative space and surrounding polygons as they navigate the game. This void represents an endless and omnipresent area where nothing happens or exists, often concealed like a hidden "crime scene" in traditional games. Voidscape challenges the conventional boundaries of gamespaces and invites players to confront their insignificance within the larger game world.

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