Time, space, and intimacy in the everyday rhythms of Chinese mobile game players

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PhD

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Sociology

September 2023

Declaration

Thanks to my supervisors Dr.David Beer, Dr.Richard Tutton. And TAP meeting member Dr.Haley McAvay.

Thank to all the interviewees who participated in this research.

Thanks to my family, friends, and the cat in the coffee shop.

I declare that this thesis is a presentation of original work and I am the sole author. This work has not previously been presented for a degree or other qualification at this University or elsewhere. All sources are acknowledged as references.

I acknowledge that I received assistance from professional proofreader to proofread this assessment in line with the Policy on Acceptable Assistance with Assessment

ABSTRACT

This study explores the impact of freemium mobile games on players' daily lives. Using online semi-structured interviews and Lefebvre's rhythmanalysis theory as the primary methodological framework, the research recruited 48 interviewees from mainland China during 2019-2020. Based on the interview responses, this thesis examines how mobile games schedules affect individual's perceptions of time, space and intimacy. First, the study demonstrates how in-game mechanisms or systems create in-game rhythms and how these rhythms integrate into players' everyday lives. Second, it shows how mobile games reshape and re-organise people's attention and time in daily life, and how these rhythms of the digital space interact with the existing rhythms of everyday life that already exist in physical space. Finally, the simultaneous engagement of players with both the rhythms of mobile gaming and daily life offers players limited freedom. The choice to adapt to the rhythms of mobile gaming can be regarded as an attempt to escape from the demands of non-game life. Ultimately, this thesis aims to contribute to the study of mobile gaming within the Chinese context, particularly in the field of sociology, and to provide insights for mobile game players and designers who are interested in this topic.

Content Page

Chapter 1 Introduction

This thesis aims to provide insights into the mobile gaming experiences of Chinese people and how those experiences influence their daily routines. As digital media becomes increasingly pervasive, many people have developed a new daily rhythms that enable them to navigate between virtual and physical worlds. In other words, they inhabit the hybrid space of physical and digital worlds.

With this context, this thesis aims to apply Lefebvre's (2013) rhythmanalysis method for exploring the possible influence of the mobile game to the player's daily life. Unlike traditional gaming methods, the mobile phones, as a typical digital space, provides access to gaming environments at any time and space. This ubiquitous access integrates mobile gaming behaviours interaction with physical activities in complex and diverse ways. Rather than being a cross-section of modern life, the gaming experience is entwined with the player's daily live, grounding itself over extensive period. The portability of smartphones enables gaming to occur either simultaneously or interspersed with many daily activities. Therefore, any examination of the gaming time or gaming space must consider interlacement with other aspects of people's lives, which necessitates the use of analytical tools that have a mesh-work feature rather than viewing these elements in an isolated cross-section.

The rhythmanalysis presents an advantage in analysing a mesh-work structure. It does not 'isolate an object, or a subject, or a relation', but rather "grasp a moving but determinate complexity " (Lefebvre, 2013, p. 12). According to Christiansen and Gebauer (2019), the core argument of

rhythmanalysis is “thinking distinct issues together” (p. 7). Based on Lefebvre’s theoretical framework, cyclical and linear rhythms, along with bodily and social rhythms are mixed. His analysis is always linked to the composite nature of multiple rhythms. This thesis also focuses on the complexity and intersection of the digital and physical worlds.

Before applying for a sociology PhD degree, I held an official position as a video game journalist and operated a personal social media account with around 20,000 followers, where I reviewed popular video games. My role as a game writer involved discussing popular freemium games, attending industry conferences, and writing reports for my readers. Through this experience, I observed that the Chinese mobile game market heavily focused on revenue figures to represent a game’s status. Industry professionals primarily focus on showcasing metrics such as the number of players, monthly active users, monthly revenues, retention rates and the players’ willingness to pay.

As an insider in the game industry, I do not underestimate the importance of these metrics, such as player logins, revenue, and the time spent gaming. However, while sitting in the main conference hall during the annual report presentation of one of China’s largest mobile game companies, I realised that game studies need to include more than these figures. There should be a more comprehensive framework for understanding the significance of these games to players and how they integrate into their daily lives.

Over the past decade, with the rise of smartphones, the transition from pay-for-download to the free-to-play model has dramatically transformed players’ daily experiences.The current China has the largest number of mobile gamers

in the world (Statista, 2021a, 2021b). Despite this, limited research exist on the impact of mobile games on individuals' lives and their psychological experiences of daily gaming. This gap raises the following questions: How do free-to-play games affect the players' lives in various aspects? Therefore, this thesis aims to deepen the current understanding of players' daily experiences of mobile gaming.

Video games allow participants to use avatars to interact with other in-game objects (e.g. items, scenes, characters) within the digital environment. Caroux et al. (2015) identified the core of player-game interaction as the dynamic between the player, facilitated by a tool (e.g. joystick, motion detection sensor, touchscreen), and a display screen (e.g. a games console, television, smartphone, or tablet). The terminal responds to the commands sent by the player and presents new information. This player–video game interaction is "the key point that differentiates games from other types of cultural media" (Caroux et al., 2015, p. 367). This interaction includes concepts such as engagement, immersion, presence and perceived realism (Caroux et al., 2015).

With the context of mobile games, this interaction can be considered as the precise measurement and rapid feedback of the player's behaviour. By completing daily tasks prescribed by the game, players earn rewards from the system. Building on the traditional video game task design, mobile games have introduced a set of in-game objectives for the player, often referred to as daily goal or daily task system. When players switch into the digital space constructed by the mobile game, they are presented with a series of pre-designed targets. Each time a player completes a designed goal, they receive

a corresponding reward from the game system. Completing these daily tasks generates resources (in-game currency, experience points, or materials) to feed the in-game character. For many players, as revealed in the interviews for this research, the development of in-game characters is the primary motivation to keep daily gaming.

With the advancement of gaming devices, the payment models for digital games have also developed, leading to the introduction of the freemium model. Unlike the traditional payment model for console or personal single-player games, where players pay once for a piece of game content that usually presents a relatively complete story, without the need for additional expenses during gameplay, the mobile gaming sector predominantly adopts the freemium model. This model allows basic access to games for free while enabling players to spend an almost unlimited amount of currency on in-game items, such as characters, weapons, and clothing. The model is designed to create an endless array of items for users to purchase for benefits, it I also means that it needs continuously engaging tasks to keep players involved in the gaming world. According to one of this research's interviewees who had rich experience in mobile game design, it challenging for a typical mobile gam e company to create large volumes of non-repetitive playable content. Thus, companies tend to rely on repetitive, cyclical, and probabilistic content to sustain the mobile gaming experience.

This thesis also investigates the potential for building online social relationships through mobile games. Social relationships are typically defined as situations where 'two or more people coordinate with each other so that their action, affect, evaluation, or thought are complementary' (Fiske, 1998).

Sociality is explained as the social relationships that pervade all aspects of an individual's life. Matsuo et al. (2017) showed the potential of video games to adopt the four principles of sociality: a modeling theory, verbal instructions (coaching), operant conditioning, and rehearsal.

These principles were proposed by King and Kirschenbaum (1992) to improve players' social skills. First, modelling refers to video games providing a non-player character as a role model to supervise the player's behaviour. Second, verbal instructions relate to the instant feedback that video games provide to players. Third, operant conditioning differentiates correct from incorrect player behaviours and gives rewards or penalties for corresponding in-game actions. Finally, rehearsal provides an environment for players to practice the given behaviour until they have learned the skill. Matsuo et al. (2017) also confirmed that practising/experiencing behaviours with sociality in-game enhances players' sociality in real life. In other words, simulated experiences in games can contribute to nurturing players' social skills in the real world. In the context of mobile gaming, the interaction between in-game characters and human players may simulate real-world relationships, potentially influencing players' perceptions of daily life.

To understand the role of gaming in players' everyday experiences, this thesis investigates the following three research questions:

1. How does playing freemium mobile games shape how users organise their daily lives?

2. How does the location of players use freemium games shape their perception of space?`

3. How do the process of playing these games and the in-game interactions shape players' intimate relationships?

Beyond these questions, this thesis specifically addresses the ordinariness of game playing. According to Crawford (2012), video gaming in everyday life is not merely a leisure activity confined to isolated times and locations; it is connected to social life even when the player is disconnected from the game console and screen. Crawford (2012) posited that gaming is "a source of memories, dreams, conversations, identities, friendships, artwork, storytelling and so much more" (p. 143). His work emphasised video games as an ordinary daily activity, possibly a 'mundane activity' (p. 148) that is part of everyday life. In his view, playing is not only a novel, exciting leisure activity requiring total concentration but also an ordinary, mundane routine that is closely interconnected with the rest of life.

In this context, traditional game design elements such as 'interaction', 'immersion', and 'sociality' should be re-visited in the context of accessible entry-exit gaming environments. These elements influence how mobile games function as a form of 'ordinary daily activity' (Crawford, 2012, p. 148) that interacts and negotiates with other daily activities and can significantly impact people's schedules, particularly in terms of time management and the use of interstitial time (Chess, 2018). Players may develop a tendency to multitask, allowing the game to run concurrently with other daily activities. Crawford (2012) illustrated this through a participant's experience, where the participant enhanced a character's skills in a game by physically modifying the controller to automate actions while engaging in other tasks, such as reading. This instance illustrates how player distraction can be attributed to subjective

choices. Semi-automation enables the game system to execute specific actions automatically and deliver results after a set period when players issue a command (e.g., engaging in combat). This mechanic restricts player participation during certain phases of gameplay, making distraction and the integration of mobile gaming into daily routines a widespread phenomenon among players of games with semi-automated mechanics. For players, these daily tasks are predictable and lack novelty, making their completion a mundane part of daily life. Gaming becomes an endless cycle of repetition and anticipation of what will happen next. This everydayness, rooted in ordinary life, is a key aspect of concern in this thesis.

Furthermore, this thesis also explores daily game-related rhythms and how they intertwine with mundane and ordinary daily routines. The respondents' perceptions of play and other life commitments, such as work, reading, cooking, and caring for a young baby, hold equal importance from the perspective of this thesis. Crawford (2012) argued that the use of video game technology and its integration into individuals' routines and patterns is influenced by pre-existing social hierarchies, with evidence suggesting that women tend to play in fragmented time slots due to longer working hours and heavier daily responsibilities compared with men. The thesis describes players' experiences of 'interstitial time' gaming. In these cases, mobile gaming and game-related rhythms were balanced alongside other daily life commitments, such as commuting, dining, intervals between lectures, and toilet breaks. These intertwined fragments demonstrate the interplay between game-related and non-game rhythms.

To address the research questions, I recruited 48 interviewees from online gaming forums in China and conducted one-to-one online interviews with them. Based on the data collected from these interviews, the thesis is organised into six main chapters and a conclusion chapter:

Chapter 1 briefly introduces the necessary background information on the history, market, and social environment of China's freemium mobile game industry. This thesis aims not only to focus on those who are already players but also for the readers who are unfamiliar with games and gamers. Thus, the thesis offers the latter group of readers a straightforward yet fundamental introduction to the Chinese mobile game industry in the opening chapter.

The first section of this chapter introduce the history and features of the freemium model and the profile of mobile game players in the current China context. It provides a quick review of the development of the freemium game model and present the typical popular mobile games which is usually mentioned in the interview data. Secondly, this chapter also introduces the China government policy and public opinion on video games. For a long period, the China mainstream opinion usually kept a relatively negative attitude toward the game and gamers, this public negative attitude may influence the player's time and space arrangement of gaming, in particular on avoiding playing in public spaces and the side of their parents.

The Chapter 2 reviews of the current literature on video game research about people's time usage, space, and intimacy. Chapter 3 discusses the research methodology used in this study; Due to the impact of the COVID-19 pandemic from 2019 to 2020, this thesis primarily employed online interviews as its main

data collection method. In total, 48 interviewees were recruited, and each of interview lasted between 30 and 210 minutes of semi-structured conversation. Chapter 3 first outlines the basic characteristics of the 48 interviewees and describes the process of data collection. It then introduces the coding method and the code analysis process. This chapter also addresses the impact of the researcher's role as an insider observer. The researcher's experience in the gaming industry provided an insider perspective on the analysis process and the interviewees also trends to gives the researcher credence due to the shared gamer identify. This section also discusses the existential influence of the researcher's insider role and perspective.

Chapters 4, 5, and 6 explore the themes of time, space, and intimacy within the daily rhythms of Chinese mobile game players from the perspective of rhythm analysis. Chapter 4 discusses the concept of 'daily tasks' in mobile games. Freemium mobile games usually require players to dedicate specific amounts of playing time and to perform certain in-game actions; the game system provides an accurate, executable action list for the players. If players do not adhere to this schedule, they risk losing the opportunity to earn unique rewards within the gaming community. For many mobile games, certain in-game rewards are only available on specific days of the week or at specific times of the day. Hence, these regulated in-game actions are interwoven with the players' daily routines outside the game. The influence of freemium mobile games on the process of organizing daily lives is further discussed in Chapter 4. This Chapter also explains the rhythm production process facilitated by common in-game mechanisms. It also introduces both linear and cyclic

rhythm performance of the mobile games as well as the role of in-game avatars in rhythm production.

Additionally, Chapter 4 discusses the automation mechanisms in mobile games that lead to a multitasking trend among players. Many mobile games do not require the player's full attention. In most player vs. environment mobile games, players usually could perform other daily activities while playing. This could influence the player's engagement in the digital world. According to Caroux et al. (2015), video game engagement is associated with immersion and presence, or perceived realism. Immersion is " a psychological state characterised by perceiving one's self to be enveloped by, included in, and interacting with an environment that provides a continuous stream of stimuli and experiences" (Stanney and Salvendy, 1998, p. 156), while presence is defined as " the subjective experience of being in one place or environment, even when one is physically situated in another" (Witmer and Singer, 1998, p. 225). In the context of mobile games with automation mechanisms, these mechanisms caused an intermittent gaming experience, diminishing immersion and presence compared to console or personal computer (PC) gaming.

Compared with consoles and personal computers, smartphones eliminate the restriction of users' geographical space to one meter in front of the device, thus extending the playing field from specific locations such as family rooms, personal bedrooms, and gaming halls to public spaces such as subways, buses, restaurants, and company offices. Consequently, this thesis hypothesises that the experience of playing impacts players' perceptions of public spaces. Chapters 5 and 6 cover the discussion on game spaces.

Mobile game players often build friendships with strangers in-game or strengthen existing relationships (such as with roommates and colleagues) by playing together. Besides person-to-person relationships, freemium mobile games also aim to build intimacy between players and non-player characters, as well as between players themselves. Games employ precise metrics to measure levels of intimacy, which are abstract in the real world but quantified and expressed accurately within the game world. Some players develop emotional attachments to game characters as if they were real-life entities. In the self-organised mobile game community, fan art by creative players attributes personality traits to these game characters. The portability of mobile games reduces the time cost of interacting with in-game characters compared with console and PC games. The continuous updates of mobile games offer the possibility of building long-term relationships between the player and the character.

The advancement of gaming technology, especially in imaging, has enabled the creation of game characters with appealing appearances. Game companies often endow virtual characters with lifelike traits, particularly in games targeted at female audiences, where ‘falling in love with the character’ becomes a key marketing strategy. Chapters 5 and 6 also explore the potential for intimacy between players and non-player characters within the mobile gaming context, as well as how in-game relationships may affect players’ personal lives and their relationships outside the game. Specifically, Chapter 5 discusses the combination between daily life rhythms and mobile game rhythms. It mainly focuses on three key aspects of eurhythmia between in-game rhythms and daily routines rhythms outside gaming: the gap-filling

and reuse of daily attention, the creation of collective rhythms, and the player's 'pseudo-disengagement' from daily repetitions outside the game.

Chapter 6 examines the arrhythmia that experienced by mobile game players. These include the conflicts between the rhythms dictated by human biological and psychological needs; rhythms arising from social relationships with both human and non-human characters; rhythms influenced by geographical spaces; and rhythms generated by mobile game mechanisms.

Through the discussions in these three chapters, this thesis aims to offer insights into the daily gaming lives of people in China, as well as assist mobile game players from various countries in understanding their own experiences with mobile games.

1.1. Freemium Mobile Games

1.1.1 Brief History of the Freemium Game

The freemium business model allows the software to be downloaded freely from the app store but includes payment options within the in-app user interface. This business model can be traced back to the 1980s when computer software companies such as Adobe offered a 'light' version of their softwarem which required a registration key to unlock full features (Wagner et al., 2014). The term 'freemium' first appeared in 2006a, when Fred Wilson provided a detailed description of his preferred business model, which one reviewer suggested naming 'freemium'. On his article, Wilson (2006a) defines this term as following:

> ‘Give your service away for free, possibly ad supported but maybe not, acquire a lot of customers very efficiently through word of mouth, referral networks, organic search marketing, etc., then offer premium, priced value-added services or an enhanced version of your service to your customer base ’ (Wilson, 2006a, p. 1).

The ‘freemium’ model became widely used in online games, originating in South Korea and quickly spreading in Asian markets around 2005 (Sina Game, 2011, 2012). In this model, access to the game is free, and the game company’s revenue relies on selling support items. According to Sina Games data (2012), in 2008, 45 of the 50 most popular online games adopted the item-based (freemium) model, and it took only about three years for the freemium model to dominate the Chinese online gaming market.

Within this context, the acquisition of mobile game items or rare characters has, to a considerable extent, adopted a form of gamblification (Brock and Johnson, 2021a). Typical examples include loot boxes (players can spend in-game currency to purchase boxes that randomly generate in-game props) or online slots and roulette. As Ross and Nieborg (2021) have pointed out, game companies design the acquisition of in-game rare rewards in a manner akin to social casinos, with roulette and lotteries becoming common methods for generating rare items. Brock and Johnson (2021a) citing Ross and Nieborg (2021)’s research and clarified that “the experience of playing slots, poker, blackjack and roulette is becoming a mobile experience; one which draws on existing games design monetisation strategies, such as engagement, retention, informality and the push/pull of casual gaming sessions” (p. 8). This monetisation method in mobile games signals significant changes in game

related consumption and player experience, which may also have influence players' daily lives— an issue this thesis addresses.

Nowadays, video games that adopt the freemium business model are often called free-to-play or pay-to-win games. These terms refer to the same group of games, which represent a significant portion of the current game market, However, the meanings of these terms vary depending on the context. Table 1 outlines the distinct differences between the application of these terms.

Table 1: Concepts of freemium, free-to-play, and pay-to-win games

Name	Feature
Freemium business model	The game offer basic services on the free version and provide the premium added services on the paid version (*Wilson,2006a*).
Free-to-play	Free-to-play games can be acquired and played free of charge while players are encouraged to buy virtual goods during gameplay (Alha et al, 2014, p.1).
Pay-to-win game	'A game where paying real money gives players a significant advantage over those who don't spend any money' (Stegner, 2021, p. 1).

According to Appshopper (2019), most popular mobile games adopt the freemium business model. In 2019, these freemium mobile games generated about US$87.1 billion and accounted for 80% of digital game revenues in the global market (Statista, 2019). Thus, the freemium model has become the dominant approach in mobile gaming.

1.1.2 Freemium Mobile Games in the Chinese Market.

In 2005, the massively multiplayer online role-playing game (MMORPG) Legend of Mir 2 developed in South Korea and operated by Shanda Games in China, became the first to adopt the freemium model in the Chinese market (Sina Game, 2012). However, the historic freemium game that propelled this business model into the public discussion was the Giant Interactive Group Inc's Zhengtu. This game reached a peak of 2.1 million concurrent online players, becoming one of the most popular online games of its time. Zhengtu became a famous game in Chinese gaming history for it introducing the freemium concept to both designers and players. In the public discussion of Zhengtu and Giant Interactive Group among game industry employees, a well-known game journalist Command likened Zhengtu's freemium business model and other online games to a battle between 'soldiers with modern thermal weapons and the ancient people used to physical combat' (Zhihu, 2014).

Unlike traditional Massively Multiplayer Online Role-Playing Games (MMO games), such as World of Warcraft, where players can only purchase game time, Zhengtu allowed, and sometimes encourage the purchase of the in-

game items with real-world currency, part of items only be purchased by out-game currency. This approach effectively broke the independence of the digital playing space, known as the ‘magic circle’ (Huizinga, 1938/2016), a fundamental concept in traditional game design philosophy. Consequently, the boundary between in-game and out-of-game experiences became blurred and indistinct. Huizinga (1938/2016) defined the ‘magic circle’ as a play space marked off beforehand, either physically or ideally, that separates gaming from non-gaming activities. This division segments ‘temporary worlds’ from the ‘ordinary world’. Juul (2008) further explained the ‘magic circle’ as ‘the boundary that players negotiate’ (p. 62) and used it as a metaphor, likening it to a ‘puzzle piece’ that fits into different interfaces. In either sense, the exchange of in-game and out-of-game currencies reflects the monetisation of game elements and reshapes the gaming space.

Further, this exchange of out-game currency for in-game items laid the foundation for the freemium model, which has persisted from personal computer online games to mobile games. Over time, mobile games have supplanted PC online games as the dominant force in the Chinese gaming market. As of 2019, 95% of gamers in China play mobile games (Niko partners, 2019). By 2018, China had 598 million game players, predominantly is mobile gamers, contributing US$15.63 billion to the global mobile gaming market (Niko Partners, 2019). The number of mobile gamers and the annual revenue were projected to increase by statistical agencies (Niko Partners, 2019). While there is not an exact percentage indicating how many mobile games adopt the freemium business model, as of 10th May 2023, all 30 of the top-selling games in the App Store’s China region utilise this model. It is,

therefore, reasonable to conclude that the freemium model has become a staple in the Chinese mobile market.

This section next introduces common types of freemium mobile games and their representative examples in the current Chinese market. The representative games come from the interviewee-mentioned list. Based on the type of in-game payment, this thesis categorises these popular games into different categories. The first category is player versus player (PVP) games, where player-to-player interaction forms the core of daily gameplay. This category includes three types: multiplayer online battle arena (MOBA) games, shooter games, and asymmetric multiplayer games (Table 2). In the three types, in-game payments have little or no impact on the competition between players. The content of the freemium service focuses more on aspects such as the characters' appearance, actions, voice, and model. There is also no significant difference between the abilities of paid and free characters.

Table 2 :Representative Player versus Player mobile game

Player versus Player game		
Type	The Most Popular or the most Representative Example	Game Description

The Multiplayer Online Battle Arena (MOBA) Games：	Honor of Kings	This game is a 5v5 MOBA game (similar to Dota and League of Legends). Each battle involves ten players split into two teams, with victory achieved by destroying the enemy's crystals.
Shooter Games	Game for Peace	Game for Peace is similar to a mobile version of Player Unknown's Battlegrounds. Players assume on the role of a soldiers and compete against each other.
Asymmetric Multiplayer Games	Identity V	In Identity V, players are divided into two or more groups of unequal numbers to compete. Different groups have unique objectives and gameplay mechanics.

The second category is the Massively multiplayer online(MMO) game category, which is a genre that has long existed in the traditional PC online gaming. This category involves two types of games: MMORPGs and MMO strategy war games (Table 3).

Table 3: Representative massively multiplayer online mobile game

Massively multiplayer online game		
Type	The Most popular or the Most Representative Example	Game Description
Massively Multiplayer Online Role-Playing Game	Fantasy Westward Journey	Player assume roles and participate in the in-game events.
Massively Multiplayer Online Strategy War Game	Immortal Conquest	Players act as lords and command the wars

For MMO role-play games, freemium items typically focus on objects such as weapons, equipment, pets, etc. Meanwhile, in massively multiplayer online strategy war games, payments can involve a three-party trade among employer players, employee players, and the game company. These types of games often include guild gameplay, where players may organise an external company structure involving dozens or hundreds of people to improve their in-game experience.

The third category is ACG (Animation, Comics, and Games) game. This category includes games that are commonly referred to as '二次元' by Chinese players. A characteristic feature of this category is that the games usually develop an attractive in-game characters and monetisation through the sale of those characters or character-related items as the primary revenue source. The ACG category includes the following types: open-world games, tower defence games, action games, and turn-based role-playing games (Table 4).

Table 4 : Representative ACG Mobile Games

ACG game		
Type	Most Popular or the most Representative Examples	Type Description
Open-World Games:	Genshin Impact	The game features a vast map with multiple exploration locations, stories, and monsters. Such games focus more on player interaction with the in-game world.

Tower Defence Games	Arknights, The Path to Nowhere	Players act as commanders, strategizing the positions and actions of the in-game characters to prevent the enemies from reaching designated positions.
Action Games	the Honkai Impact 3rd, Punishing: Gray Raven.	These games focus more on real-time interactions between in-game characters and the monsters.
Turn-Based Role-Playing Games	Onmyoji	Players manage of in-game characters and direct them in battle. Characters and enemies alternate actions in a turn-by-turn order.

A common feature among these games is their focus on producing attractive in-game characters and mainly selling these characters to players. In ACG mobile games, the freemium items mainly pertain to in-game characters.

The fourth category is female-oriented games. This category involves two main types of games: romance simulation games and dress-up games(Table 5). Unlike general ACG games, which tend to increase the character numbers, female-oriented romance simulation games typically feature a limited number of characters, normally four to five. ACG games focus on selling new characters and encourage players to build personal relationships with them. On the contrary, female-oriented romance simulation mobile games often

emphasise the development of long-term relationships between players and characters. Thus, games in this category are more inclined to sell items to unlock new memory, scenes or events for developing relationships with the in-game characters.

Table 5: The representative Female-oriented mobile game

Female-oriented game		
Type	Most Popular or Representative Examples	Type Description
Romance simulation Games	Mr Love: Queen's Choice; Light and Night; Tears of Themis	Playes will develop a romantic relationships with the in-game characters.
Dress-up Games	Love Nikki-Dress UP Queen, Shining Nikki	Players could collect the clothes and accessories to dress up the in-game character

Romance simulation games focus on developing relationships with in-game characters. Events between the player avatar and in-game characters are often represented by 'cards', the players must collect these cards of character to read the story between the corresponding character and avatar. The event, story, or relationship becomes the main item of consumption for players. And

in dress-up games, the freemium item mainly consist of clothes or accessories for the avatar (normally depicted as a young beautiful girl) of player.

In addition to these four categories, other types of mobile games are included in the ‘others’ category. Two main types of mobile games are put in this category: idle games and casual games (Table 6). The term ‘idle’ refers to a mechanism where in-game materials automatically accumulate over time. This mechanism is often integrated into various game types. In such games, freemium functions include the button of ‘skip the waiting time’ or ‘increase the speed of waitting time two or threefold ’. And the casual games normally include a series of challenge levels, with each level taking limited time or steps to complete, where the player can purchase item to help for overcome challenge.

Table 6 : The Other Representative Mobile Games

The others		
Type	Most Popular or the most Representative Examples	Type Description
Idle Games	One Hundred Scenes of Jiangnan	Players act as the mayor/administrator of a city/shop/building. The in-game units produce materials within a fixed period.

Casual Games	Match-Three Games	These games normally include a series of challenge levels, with each challenge taking a liimited time or steps to complete

Regardless of the game type, there are normally two different methods to acquire in-game items. The first method is fixed-price selling, where virtual items are assigned a specific price, payable in either in-game or real-world currency. Fixed-price selling mechanisms are commonly applied to items that are low of value, common, or frequently used in-game. The second method of in-game acquisition is the Gacha model, also known as as the loot box mechanism. This approach allows players to spend a specific amount of virtual currency, after which the game system provides random feedback. Game study scholars Johnson and Brock (2019) described it as a new method of game monetization, as them said " where players spend real currency to purchase digital containers which yield an unknown set of items when opened. These can enhance a player's social status or gameplay ability but getting the desired item(s) is never certain" (p. 3). Over time, mobile game

companies have developed a minimum reward protection mechanism to ensure players receive the items they desire after a certain number of attempts, commonly referred to as '保底' in Chinese. Gacha items are typically rarer or of higher value, and Gacha boxes are often the main source of income for most popular mobile games.

Virtual currency can be accumulated through in-game behaviour, including but not limited to completing quests, participating in events, and daily log-ins. However, the most efficient way to obtain virtual currency is still through purchasing it with real-world currency. The extent to which players are willing to pay for freemium content significantly influences the gaming experience they receive. From the popular mobile games introduced in this section, players may spend the real-world currency to acquire uniqueness, compete with others, completing challenges, foster in-game character relationships; or save time.

1.1.3 Features of the Chinese Mobile Game Players

According to a recent game industry report (China Game Publishing Committee, 2016, 2017, 2018, 2019), Chinese mobile game players exhibit the following characteristics:

Age： Young people are more likely to play mobile games. In 2012, 79.2% of mobile game players were under the age of 30 years old (China Internet Network Information Center, 2012). MobTech (2018) report showed that the main demographic of mobile game users is aged between 25-34 (40%), with

only 9% of middle-aged and older individuals (over 45) engaging in mobile gaming.

Gender：Males constitute a higher proportion, and the female mobile player base is growing. From 2015 to 2019, the number of female gamers increased from 230 million to 300 million. Female gamers in China accounted for 46.2%, with a consumption of 52.68 billion yuan (China Game Publishing Committee, 2019). In 2012, 61.6% of mobile game players were male (China Internet Network Information Center, 2012); however, as time has passed, an increasing number of females have shown interest in mobile games.

Education: The mainstream mobile game player typically has a high school diploma. According to the China Internet Network Information Center, the most common education level among mobile game players was a high school diploma (2012, 39.7%; 2013, 36.7%; 2014-2015, 30.2%). Also, MobTech (2018) revealed that high school diploma holders represent 42.6% of users.

Due to the widespread adoption of the freemium business model in the Chinese mobile gaming market, it is plausible to suggest that the characteristics of freemium mobile game players closely align with those of mobile gamers in general.

Furthermore, the spending patterns of freemium mobile players differ from those associated with traditional video games. Traditional game sales—via cartridges, discs, or digital codes—are typically set at a uniform price across a country or region, meaning each player pays the consistent price for a game.

However, the consumption model of freemium mobile gamers is closer to a pyramid, where a small number of player willing to pay high prices for additional services contribute significantly to a mobile game's revenue. In Western contexts, these spenders are called 'whales' (Carmichael, 2013), while in China, they are referred to as 'Huge R', with 'R' representing the first letter of the Chinese currency.

As an example, Table 7 introduces *Honor of Kings,* one of the most popular mobile games in the Chinese market, to show the typical revenue structure of mobile games. In this mobile game, more than half of the paying users spend less than 100 yuan (about 14 dollars) each. Meanwhile, 3.1% of users have contributed more than 5000 yuan (714 dollars) to the game in the last 30 days (Talking Data, 2017).

Table 7: Consumption of Honor of Kings Paid Players in the Last 30 Days

Payment Amount	Student Group	Working Group
Under 100 yuan	56.8%	56.7%
100-500 yuan	24.6%	24.7%
500-1000 yuan	7.5%	7.5%

1000-5000 yuan	8.0%	8.1%
Above 5000 yuan	3.1%	3.1%

Note. Source: Talking Data (2017).

Unlike traditional console or PC games, where each player can have a similar experience, some mobile games treat players differently based on their in-game spending. According to the consumption amount, many mobile games categorise players into different consumer levels, ranging from VIP 1 to VIP 12 or higher. A higher VIP level typically indicates that players have more privileges both in and out of the game (such as priority on customer service).

1.2 The Social and Policy Context of Freemium Mobile Games

In 1995, a famous game review article titled ‘Crow, Crow, Caw’ highlighted the reasons behind the lag in the Chinese gaming industry:

(1) The public perception of the gaming industry is unclear, and Chinese parents generally struggle to accept their children playing video games. Authoritative media have labelled video games as ‘spiritual opium’, and schools have issued letters to parents urging them discourage the student from playing video games.

(2) Chinese game industry lacks standardization management, and the market is rife with fierce competition. There is a disconnect order between production and sales. Due to piracy and vicious competition, game software

revenue cannot support the developer's reproduction. The profits and copyrights of the game manufacturers remain unprotected.

(3) The video gaming is a complex industry requiring development teams to include directors, choreographers, artists, programmers, sound engineers, and musicians, etc. Training these professionals on a large scale poses a significant challenge in the current Chinese context (GameSoftware,1995).

The first and second arguments from this article remain relevant in current Chinese mobile gaming market. Even now, Chinese gamers face negative stereotypes and parental pressure, and the sustainability of mobile gaming companies, especially the small and medium-sized companies, in uncertain.

Three government policies have significantly impacted the development history of the Chinese video game industry. The first significant policy was the ban on the sale of game consoles. In June 2000, China's General Office of the State Council issued a document titled < The Special Management of Electronic Game Business Sites> which pointed out that:

Electronic games business place is overmuch, and some areas lack supervision and management…… it is serious harm to teenager's growth and disturbs the social order and public security. The electronic games business has become a public nuisance.

The production and sale of video game equipment and accessories for domestic use shall be stopped after this document's publication. Any enterprise or individual shall no longer enable the production or sale of electronic game equipment and accessories for domestic use.

(China Ministry of Culture, etc, 2000)

The ban on the sale of game consoles lasted approximately 15 years. On January 24, 2014, China Shanghai implemented a regional policy to allow the sale of game consoles (China State Council, 2014). A year later, the nationwide ban on game consoles was fully lifted after 15 years, following the issuance of the notice from the China Ministry of Culture (China Ministry of Culture, etc., 2015).

This policy's significantly influenced the gaming industry, as seen when comparing China's game market renvenue structure with other countries. In 2019, the Chinese mobile game market generated 158.11 billion yuan in revenue, it constituting 68.5% of game industry;s total revenue. Meanwhile, console and PC games respectively accounted for just 0.3% of revenues (China Game Publishing Committee, 2019).

According to the Interactive Software Federation of Europe (2021), 54% of players engage with consoles and 52% with PCs (Figure 1). However, the data for 'playing on smartphones or tablets' stands at 62%, slightly higher than the former categories, indicating no significant disparity among the three options. In the global market, mobile gaming contributes $68.5 billion of the total $152.1 billion, representing 45% of the entire gaming industry (Figure 2). Meanwhile, console and PC games account for 32% and 23%, respectively (Newzoo, 2019).

These figures highlight how the Chinese game market significantly differs from Europe and the global market. In China, mobile gaming occupies a substantially larger market share and generates more revenue compared with the rest of the world, while console and PC gaming penetration remains

relatively low. The Game Machine Sales Ban policy may have led more people to familiarise themselves with video games through smartphone device, and as a result, the freemium model had become the predominant approach to player's understanding for in-game consumption.

Figure 1 **:** Revenue of difference devices in the European Game Market (Source: Interactive Software Federation of Europe's report, 2021)

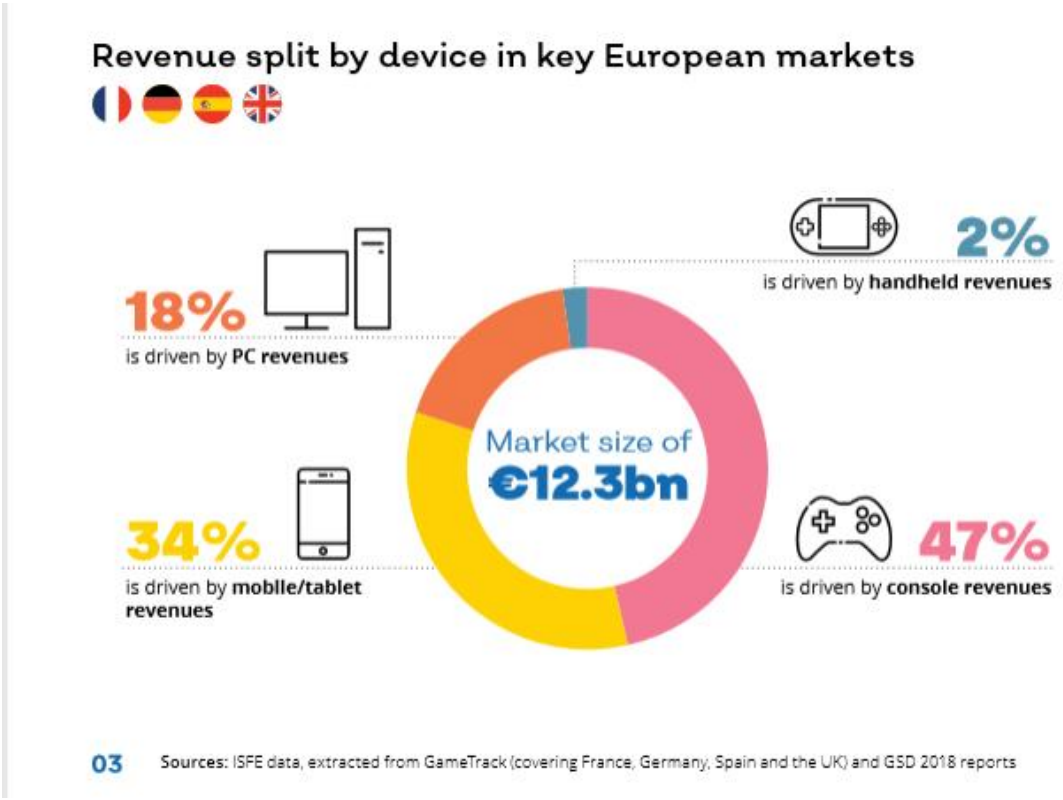
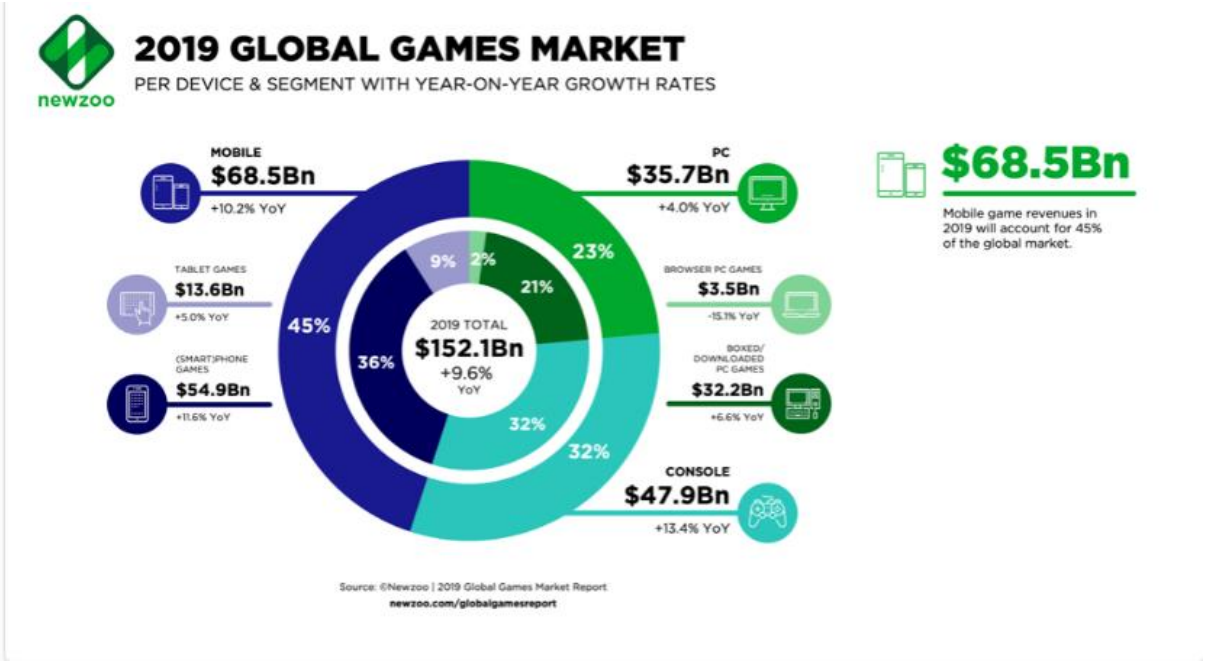


Figure: 2 Revenue of different devices in the global game market (Source: Newzoo, 2019)



Before the ban on game consoles was lifted, a portion of the population bypassed the policy restrictions by purchasing game consoles overseas or acquiring pirated game CDs. Pirated game CDs are extremely cheap to produce, easy to distribute on the street, and difficult to bring under regulatory scrutiny; in contrast, licensed games lack effective distribution channels due to policy restrictions. As a result, pirated, affordable, and potentially problematic video games have dominated the market, which hovers on the border between legality and illegality. Since the ban targets the ‘production and sale’ rather than individual purchases for entertainment, it is illegal for the vendors to supply games, but not for gamers to buy them (China Ministry of Culture, etc., 2000). This market for the purchase and sale of games has persisted in mainland China for a significant duration.

The second policy is the game license number policy (China National Press and Publication Agency, 2021). This policy mandates that game companies

must submit their game content to the government for publishing permission. On 29th March 2018, the Chinese government suspended the distribution of game license numbers, and a suspension that lasted about eight months until the 29th of December. In 2017, the Chinese government authorised the publication of 9,369 games. By 2019, this number had fallen to fewer than 2,000. A similar scenario unfolded from August 2021 to March 2022. In 2022, around 70 to 80 games were permitted for publication each month (China National Press and Publication Administration, 2022).

At present, predicting the impact of the game publishing policy on the video game market is challenging. People's Daily Online (2019) revealed that 9,705 gaming companies went out of business in 2018, and in 2019, the number rose to 18,710. This concern is not unreasonable—as of now, no reliable sources have clarified the standard criteria for game licensing, leaving game developers uncertain about which games can be published and which cannot. This uncertainty publishing standards lead to high risk for the development of mobile games companies, especially for small and medium-sized enterprises.

This policy, alongside the console ban, has created division among those discussing the gaming industry in China. The game license number policy has led to many globally popular video games not being legally available in Chinese stores, with only a fraction of console games obtaining licenses. However, mainland Chinese citizens have found ways to bypass restrictions on purchasing games by adopting foreign online nationalities, such as Argentine or Russian, when interacting with game providers, such as Steam. Nintendo e-shop or PlayStation shop. While such practices are not typically deemed illegal (the worst consequence is the potential suspension of an

online account), they should be viewed as a privilege contingent on one's perception, education, second language proficiency, or information-gathering skills.

The third policy is the notice to prevent minors from being addicted to online games. This notice published on November 21, 2019, by the China National Press and Publication Agency (2021), introduced three main provisions: First, all online game users are required to use valid identity information for game account registration. When playing for more than one hour, they must provide their real name and personal ID information for system verification. Second, online game companies are prohibited from offering game services to minors from 22:00 to 08:00. The duration of game services available to minors must not exceed 3 hours per day during holidays and 1.5 hours on school days. Third, online game enterprises are forbidden from providing paid game services to users under the age of 8, and the amount minors can top up each month will be strictly limited.

To comply with this notice, each player must submit their identification number within the game to confirm that they are over 18 years of age (China National Press and Publication Agency, 2021). Players from other countries cannot legally access games offered in the Chinese market, and those who have verified their legal identity will receive an in-game notification if they play for 3 or more hours per day. This notice demonstrates the government's stringent attitude to regulating for mobile games, albeit in a subtle manner.

Besides that, the preference of people to play mobile games may be related to the current working hours system in China. Many workers, including several

interviewees in this study, face the serious issue of excessive overtime in their daily lives. Some companies have adopted the ’996’ working hours system, which entails ‘starting at 9 am, finishing at 9 pm, and working 6 days a week’ (BBC News, 2021). This results in a 72-hour workweek, leaving employees with little time for leisure activities.

Furthermore, the employees also experience a loss of time beyond the official working hours boundary (Nowotny, 2018). Modern information technology provide the ability to people remain connected to their work even outside of work hours. In China, whether for work or personal communication, the same software (WeChat) is used, making it challenging to disconnect from work by closing the information channel. This situation makes escaping the work-life imbalance even more difficult.

This state of overwork diminishes the possibility of engaging in leisure activities that demand significant time and concentration. However, smartphone leisure can meet the need for short and convenient entertainment. The data from this thesis also reveal that several respondents played mobile games during working time, which proved the adaptation of mobile games to employees during their limited leisure time.

1.3 Conclusion

This chapter provides a brief overview of Chinese mobile gaming and mobile game market. In the following chapters. this thesis elaborates on the literature pertaining to time usage, space, and intimacy within the field of gaming, with a particular exphasis on the players’ life experiences. To explore the complex relationship between mobile gaming and players’ everyday lives, this thesis

employed Lefebvre's (2013) theory of daily rhythms as the analytical framework to analyse the data provided by the 48 interviewees' semi-structured interviews. It examined both the rhythms of non-gaming social life and those of mobile gaming.

Chapter 2 Literature Review

2.1 Introduction

As introduced in the previous chapter, mobile games allow players to connect to the game world anytime. Traditionally, the time and space for video games were relatively fixed, with gameplay restricted to a few square meters in the living room or bedroom. This spatial limitation also imposed a time restriction, as players typically played indoors. However, due to the ban on the sale of gaming consoles in China from the 2000s to the 2010s, portable game machines could not be legally sold. Thus, smartphones have become the primary means for gamers to expand their gaming space beyond the home. As the availability of smartphones increased, gaming spaces expanded from the confines of the home to public places such as cafes, bus stops, restaurants and corporate offices.

Hjorth and Richardson (2009) noted that although mobile devices are used outside the physical confines of the home, perceptions of home and place still influence users. According to them, the understanding of the home is both a 'geo-imaginary' and a 'socio-cultural precept' (p. 371). This spatial flexibility also supports temporal flexibility, allowing the gaming space in the mobile

gaming context to expand more extensively into the social sphere than during the traditional era.

In his framework, Lefebvre (2013) outlined the basic pattern of poly-rhythms between commoditised media from afar and the human being as a subject across spatial distances. He described how individuals can join rhythms produced by media from afar and rhythms of their local geospatial environment simultaneously. These rhythms can function in conjunction across spaces. Lefebvre (2013) referred to ‘modern television or radio’ (p. 47) as examples of instantaneous media that require the user to turn them on to receive a message. However, with advancements in communication technology, the mode of receiving information has gradually shifted from immediate to time delayed. Warde et al. (1998) introduced the concept of ‘hypermodern convenience devices’ to describe how modern machines affect people’s schedules. They used the examples of email and video recorders, both of which provide temporal flexibility. Whereas people could only receive information in real time by telephone, email allows the exchange of information at a time freely determined by the recipient. These ‘hypermodern convenience devices’ enhance an individual’s ability to reorganise and reallocate time, thus redistributing the act of receiving information throughout daily life (Warde et al., 1998). In the context of this research, the gaming phone represents a type of hypermodern convenience device. It enables players to reorganise their leisure time and receive gaming information according to a reorganised flexible schedule.

Given the flexibility of mobile gaming in both spatial and temporal contexts, this literature review chapter is divided into eight sections. Section 2.1

discusses how mobile gaming has evolved to allow players greater spatial and temporal flexibility and outlines the literature review structure. Sections 2.2–2.4 cover game studies on playing time, life space and intimacy. Section 2.5 addresses the risks associated with game design, specifically how it trains or disciplines players and invades their daily lives. These risks are referred to as ‘dark patterns’ in game design by Zagal, Björk and Lewis (2013). Section 2.7 introduces Lefebvre’s (2013) rhythm analysis method, which is applied in the data analysis chapter.

Section 2.2, which explores studies on playing time, begins with Lizardi’s (2012) argument regarding the perpetual commodification of games. The method of earning benefits from games, often referred to as game monetisation, was detailed by Johnson and Brock (2020). Their research outlines the evolution of game monetisation strategies. Before the digital era, early monetisation methods included vending, renting gaming space or equipment, taking a percentage of revenues in gaming venues (similar to casinos taking small commissions on bets), selling retail goods within the game space and establishing in-game currencies (such as the currency used in Japanese pachinko machines).

With the rise of gaming arcades, game monetisation evolved as players bought tokens to access game time or challenges on machines provided by the operator. Subsequently, with the introduction of game cassettes, players could purchase a cassette, take it home and play it on their own machines. This shift marked a change in ownership from arcades to individual players. Initially, due to logistical and distribution constraints, these cassettes were typically sold as complete products. Subsequently, game expansion packs

and downloadable content (DLC) emerged as significant additions to basic game content. These additions served as precursors to microtransactions, where players spend out-of-game real-world money to access supplemental content within the game.

In today's gaming environment, the most popular method of purchasing games is through online stores (e.g. Steam). With advancements in Internet technology, game supplement packs have evolved from large content additions to smaller, more frequent updates. Johnson and Brock (2020) suggested that the transition from physical to online game purchases and updates has led to the concept of 'games as a service' and the proliferation of gambling systems within game design. Freemium mobile games, the focus of this research, exemplify the concept of games as a service, transforming game monetisation from a single purchase to providing players with commodities that optimise their gaming experience.

Lizardi's (2012) research on DLC posits that continuously purchasable content represents a 'perpetual form of commodification' (p. 33), which he considers exploitative of video game players. He cited the game Rock Band, which published 2000 downloadable tracks, to illustrate a 'cyclical form of commodification' (p. 33). According to Lizardi (2012), this model involves players "continually coming back and paying for the same product over and over again" (p. 33), a strategy akin to the freemium model and microtransaction systems used in contemporary mobile games.

Lizardi (2012) also identifies two methods by which game companies exploit players, both explicitly and implicitly. The first method is the exploitation of

user-generated content, where players use developer-provided tools to create new levels, music, or other customised content. This method not only expands the content but also extends the life of the game. The second method involves using players as free testers. Players identify issues during gameplay and report them to the company through online channels, effectively replacing the role of traditional game testers.

This subsection introduces the concept of ‘immaterial labor’ (Lazzarato,1996)’. and its application in defining in-game behaviours. This process can manifest as advertisements, online tests (Zhang and Fung, 2014) and guild labor (Zhang and Fung, 2014) in contemporary gaming. Kücklich (2005) introduced the concept of ‘playbor’, where the boundaries between ‘labor’ and ‘play’ are blurred. Thus, the gaming behaviour has transformed into a combination of work and play (Kücklich, 2005), Later, Dyer-Witheford and De Peuter (2009) further explore the development of playbor in the video game history.

Section 2.3, which explores studies on the life space, begins with the early research on ‘Multi-User Dungeons (MUDs)’. MUDs are “ programs that accept network connections from multiple simultaneous users and provide access to a shared database of ‘rooms’, ‘exits’ and other objects” (Curtis and Nichols, 1994, p. 193). MUD games typically involve text-based interaction, where players type commands to interact with items or other players. These games create social spaces independent of physical space, governed by their own unique rules, in line with Johan Huizinga’s (1938) concept of the ‘magic circle’.

The ‘magic circle’ is an independent space with unique rules and boundaries, separate from the non-game physical world. It is a “special place in time and

space created by a game" (Salen, Tekinbaş and Zimmerman, 2004, p. 95). However, in the context of mobile games, the boundary between the physical and digital worlds becomes blurred. Research by Karpashevich et al (2016) demonstrated that the in-game world and the real world provide mutual value and meaning to each other.

Mobile games increasingly incorporate real-life elements, such as social time and player geographic locations. Mobile gaming locations should be regarded as hybrid space as described by De Souza e Silva (2006). Therefore, the latter part of Section 2.3 focuses on the concepts of 'overlapping realities' (Atkinson and Willis, 2007) and 'hybrid spaces' (De Souza e Silva, 2006). For De Souza e Silva (2006), hybrid spaces are interconnected spaces, mobile spaces and social spaces that mix physical and digital spaces. Subsequently, the section explores Lefebvre's (2013) space theory and its application in the context of video games.

Section 2.4, which explores game studies on online intimacy, examines how online games provide socialisation and support to players. According to Yee (2006), most players build online relationships with others, which can help them explore their identity (Osborne, 2012), establish social capital (Huvila et al., 2010), gain social support (Trepte et al., 2012), and share trust (Yee, 2006). However, these relationships can also lead to a sense of loss (Domahidi and Quandt, 2015), control (Yee, 2006) exploitation through immaterial labour (Zhang and Fung, 2014). Gaming can also enhance existing social relationships between players. Wen, Kow and Chen (2011) indicated that playing together can reshape family relationships, redefine dialogue environments and create a more relaxed atmosphere for conversations.

People with existing social ties may deepen and explore new aspects of their existing relationships within the context of online gaming (Bengtsson et al., 2021). Furthermore, players may develop social relationships with non-human characters (NPCs) within games. Levy (2009) and Edirisinghe and Cheok (2016) demonstrated the potential for humans to form relationships with robots. Similarly, Waern's (2011) research based on the single-player game *The Dragon Age* illustrates how players can develop romantic feelings for non-human in-game characters.

Section 2.5 focuses on the effects of video game mechanics on players' daily lives. It introduces the application of Skinner Box in the freemium game and the 'dark game design patterns' proposed by Zagal, Björk, and Lewis (2013). In this model, game designers deliberately create negative experiences for players to earn profits.

Section 2.6 explores research related to game avatars and the embodied experience of gaming. It begins with the work of D'Aloia (2009), Klimmt, et al. (2009) and Boellstorff (2010), which define game avatars as extensions of the player's body (D'Aloia, 2009) and as a merging of the player's self with the game protagonist (Klimmt et al., 2009). Further, the section examines the concept of embodiment in video games, particularly focusing on the work of Keogh (2014).

Section 2.7 introduces the rhythmanalysis method, which serves as the main theoretical framework of the thesis. The section begins with the concepts of linear rhythm, cyclical rhythms and Henri Lefebvre's (2013) theory of everyday life. It then explains how the experience of mobile gaming can be understood

through the lens of everyday life theory. Section 2.8 concludes this chapter by summarising the integration of real-life elements into the virtual world of mobile games, the implications of hybrid spaces and the potential risks and dynamics of digital labour and in-game relationships.

2.2 Game Studies on Playing Time

Lizardi (2012) argued for the possibility of video games as cyclical commodities. He used the traditional video game series Rock Band as an example to illustrate the endless monetisation cycle through the sale of DLC. The Rock Band is a music video game in which players assume the role of a rock star and play various music tracks. Besides the free content included in the main game, new playable songs are added weekly at a cost of $1.99 each. In this context, DLC refers to game content supplementary packs that are continuously updated and sold repeatedly for a certain period after the game's release. According to Lizardi (2012), during the lengthy production cycles of video games, companies plan content that requires additional purchases. In this framework, the main game and the DLC purchased by the player are deliberately split by the producer. As Lizardi (2012) noted, "These maps represent the admission on the part of the game developers that the product purchased initially was already inherently incomplete, and it was knowingly sold that way" (p. 40). Although the 'incomplete' which Lizardi (2012) described may have controversial, this deliberate segmentation indicates that game producers aim to continuously commodify game content and extract additional benefits from consumers who have already paid.

Lizardi's (2012) work demonstrated how games provide a 'cyclical form of commodification' to keep players engaged. The music video game releases new purchasable discs almost every week, described as a cyclical commodity to ensure players consistently pay for a game they already own. Lizardi (2012) noted that "Users are lulled into a false sense of free play only to have the bare bones given to them with everything else under monetary lock and key" (p. 37). The sale of freemium items aims to lock players into a cycle of consumption, where they pay to 'enhance' their enjoyment of the game with 'small additions' (Lizardi, 2012, p. 37). This aligns with Johnson and Brock's (2020) concept of 'games as a service', where players are provided with basic gaming services but must pay to access more advanced features. In the case Lizardi (2012) presented, players who have already paid for the basic game may feel compelled to continue paying to achieve a 'complete' version, becoming completionists. Lizardi (2012) argued that this cycle of game commodification is "exploiting consumers and their free/immaterial labor" (p. 33).

The concept of 'immaterial labour' was introduced by Maurizio Lazzarato (1996) and defined as "the labor that produces the informational and cultural content of the commodity"(p. 1). According to Lazzarato (1996), immaterial labor has two different aspects: 'informational content' and 'cultural content'. Both are integral to the sphere of labor. Informational content refers to "the changes taking place in workers 'labor'"(Lazzarato, 1996, p. 1), while cultural content involves "a series of activities that are not normally recognized as ''work'". such as "defining and fixing cultural and artistic standards, fashions,

tastes consumer norms, and, more strategically, public opinion" (Lazzarato, 1996, p. 1).

Immaterial labour does not produce physical goods but instead fosters social relationships for users. It "enlarges, transforms, and creates the 'ideological' and cultural environment of the consumer" (Lazzarato, 1996, p. 82). Terranova (2000) described it as "a specific mechanism of internal 'capture' of larger pools of social and cultural knowledge" (p. 38). In the context of the digital economy, immaterial labour is widespread, involving not only 'productive' activities such as website design but also activities not traditionally considered labour, such as online chatting, storytelling and replying to emails, etc.

In online gaming, players assume dual roles as both producers and consumers. Zwick et al. (2008) described this phenomenon as "the ideological recruitment of consumers into productive co-creation relationships hinges on accommodating consumers' needs for recognition, freedom, and agency"(p. 185). Ritzer and Jurgenson (2010) described it as "a new form of capitalism" (p. 22). Traditionally, the relationship between game designers and players was unidirectional and one-time: the consumer would purchase a game from a shop, pay for it and the transaction ends, with all of the game content created by the game company and players having no right to alter it.

However, the Internet and online gaming have transformed this relationship. Online games often use the Player vs. Player (PVP) mechanism, where the gaming experience is based on competition with other players. While the game itself may be free, players must invest money and time to win these

competitions. In this context, players' emotions, experiences and time become commodified services, almost invisible within the structure of online games.

In the online gaming industry, methods such as advertisements, online tests and guild labour can commodity players' leisure time. In many mobile games, players are forced to watch advertisements to access game content. This game time commodification mirrors Smythe's (1981) argument of mass media, where the audience of media is sold to advertisers as a commodity, effectively trading users' time for advertising revenue. Moreover, online games often encourage players to act as free testers and allow gameplay in incomplete stages (Zhang and Fung, 2014; Lizardi, 2012). Thus, what was traditionally compensated labour has been transformed into voluntary activities under the guise of play and leisure.

Guilds and other self-organising groups of players can prompt players to engage in immaterial emotional labour. Game guilds are usually formed by volunteers with shared interests and goals. As Shen et al. (2014) stated, "players work with each other to achieve common goals" (p. 2). This collaboration fosters opportunities for social relationships. According to Shen et al. (2014), the risk of a weak tie between two players in the same guild is half that of a weak tie between players in different guilds. They described that guilds are "player-created social institutions" (p. 9) that divide the vast space of online games into smaller, more intimate units. In this context, the game industry can capitalise on players' affective productivity and social relations and transform them into measurable and manageable forms of labour (Zhang and Fung, 2014).

Zhang and Fung's (2014) interviews revealed a common phenomenon within game guilds: guild leaders may negotiate with game companies using personal or business connections. In the early stages of a game's development, a guild relations manager from a game company would typically contact guild masters or leaders to establish cooperation agreements. These agreements often include cash back for guild leaders based on the number of players recruited or the total amount of money spent by players introduced to the game by the guild. Each game guild member is given a card to track their in-game spending and activities, allowing guild leaders to receive benefits from their members' in-game consumption. This arrangement between guild leaders and game companies can lead guild members to feel "sold out by their GM (Game Master) to game companies" (p. 44).

Emotional connections between guild members become a significant motivation for them to remain engaged with the game. As an interviewee in Zhang and Fung's (2014) study expressed, 'If I were to play by myself, there would be nothing to do by now'. However, the guild system keeps players busier through constant communication with others—whether leading, helping or just chatting.

Lukacs et al. (2010) explored how playing online games such as World of Warcraft (WoW) can transform from a fun activity into a burden or obligation for guild members. In WoW, 'raiding' is a primary activity after levelling, involving between 10 to 25 players and lasting anywhere from 45 minutes to 12 hours. Most guilds establish a weekly raid schedule to help members coordinate their daily activities and ensure timely participation in the game. Interviewees in Lukacs et al. (2010) highlighted the feelings of burden and

obligation associated with these schedules. For example, a mother who had to leave guild activities to care for her newborn baby explained,

> I left [guild]. I just got a baby and was unable to make the raid times regularly. Kind of sucks—I had a lot of friends in the guild, but I cannot play with them unless I make the raids. (p. 174)

In the context of this thesis, the regular, weekly updated raid schedule established by gaming guilds represents a cyclical rhythm, while players' relationships and emotional connections, as illustrated by Lukacs et al. (2010), provide motivation for following this rhythm.

Competition between guilds also plays an important role in keeping players engaged. Zhang and Fung's (2014) research showed that game companies often invite rival guilds to sponsored 'guild tournaments' to encourage competition among members of different guilds. As Zhang and Fung's (2014) interviewees explained, when players desire to win 'guild wars', they need to purchase 'weapons and medicines'. This deliberately created competition generates hatred between players and increases their need to purchase in-game items for competition. Consequently, the need for in-game items keeps guild members active and motivated to follow the in-game rhythm, which is a focus of this thesis.

Furthermore, competition within in-game guilds can significantly increase stress for member players. Snodgrass et al. (2016) showed that guilds often require members to prioritise guild activities over their offline lives. Guild events, such as defeating a boss, require the presence of a majority of members. Thus, during these events, members need to log in at agreed times,

which can place considerable pressure on participating members. As one of Snodgrass, et al.'s (2016) interviewees described, "For example, I am not exaggerating this at all, let's say I'm in a very hard-core raiding guild. They raid 4 days a week, 4 hours a day, you need to be there at the instance, on time" (p. 63). Snodgrass et al. (2016) described this regular and repetitive behaviour of participating on time in guild events as 'player rhythm', which this study focuses on. To win in-game competitions, gaming guilds establish rules for their members, such as logging in on time and playing for extended hours. These guild rules help to catalyse the rhythms of a game's players.

As guilds become central to 'generating, reproducing, and sustaining affective labor' (Zhang and Fung, 2014, p. 46), the emotional connections between members also boost the monetisation of their in-game playing time. Zhang and Fung's (2014) research mentioned that most benefits generated from game members are divided between game companies and the core leadership of the guild. This often leads to dissatisfaction among guild members, as expressed by one interviewee: "Guild members are no longer comrades; we become tools for leaders to profit and get rich " (Zhang and Fung, 2014, p. 46).

According to Jarrett's (2021) online ethnographic research, the emotions and sentiments players invest in playing time are integral to the digital economy. Jarrett (2021) described that "Affect is converted into economic value for commercial games publishers" (p. 104). His research showed that some players feel 'obliged to donate' by paying for the enjoyment the game provides. In this context, players and developers form an ongoing, mutually beneficial relationship, with differences in scale, motivation and power often ignored

(Jarrett, 2021). However, the way the emotions of online game players are monetised can be more subtle and indirect. According to Lukacs et al. (2010), friendships among guild members can motivate participation in in-game activities, which may indirectly generate profits for the game company.

The role of the player has evolved from a leisure participant to a provider of labour, a transition marked by a longstanding ambiguity between ‘play’ and ‘labor’. The blend of ‘play’ and ‘labor’ emerged from Modding, where players create additional content—commonly referred to as ‘mods’ or ‘modifications’—and distribute it to others. Modding represents the free production and distribution of digital content for commercial games, primarily undertaken by highly engaged players who volunteer to contribute content to the game.

Kücklich (2005) pointed out that, within the cultural context of video games, there is an implicit rule that activities related to games should be a voluntary, non-profit-oriented activities. However, the leisure activities of modders have been commodified by the gaming industry. Kücklich (2005) described this phenomenon as ‘playbour’ (also called playbor), a mixture of ‘the relationship between work and play (2005, no pagination)’, which is “simultaneously voluntarily given and unwaged, enjoyed and exploited” (Terranova, 2000, p. 32). Consequently, playbour is ‘unclassifiable in traditional terms of work and leisure’ (Kücklich, 2005, no pagination). Broadly speaking, the concept of ‘playbour’ is similar to ‘produsage’ (Bruns, 2008), where users assume the roles traditionally associated with producers, regardless of their awareness of this role.

Dyer-Witheford and De Peuter (2009) explored the concept of ‘playbour’ and identified four stages of it: micro-development, modding, massively multiplayer online (MMOs) games and machinima. In the micro-development stage, labour in gaming occurred only within the game itself, involving tasks such as programming, creating graphics and composing music. Some video games, such as Tetris[1],were freely created by hackers but eventually became commodities of speculative capital, marking the original form of ‘playbour’.

The next stage is ‘modding’, where players make changes to games, such as adding new missions, maps, characters, or even entirely new gameplay mechanics. For example, the PC game Warcraft 3 includes a map editor that supports player-developed gameplay modifications. Sun and Lin (2023) observed the evolutionary design of gameplay on the Warcraft 3 mod platform. Players can create modifications (mods) based on the game design of Warcraft 3, resulting in gameplay that can be quite different from the original game. A famous example is DotA, which “replaced regular Warcraft 3 gameplay to create the MOBA” (Sun and Lin, 2023, p. 313). These mods should be viewed as products of player labour. As Lindstrom (2019) noted, mod creators “deserve the same respect and ownership rights as other artists” (p. 843). However, under current copyright laws, mods are typically distributed free of charge to avoid copyright infringements.

At this stage, the phenomenon of ‘playbour’ overlapped with volunteer work and involved only a few players. However, the blend of play and labour quickly expanded to a broader scale during the MMOs stage. A typical example of MMO playbour is ‘gold farming’, which is prevalent in developing

[1] Tetris is an early puzzle video game.

countries. Gold farming involves collecting valuable in-game goods and then selling these virtual items for real money (Ahmad et al., 2009). Tai and Hu (2018) defined ‘gold farmers’ as a specific type of ‘worker-generated content’, linking it to digital labour and co-creative labour. Interviews with gold farmers revealed long hours, boredom and repetitiveness in their job, although they rarely complain. Tai and Hu (2018) demonstrated that repetitive in-game tasks can generate economic value, which can be measured and exchanged in the real-world market outside the game.

The repetitive in-game work of common players is often referred to as ‘farming’ or ‘grinding’. Rettberg (2008) described the endless questing in WoW as follows:

When a quest giver asks you to complete a quest, you are shown the rewards you will be able to choose between when you have finished. In this way, a quest is a promise—I will give you this if only you do that. Each promise is graded by difficulty and sorted by zone so that the player’s quest log contains a collection of possible activities and possible rewards. You have only to choose between them—if you are able to kill all those monsters and find all those places, items, and people… Quests are more organised than most to-do lists, providing automatic crossing-off of completed items. They are as endless as to-do lists as well (p. 176).

The tasks described by Rettberg (2008) are tools created by game designers to communicate with players. Early game designs did not have clear quest instructions for players. Games such as Tetris or Galaxian used scores to represent player achievements, while games such as Donkey Kong and

Super Mario used levels to encourage players to continue exploring. As game design evolved, the concept of the ‘quest’ became a standard convention around the mid-1990s. Aarseth (2004) defined ‘quest’ as a scenario where “the player-avatar must move through a landscape to fulfill a goal while mastering a series of challenges” (p. 368).

In his analysis, Rettberg (2008) emphasised the endless list of tasks within online games. He adopted Brooks’ (1984) perspective on the narrative of “anticipation of retrospection as our chief tool in making sense of narrative” (1984, p. 23) to analyse the infinite nature of in-game tasks. Brooks (1984) highlighted that, while readers desire to reach the end of a story, reaching the end also means there is no more narrative left to consume. Based on Brooks’ (1984) opinion, Rettberg (2008) argued that the quest system in WoW represents a unique achievement where : “Humans have finally succeeded in creating something that we can desire endlessly, have entirely and never consume” (p. 176).

When quests are endless, the time cost to players becomes also endless. For example, Rettberg (2008b) noted that he had to kill thousands of furbolgs (a type of monster in the game) over one hundred hours to achieve honorary status in Winterspring (a game zone). This process is often called ‘grinding’ in MMO games. Thompson (2008) described his experience of grinding in the following terms:

> I had to spend the next eight hours planted at my desk, repetitively clicking through the same tasks as if I were an industrial robot making car parts on

> the Chrysler line... Then I did it again. And again. And again. Until 3 a.m., actually (Online source, para. 5).

From the perspective of this thesis, the long hours of work by gold farmers and the repetitive clicking by players reflect the game-designed rhythms imposed on players' bodies. Rettberg (2008) argued that the highly repetitive labour involved in advancing a WoW character is mindless and mirrors Taylorism:

> The majority of the play involved in advancing a World of Warcraft character is mindless and repetitive to the extent that it verges on Taylorism. There is an assembly-line mentality to many of the quests, many of which involve killing a staggering number of a certain type of beast or enemy (grinding), over and over again. There is little more novelty involved in grinding than there would be in welding two sections of a fender together, over and over again, all day long (p. 30).

This 'grinding' reflects players' negative experiences with the endless quests described by Rettberg (2008). At the same time, Ruffino' s (2021) work on the idle game AdVenture Capitalist demonstrated how the game can run automatically without human intervention. In this game, a player acts as an investor; once the basic setup is complete, the game can continue to operate on its own. Players earn income from their investments, which they can then reinvest to generate more money. The more players earn, the faster their earnings grow. Theoretically, players can return to the game hours or even days later and find that the game has continued to run without their participation. More importantly, Ruffino (2021) argued for the feasibility of

players enjoying the game AdVenture Capitalist through ‘non-game’ behaviour, stating, “ the game is played when the app is closed” (p. 214). In this case, the fun of the game is not only derived from the player’ s direct interaction with the game but also from the player’s use of the video game as a medium for capital appreciation, exploring identity and the simulation of capitalism. The mechanics of AdVenture Capitalist highlight the meaninglessness of the player’s labour in the game and point to the endlessness of the game process and the gradual dissolution of the game’s purpose through endless repetition. The repeatability and cyclicity discussed by Rettberg (2008) and Ruffino (2021) are also key features of rhythmanalysis that this thesis focuses on.

At the same time, game studies scholars have proposed the idea of gaming as a craft to explain gaming time. Brock and Fraser (2018) argued that gaming activity includes ‘thoughtful and engaged practice’ (p. 1221). Games provide a series of puzzles and challenges for players to solve, allowing them to develop skills, learn strategies and engage in iterative mental processes to overcome these challenges. According to Brock and Fraser (2018), repetition in games can be interpreted as an intellectual activity where players think, reflect, adjust their actions and pass puzzles to achieve goals.

The process of playing and reflecting on the gameplay is a creative practice for developing strategies and skills. Therefore, the time spent playing Dota 2 should not be viewed merely as a way to achieve accomplishments through repetition and abstraction from reality. Brock and Fraser (2018) argued that computer gaming offers a similar experience to improving skills as in traditional crafts. The interaction between players’ hands and the mouse,

screen and controls, mastery and understanding of the rules and communication with others reflect mental activity and demonstrate gaming on a computer as a form of craft.

Furthermore, Brock and Johnson (2022) argued that video game controller behaviour represents the earliest stage of the craft consumer process. The concept of ‘craft consumption’, introduced by Campbell (2005), refers to products that are “both ‘made and designed by the same person’, with the consumer typically bringing skill, knowledge, judgment, and passion to the activity, motivated by a desire for self-expression” (Campbell, 2005, p. 23). Brock and Johnson (2022) used the examples of Super Mario Maker and Dark Souls to illustrate the link between craft consumption and console games. Players use in-game items or mechanisms to demonstrate their creativity and improve their skills, thus the experience of in-game “confers sovereignty to the consumer” (p. 609).

Based on this research, defining repeated in-game behaviour requires careful consideration. The three-way transaction model of playing time, in-game items, and out-of-game currency, along with the corresponding game farming phenomenon, demonstrates the potential for exploiting non-professional players’ personal leisure time. Meanwhile, the research on gaming as craft consumption highlights the potential for players to use the in-game process as a means to develop creativity and skill.

Besides the concern of in-game repetitive experience, the development of gaming platforms has led to a new characterisation of players’ time use. The rise of Social Networking Game(SNS) has seen the ‘time management’

element evolve from an offshoot of traditional gaming to a popular model of online Social Networking games (Chess, 2018). SNS is a model of gaming embedded in social media, such as Facebook and Twitter, however, it usually runs on mobile devices as well.

Chess's (2018) research raises the 'push and pull' phenomena on gaming time, in her description, it is " the player is expected to play for a short period of time over several points during a typical day, in order to play effectively" (p.107). In there, 'push and pull' refers to the process of players repeatedly switching between in-game and out-of-game worlds. Based on this feature, Chess (2018) suggests a characterisation of SNS casual games: the game will usually be completed within 15 minutes; if the player wants to play longer, they need to pay real-world currency. This feature hints at the commodification of game time and the invisible influence of game design mechanisms on players, who remain within the game for a period of time that is almost entirely under the pre-scheduling of the game system.

In this model, players' engagement time is referred to as 'Interstitial time' by Chess (2018). She analyses four typical SNS games—respectively FarmVille 2: Country Escape (FV2:CE), Restaurant Story 2 (RS2), Kim Kardashian: Hollywood (KK:H), and Clash of Clans (CoC)—to understand players' time management in casual games. Chess (2018) emphasises the 'low-risk ' element of these casual games, which refers to that the casual games do not substantially interfere with players' daily lives, and that players are usually empowered rather than disempowered [2]in gaming. This type of casual

[2] In contrast to the casual games Chess (2018) concerned, in some traditional 'hardcore games', such as the Dark Souls series, players are offered difficult bosses or mazest, and the penalties for death or--

gameplay focuses on the interstitial between players' entering and leaving the online game, with a variety of different guises, such as crop ripening, cooking dishes, acting shows, etc...however, the ultimate aim of the interstitial mechanisms is to limit the player's engagement to a short period, with narrative excuses for waiting ruled real-world time. Under these conditions, player and the casual game will develop a kind " intimate and ongoing relationship" (Chess, 2018, p.113), and the nature of this relationship is directed towards players' regular repetition of 'push and pull' by the game mechanisms over the course of cycle, as Chess's (2018) account points out that: "The process where players start something and must return to complete that task creates a rhythm of play that taps into feminine leisure styles" (p. 115).

2.3 Game Studies on the Life Space

2.3.1 The Early Game Space Research

Early research on game spaces began with the MUDs (multi-user dungeons). The term 'dungeons' originates from the well-known tabletop game Dungeons and Dragons and refers to an 'adventure'. MUD games are often considered prototypes for many popular online games. These games are typically text-based, and players interact with items or other players by typing commands into an input field.

failure is strict. Casual games are usually likely to provide 'light' penalties for failure to players, Chess (2018) explains it as a feminine leisure style which is 'positive and pleasant fictions' (Juul, 2010).

```
>look
Corridor
The corridor from the west continues to the east here,
but the way is blocked by a purple-velvet rope
stretched across the hall. There are doorways leading
to the north and south.
You see a sign hanging from the middle of the rope here.
>read sign
This point marks the end of the currently-occupied
portion of the house. Guests proceed beyond this point
at their own risk.
 -- The residents
>go east
You step disdainfully over the velvet rope and enter
the dusty darkness of the unused portion of the house.
```

Figure 3 : An example of MUDs (Curtis, 1998)

Typically, players can create one or multiple online characters and freely choose their appearance, species (which may not be human) and gender. Using simple programming languages, players can create game spaces (often called ‘rooms’) and design their own game rules. In an early significant study on MUDs, Bartle (1990) described MUDs as ‘imaginary world’, but a well-designed MUD game should be ‘believable’. Everything in the game world should operate similarly to the real world, allowing players to use the same mindset—reacting and responding as they would in reality. Therefore, emotional responses to adventure events in MUD games can affect players in the real world.

Bartle (1990) outlined several reasons why people immerse themselves in games. First, gaming is ‘fun’, and provides players with a lasting and effective sense of excitement (often described as ‘flow’ in game studies). Another

reason is convenience. Beyond that, games offer a strong sense of realism without requiring players to suffer real-world consequences. However, many players are strongly drawn to the emotions generated by the game. To some extent, players merge with their game characters, and experiences in virtual games become naturally integrated into their life experiences. Thus, perceptions in the game space can be considered equivalent to experiences in the physical geographic space.

Bartle (1990) asserted that players project their emotions onto their characters. Therefore, the experiences of an in-game character (also called an avatar) is influence the player outside the screen. He described this phenomenon as 'believable' (Bartle,1990, Chapter 7.2 Why Do People Play, paragraph 10)', rooted in the simulation of real-world rules in MUD games. As he argued:

> '[Mud games] work the same way as the real world, then the players use the same mind-set as if they were in the real world, and hence emotional response to events in the MUA world are as if they were affecting the player directly in the real world (Bartle,1990, Chapter 7.2, Why Do People Play, paragraph. 10)'

In summary, as Bartle (1990) noted, 'The game's virtual reality becomes (temporarily) the player's reality' (Bartle, Chapter 7.2 Why Do People Play, paragraph 56). The player's actions in virtual reality are conceptual symbolic experiences that overlap with the physical world and influence the player's memory and emotions. Bartle articulated the relationship between virtual reality and real life as follows: 'Virtual reality does exist; not in the same way

as real life, but as a conceptualization which can have an effect on people in real life' (Bartle, 1990, Chapter 7.2 Why Do People Play, paragraph 24).

In further game studies, human-computer interaction researcher Katherine Isbister (2016) adopted the 'grounded cognition' theory in psychology to support a similar argument. Grounded cognition posits that the human brain compares current experiences with past experiences, regardless of whether they occurred in the real world or were created by media. Based on this comparison, people generate a series of emotional or cognitive feedback responses. Therefore, when players see or hear (or form a mental picture of) someone's feelings in a social setting, the brain is tricked into believing it is a real social experience. The adoption of grounded cognition explains that game players can enrich their own life experiences by playing different roles in the digital world.

Game scholars often refer to the phenomenon of experiencing near real-world experiences in a digital game space as 'perceived game realism' (Malliet, 2006) or 'gamic realism' (Sommerseth, 2007). Sommerseth (2007) provided an elaborate mechanism for the relationship between the player's body and realism in video games. He defined the game experience as 'half-reality' (p. 766) and "depending on iterative feedback between a real body and a virtual world" (p. 766). Inspired by Heidegger's (1966) notion of the ready-to-hand and Merleau-Ponty's (2002) description of tool use, Sommerseth (2007) regarded the game joypad as a means to access the game experience. Sommerseth (2007) argued that if " the joypad functions as an extended part of the player's body, video games may be seen as a subset of the player's experienced reality" (p. 767).

In Sommerseth's (2007) opinion, the feeling of control over the in-game avatar provides the ability to affect the virtual environment. Therefore, the process of gaming is not a mimetic representation akin to cinematic conventions but an embodied experience, which complements and supports Bartle's (1990) argument about the perception of reality.

Similarly, Curtis (1998) emphasised the properties of virtual space in MUDs and described them as spaces and networks that provide multi-user access to a shared database. Through text input, users can interact with other users or the environment. The MUD space, where users gather, is an artificially constructed place with many social attributes and mechanisms similar to physical spaces. Curtis(1998) described it as "a kind of virtual reality, an electronically-represented "place" that users can visit " (p. 1). Curtis (1998) believed that many social attributes and mechanisms of physical places also apply to virtual spaces.

Building on Curtis's opinion, Reid (1994) further explained that a MUD is a medium for communicating through another's imagination. Virtual reality is a construct in the human mind; it does not exist in the machine that generates the images but in the minds of those who treat these manifestations of imagination as real.

In the 1990s, some researchers viewed MUD games as an emerging social field. Curtis and Nichols (1994) introduced the concept of 'social virtual realities', which they defined as "software systems that allow multiple people to interact and communicate in pseudo-spatial surroundings" (p. 194) to build a virtual world showcasing the capabilities of MUDs. Muramatsu and

Ackerman (1998) pointed out that the MUD world represents a highly simplified social world where social interactions, including conflict and cooperation, are designed into the game world for entertainment. The MUD experience is thus a managed social life. For instance, players in Illusion (a MUD world) have auction spaces and courts. Auctions occur on auction channels where players can sell, bid, auction and purchase items through the system code. In court scenarios, inhabitants of the virtual world assume roles such as criminal, victim, judge and juror. This phenomenon aligns with the concept of ‘pseudo-spatial surroundings’ described by Curtis and Nichols (1994). The court and judge in virtual space function as a conceptualised simulation, similar to their real-life counterparts.

Besides that, Muramatsu and Ackerman (1998) clearly demonstrated the social structure of MUD games. While other reports, such as Bartle’s (1990), also explained this structure, they did not do so as systematically. The MUD society has two main social levels. The first level consists of ‘mortals’, who are the most active players. The second level consists of ‘immortals’ (also referred to as ‘caretakers’ or ‘wizards’ in other literature), who do not play the game but create, administer, maintain and organise its content. These immortals are the rule makers. In literary terms, the immortals control the fate of the ‘mortals’, with the ability to change levels and attribute points, items or other data about the virtual world. In later games, mortals became ‘players’ while immortals took on the roles of game managers and designers. Each role carries corresponding rights and responsibilities. As Muramatsu and Ackerman (1998) stated, “The MUD is deeply socially stratified, with players both informally segregated by game levels and formally segregated by their

power to control the system" (p. 97). Mortals focus on gameplay, while immortals are responsible for managing, maintaining and keeping order in the game world. In the MUD space, roles confer authority or power. Immortals have privileges such as changing character attributes, deleting characters and being invisible to mortals. This disparity in power underscores the social stratification present in the digital space.

Another key focus in MUD studies is the generation of user identity. According to Turkle (1994), the MUD space allows players to present themselves as characters distinct from their 'real self'. All social interactions occur in a virtual space, and everyone is anonymous. Hence, MUDs provide a great platform for players to take new identities, offering a 'second chance' to explore the nature of the self and rethink personal questions.

A popular notion in MUDs is that 'you are who you pretend to be', Turkle (1994) considered this notion to have 'mythic resonance' (p. 161). The online role of the player can be not only an 'aspect of self' (p. 161) but also a "separate self of game space" (p. 161). In other words, the game space provides an environment for players to realise their fantasies, allowing them to develop a separate self—an aspect of personality independent from their real-world roles during the online gaming process. Turkle's (1994) interviews corroborated this finding: MUD games facilitate self-reconstruction and reconfiguration of intimacy. For instance, Julee, a 19-year-old who dropped out of Yale due to a strained relationship with her mother following an abortion, played the role of a mother in a MUD game. In the game, her 'daughter' betrays her, as scripted in the game. Within this digital space, the characters of 'mother' and 'daughter' engage in a profound conversation—a discussion

that, although necessary, never occurred in real life. This virtual interaction allowed Julee to empathetically understand her mother's perspective, providing her with an opportunity to reevaluate their relationship.

Bruckman (1992) described MUDs as being "organised around the metaphor of physical space" (p. 5). She incorporated Erikson's (1993) classical psychological insights from *Childhood and Society* into her MUD analysis. Erikson (1993) observed a four-year-old girl deeply engaged with playing toy house using a simple block structure that included a living room, kitchen, bedroom, bathroom and garage. In this play space, toy figures of parents and a child were positioned—the girl lies in the bedroom with the mother beside her, and the father in the garage. When faced with real-life dilemmas, the young girl crafted solutions within this toy house space, at one point discarding the doll that represented her mother and lavishing the male doll with gifts from other toys.

Erikson (1993) stated that this 'toy situation', a space filled with dolls and toy cars, provided a safe environment for the little girl to express her emotions. It represents an 'unreality' that allows her to reveal and process her feelings. Bruckman (1992) extended Erikson's (1993) 'toy situation' to cyberspace, specifically the MUD programming world. She argued that it does not matter whether the psychological play space is made of wooden blocks or blocks of text, both are imaginative spaces created to address real-life issues.

Generally, early MUD game research focused on two main directions: investigating the social systems and organisational forms within MUD societies and exploring how players explore their identities in online game

environments. During this stage, MUD spaces were viewed as independent from real spatial environments yet serving a function similar to geographic space. In other words, it acts as a ‘Magic circle’.

2.3.2 Research on Hybrid Reality-Games Space

The previous subsection introduced the concept of the independent game space known as the ‘magic circle’. This subsection discusses how this magic circle is broken, or in other words, how the boundaries between game spaces and reality become blurred or overlap. Digital marketing scholar Molesworth (2009) viewed video game experiences as escapes from routine daily life. Players may seek nostalgia, experience desired dreams that are unattainable in reality, explore worlds depicted in movies or novels, or embark on entirely new adventures. Video games serve as a long-term daily dream that provides comfort and an escape from the real world. However, the intersection of realistic elements and game elements complicates the sustained achievement of this ‘long-term daily dream’.

The myth of the ‘magic circle’ is often associated with Johan Huizinga’s (1938) book named ‘Homo Ludens, which plays a significant role in early leisure and game studies. Although Huizinga’s (1938) era did not have video games, his definition of ‘gaming’ implied that games occur in designated spaces independent from the outside world. These game spaces are “ temporary worlds within the ordinary world, dedicated to the performance of an act apart” (p. 10). Ideally, the ‘magic circle’ is completely separated from real life, with its own rules of operation, making it a “special place in time and space created by a game” (Salen, Tekinbaş and Zimmerman, 2004, p. 95). Castronova

(2008) described that the magic circle acts as a shield that protects the inner world, likening it to a membrane with countless holes through which people share values, facts, emotions and meanings.

As an important contributor to the ‘magic circle’ concept, Zimmerman (2012) emphasised that the ‘magic circle’ is a theoretical model—it functions as an ideal model in game design and should be understood from a game design perspective. In a sociological sense, games and gaming behaviour are not isolated from daily life.

The simulation in digital games represents a conceptual reproduction rather than a photographic copy. Australian sociologists Atkinson and Willis (2007) introduced the idea of ‘overlapping realities’, suggesting that players are situated within a mediated relationship between the simulated and real-life environments. The experience of playing video games provides players with new perspectives on the cities they inhabit and shapes their perceptions of various people (such as gang members and people of colour). When memories of playing are triggered by familiar scenes, players may briefly slip transition from real-world contexts to those of the game.

Atkinson and Willis (2007) drew on Baudrillard’s (1998) concepts of simulation and hyperreality. In their framework, video games such as Grand Theft Auto (GTA) 3 reconstruct players’ perceptions of the city based on a game-mediated simulation system. The game, set in an American city, allows players to assume the role of a criminal (or someone who becomes a criminal). With advanced game production technology, GTA’s imagery closely resembles real-world urban environments. The simulation is not an exact

replication of the real-world physical environment but is designed to enhance player perception. The game environment does not reproduce the actual operational logic of a city but re-presents it based on social concepts, spatial imagination and social ecology. For example, Atkinson and Willis (2007) described the game's depiction of the city's gangs as follows: "ethnic and urban stereotypes are deployed to create a clear sense of demarcated gang spaces, amplifying the social/physical connection and social ecology of the city" (p. 838).

Consequently, perceptions formed in the game world also influence players' feelings about real-life urban environments. Atkinson and Willis (2007) recruited young players of Grand Theft Auto [3](GTA) to discuss their interpretations of the urban environments depicted in GTA. During the time of Atkinson and Willis's (2007) article, direct crossovers between game and reality were rare. They used 'in-game music' to bridge the connection between real life and game experiences. For one of Atkinson and Willis's (2007) interviewees, game music became a key link between the real world and the gaming experience. In GTA, part of the gameplay involves driving in a virtual city, with game music presented through in-car radio. Consequently, when players listen to their car radios while driving in the real world, the overlap of in-game and real-world experiences creates a powerful sense of hyperreality.

In this context, in-game music (and its mode of delivery) acts as a bridge from the emotional in-game experience to the player's own local context. An

[3] The background of GTA is on a American city. In this game, the player takes the role of a criminal (or people who would become a criminal). With the advanced technology of game producers, the image of GTA is similar to the real-world city environment.

interviewee in Atkinson and Willis's (2007) study described the 'slipping' feeling from reality to the game when listening to game music. He felt as though he was in the space of Bell Street [a place in the game] rather than his physical room. This slipping experience demonstrates that the player's perceptual experience of space transcends geography. When the sense of in-game spaces overlaps with the non-game world, the gamer operates in a ludodrome, defined as "a mediated space between immersion in urban simulation and a real world that is simultaneously generated, destabilized and blurred by the effect of such gameplay" (Atkinson and Willis, 2007, p. 818)

Modern video game design has increasingly linked games with reality. Location-based mobile games (LBMGs), such as Ingress*, Pokémon Go, and Harry Potter: Wizards Unite,* utilise the mobile phone's positioning system as part of the game mechanics. These games often employ a mobile device—typically a smartphone—to superimpose virtual graphics onto the screen, merging the virtual game world with the urban space the player inhabits daily.

Players tend to experience an overlap of the virtual and real worlds, although most claim to be aware of the virtual world through the screen while playing (Karpashevich et al., 2016). Stenros et al. (2012) adopted a qualitative approach to study pervasive games (games that blend the digital and physical worlds) to gain firsthand material. The sample interviews occurred during gameplay, *Ingress,* a typical location-based mobile game, features two factions: Enlightened and Resistance. Players from these factions compete to capture portals, which are based on real geographical locations, and link them to establish control fields. Two researchers joined the Resistance group, and one joined the Enlightened. Other players met during the game volunteered to

participate in interviews. In total, 25 interviewees participated in Karpashevich et al.'s (2016) study. The interviewees generally viewed physical locations as keys to the virtual world, with most of the experience occurring on the screen. They did not care about the actual situation of real locations. For these players, real-world landmarks become mere buttons in the game world, losing their real-life function but retaining in-game significance. However, this does not imply a complete separation between the virtual and real worlds. First, real-world landscapes provide significant advantages for mobile game experiences. Second, Karpashevich et al. (2016) found that the in-game and real worlds provide mutual value and meaning. Players often choose game portal locations (important game resources) based on personal interests, such as wedding venues. These portals also provide value to real locations in the minds of experienced players. Third, game rules and rewards motivate players to take action in the real world, such as visiting a dark forest at night or climbing a mountain.

Frith (2013) considered that LBMGs are built on 'hybrid spaces'(De Souza e Silva, 2006), which are defined as spaces that merge social connections, digital information and physical space. These mobile spaces are created by users who connect to the Internet with others. The appearance of hybrid spaces is facilitated by the capabilities provided by mobile phones, enabling users to be 'always-on', and 'enfolding remote contexts inside the present context' (De Souza e Silva, 2006, p. 262).

De Souza e Silva (2006) defined hybrid spaces as interconnected spaces that are connected, mobile and social. Initially, hybrid space was conceptualised as a blend where the boundary between digital and physical spaces blurred.

With the advent of the Internet and the ubiquity of smartphones, teenagers born into this era naturally accept digital spaces. The portability of Internet-connected smartphones embeds hybrid spaces into users' daily lives. Unlike previous generations, the new generation does not consider 'leaving' physical space to enter cyberspace; instead, these two spaces, traditionally seen as separate, are naturally linked together, forming what De Souza e Silva (2006) called hybrid spaces.

The creation of hybrid spaces is attributed to the mobility of digital devices. The transformation of the interface from static to mobile redefines the public's perceptions of digital spaces (De Souza e Silva, 2006). As De Souza e Silva (2006) stated, "Users are no longer required to sit in front of their computers, but rather, they move around in urban spaces—which are already social public spaces"(p. 270). With the evolution of communication devices, the Internet has become 'portable'. This shift has also impacted the video game industry. In the early days of the game industry (1970–1999), games were single-player and the interface was static, typically being arcade games or personal computers. After 1999, online games appeared, allowing multiple players to share the same gaming space in the virtual world via the Internet. With the popularisation of smartphones, players currently have the flexibility to play anytime and anywhere, integrating gaming spaces seamlessly into daily life.

Hybrid spaces can also function as social spaces by transforming physical spaces into potential multi-user environments within a cyber context. Traditional online communities do not rely on users' actual geographic locations. However, the transition from static to mobile interfaces allows users

to connect with others in shared virtual spaces while in physical public spaces. These virtual spaces are based on users' common geographical areas, but the connections between participants are facilitated by digital technology rather than physical human contact.

For example, PUBG Mobile, a multiplayer online shooting game, supports an invitation mechanism with online friends and also offers a matching method based on real geographical locations. Players can invite (or be invited by) nearby individuals to join the competition. Another example is *King's Glory*, where players can earn titles of honour for their heroes based on their geospatial location, such as being ranked the greatest in a particular city or district.

With the advancement of mobile internet technology, the concept of 'space' has become increasingly complex. Hayles (2002) noted that 'There is no longer a homogeneous context for a given spatial area, but rather pockets of different contexts in it' (as cited in De Souza e Silva's personal communication with N. Katherine Hayles, November 19, 2002). This idea of enfolded spaces is exemplified by the popular location-based mobile game Pokémon GO. In this game, players need to visit real geographic locations to capture different Pokémon. While engaging with the game, they do not share consistent information with the surrounding people. According to a survey by Colley et al. (2017), 33% of players reported colliding or almost colliding with objects such as signs, poles, or other people, and 11% admitted to endangering themselves by forgetting real-world safety rules, such as crossing the road without looking.

Mobile games create environments that overlap with real geographic settings, allowing players to coexist in both the Pokemon habitat and the busy city streets. This dual existence means that players navigate a compound context while moving through urban environments. Current research suggests that this composite presence of multiple spaces also implies multiple rhythms based on hybrid spaces. In Colley et al.'s (2017) study, signs, poles and other people on urban streets represent a default geographic rhythm of urban space. In contrast, actions such as challenging gyms and capturing Pokémon in Pokémon GO follow a game-space-based rhythm. The collisions reported by respondents in Colley et al.'s (2017) study indicate an inherent conflict between these multiple rhythms within the hybrid space of geographic and digital environments. Players of Location-based mobile games may experience arrhythmias, as described in Lefebvre's (2013) rhythmanalysis framework, due to the dual demands of their surrounding environment and mobile gaming.

For residents of hybrid spaces, smartphones provide the ability to transition into virtual spaces anytime and anywhere, making virtual socialising in real spaces possible. 'Hybrid spaces' offer users the flexibility to switch freely between virtual and real space contexts, empowering them to reshape their living spaces with digital software, mobile games and other technologies.

The redefinition of the space where people live is multifaceted. First, the traditional function of public space is redirected and enhanced with additional value from digital spaces. Karpashevich et al. (2016) found that players of location-based mobile games often use their personally significant locations within a geographic environment to set game portals, which in turn provide an

emotional link to those real-world locations. Second, hybrid spaces alter the way users interact with both digital devices and real environments; players are motivated to explore and find a new ways to interact with urban spaces. Lastly, hybrid social spaces provide a new model for users to build relationships, where digital sociability and communication occur within real-world spaces.

Mobile devices enable users to be present at all times, allowing them to log into virtual spaces from social public spaces, workplaces, or homes. This spatial flexibility suggests that virtual rhythms generated by digital games can overlay the rhythms generated by geographic spaces. In a sociological sense, the overlay of physical and digital spaces is not merely a functional combination but also a merging of rules generated by these spaces. In De Souza e Silva's (2023) description of hybrid space, she cited the game *Can You See Me Now?* from Blast Theory. In this game, players are divided into two groups: one group sits in front of a computer using avatars, while the other walks through city streets. Players on the streets can 'catch' their virtual counterparts if they come within five meters of each other. This system establishes two necessary conditions for the grasping action: proximity of position and execution of the action. Proximity of position happens in physical spaces, while execution of the action occurs in digital spaces. The urban walking players follow the rhythms of the physical space (e.g. traffic lights and buses) while navigating the city and executing interactions according to the rules of the game space.

Overall, this section of the literature examines the interaction between digital game spaces and physical spaces. This research aims to explore the

interplay between the two through the subjective perception of participants (players).

2.3.3 Lefebvre's Space theory to the Video Game Area

The early studies applying Lefebvre's (2013) theory to the gaming area, such as computer games researcher Aarseth's (2001) work, primarily focus on the nature of computer space. For Aarseth (2001), cyberspace (including video game space) is constituted by signs, and the experience of game space is dependent on the receiver's bodily experience and their experience of real space. In his subsequent papers on game space, Aarseth also pointed out that the space of the game world is often distorted and modified to enhance player enjoyment. This view is supported by his student, Løvlie (2007), whose thesis showed that, in war simulation games, it is challenging for players flying in the sky and those fighting on the ground to collaborate effectively on a battlefield. When digital space becomes a copy of real space, the game mechanics may not function well. For Aarseth (2001), computer games are a kind of allegory of space—they attempt to portray space in more realistic ways, but ultimately, the reproduction of spatial relationships in video games "rely on their deviation from reality in order to make the illusion playable" (Aarseth, 2001, p. 169).

Based on his opinion that 'computer game space' is constituted by signs, Aarseth (2001) introduced Lefebvre's space theory into game space analysis. According to Lefebvre (2013), space is socially constructed and can be distinguished into representational space, representations of space and spatial practice. Space is not only a physical 'empty area', but also a

performance of productivity and production relations. Physical space, abstract space and social space coexist on the same site.

Aarseth (2001) expressed caution in applying Lefebvre's system to game analysis, noting it as 'a type of spatial representation he [Lefebvre] did not anticipate' (p. 163). He suggested that Lefebvre's theory in the cyber context requires "a much longer refinement and adaptation" (p. 163). However, Aarseth argued that computer games, as a spatial practice, have dual properties: representations of space (a formal system of relations) and representational spaces (symbolic imagery with a primarily aesthetic purpose). The representation of digital space is "not itself spatial, but symbolic and rule-based" (p. 163), which aligns with Curtis and Nichols's (1994) description of MUDs as 'pseudo-spatial surroundings' (p. 194), emphasising the digital representation of physical space.

In subsequent research, scholars have focused more on the connection between game space and the broader social context. A notable example is Crawford's (2015) research on sports games, which argues that video games are 'themed' spaces similar to fast-food restaurants and theme parks. The 'theme' involves using "advertising, branding and other corporate efforts to stimulate consumer demand" (Gotham, 2005, p. 227) to create consumer experiences. For instance, Disneyland employs extensive ornamentation and spatial design to craft specific experiences for visitors. The context of the 'theme' is rooted in 'nonplaces', which lack their own history and identity, such as the shops or airports, and are often given a 'theme' tor create novel experiences.

Crawford (2015) introduced Theodor Adorno's culture industry theory to explain how the 'theme' influences cultural production, His analysis of the top 100 best-selling games in the UK reveals that only a few games are original. Most are reboots, remakes of old games, or sequels to existing series. This 'theming' of space decoration extends to game design. In the Chinese mobile gaming market, the standardisation and pseudo-individualisation described by Theodor Adornoare are even more evident.

As themed spaces, game areas are packaged and sold to players. In these spaces, everything is quantifiable, including traditionally non-quantifiable aspects like an athlete's body. The record of player in-game behaviour is referred to as gameplay metrics, as described by Drachen et al. (2013, p. 23): "When players interact with something or are exposed to something, their information is recorded in five categories: 'What is happening? Where is it happening? At what time is it happening? Additionally, when multiple objects (e.g., players) interact: to whom is it happening?" (Drachen et al., 2013, p. 23). Real-world spaces are imitated in more orderly, controllable patterns to provide an exciting experience for players. Similarly, Brock's (2021) research on the PC game Defense of the Ancients 2 (Dota 2) highlights the concept of themed space. He noted that the number of actions a player performs per minute, along with metrics such as 'kills', 'deaths', 'assists', and the amount of gold and experience gained per minute, are used to measure a player's skill in the game. In this context, the player's interactions with other players are represented within an e-sports-themed space, governed by the game's measurement systems.

Similar to theme parks and shopping malls, game spaces blend leisure and commercial activities, Players can pay to obtain in-game goods or reduce the waiting times. The detailed in-game mechanics will be explained in Chapter 4.

Other scholars have attempted to identify Lefebvre's spatial triad theory in the context of game studies. Denham and Spokes (2020) recruited 15 participants to explore Red Dead Redemption 2 (an action-adventure game) to explain the video game context through Lefebvre's concept of space. First, representations of space are 'conceptualized space', which is created by planners, urbanists, technocratic subdividers and social engineers: it is the dominant space in society. In Denham and Spokes's (2020) research, the game director, scriptwriter, 3D modeller and game artists replace the roles of planners and urbanists. Undoubtedly, any space within the game is the product of careful design: thus, " every crevice of RDR2's spaces are intrinsically 'conceived'" (Denham and Spokes, 2020, p. 5)

This sense of space design is always present in the player's gaming experience. For instance, St. Denis, a state capital in the game map, is a bustling town but seems unwelcoming to participants. Only one participant did not immediately leave the city after a necessary commodity exchange. Another participant explained that it's because St. Denis doesn't seem friendly; it's for well-dressed rich people, not for wilderness cowboys like the player's avatar. This top-down, spatially-designed message is present in every corner of the game.

Second, 'representational space' also works in the game space. For Lefebvre, it is the idea, theory and vision that overloads in the area, related to sign and

symbolic representational comprehension. In Denham and Spokes's (2020) study, the majority of participants (14/15) reported that specific memories were evoked, recalling films or film characters without any prompts from the researchers.

Third, in the context of Lefebvre, spatial practices are defined as the daily routines and realities of urban life. According to Denham and Spokes (2020), the spatial practices of players involve how they "explore and take advantage of manipulating this filmic world in experimental ways" (p. 11).

Besides providing a possible explanation of Lefebvre's spatial triad theory in game space, another significant contribution of Denham and Spokes (2020) is that they exhibit the intertextuality of participant experiences. Some participants mentioned the Rockstars(the production company of Red Dead Redemption 2), while others recalled memories of real-life movie stars, which are independent of the game space.

Beyond the video game area, other scholars have contributed to meaningful discussions of Lefebvre's theory of space production in the internet context. Prey (2015), for example, bases his research on music streaming, emphasising the portability of 'perceived space'. For Prey (2015), mobile streaming takes sounds out of the home or office, allowing listeners to "reclaim lived space through privatizing the public realm" (Bull, 2005, p. 354). At the same time, Prey (2015) points out that the space created by mobile streaming must contend with the public environment: sunshine or traffic noise inevitably affects the space shaped by streaming media. Similar to Denham and Spokes (2020), Prey's (2015) research shows that media messages

construct the user's perceptual space. Music can evoke of memory or experience, further shaping the user's perception of local space. As Prey (2015) states, "the 'digital space' is always embedded in, and interwoven with, 'physical space'"(p. 7).

Lefebvre (2013) described how media affects the rhythm of life: "Just by having a modern television or radio, you can hear and/or see images and receive messages from afar, by pressing a button or turning a dial. And beyond the mountains and seas" (p. 48). In this passage, actual events from distant places are inserted into the daily rhythm of local life through messages transmitted by media. The media offers the possibility of adapting to multiple rhythms, allowing individuals to participate in other rhythms through information beyond their current geographical context.

Lefebvre's framework explains the basic pattern of polyrhythms between commodified media from afar and humans as subjects across spatial distances. The rhythmic producer, as a supplier of the commodity, provides segmented rhythms, and the almost costless flow of information enables the producer to compartmentalise media information. This allows the recipient to adapt to rhythms in their current environment rather than experiencing them in a geographical and spatial sense. As Lefebvre (2013) stated:

> Producers of the commodity information know empirically how to utilise rhythms. They have cut up time; they have broken it up into hourly slices. The output (rhythm) changes according to intention and the hour. Lively, light-hearted, in order to inform you and entertain you when you are preparing yourself for work: the morning. Soft and tender for the

> return from work, times of relaxation, the evening and Sunday (Lefebvre, 2013, p. 48).

The amount of user data that TV or radio media can feedback to manufacturers is far less than what mobile games can record. Mobile games can track usage length, participation frequency in specific in-game activities and even subtle details like the number of times a player is killed by a boar. More detailed feedback data allows algorithms to create a more precise perceptual space for mobile gamers.

In this basic model, Lefebvre (2013) used the example of ‘modern television or radio’, which are instantaneous and require the user to turn them on to receive messages. Smartphones being more portable than televisions or radios, mean that the perceptual space generated by games can permeate almost all social spaces.

2.4 Online Intimacy

In Isbister’s (2016) view, when players immerse themselves in their in-game roles (avatars), the characters they play can collaborate to share a rich and genuine gaming experience, which makes the video game space create a kind of ‘real social interaction’ (p. 52). Isbister (2016) described that “the game worlds they create may be imaginary, but the social dynamics are not” (p. 53). However, building in-game relationships is based on structures present in the virtual world and does not a simply mirror real-world interactions (Huvila et al, 2010). In video games, the representation of a personal image is more related to game skills, character avatar appearance and the behaviour governed by game rules, rather than to real-world identity (gender, age, or physical stature,

etc.). Thus, the way people build relationships in the online games differs from how intimacy develops in reality.

For online game players, building intimate relationships in a game is a common experience. Yee's (2006) report showed that 66.3% of male players and 81.4% of female players have made strong friendships with people they first met in an online game, with many considering their online friends to be better than their in-person friends. Yee (2006) and Osborne (2012) argued that people have a higher tendency to self-disclose in an online game environment, which may lead to the development of higher-quality intimate relationships.

Role-playing in online games often features strong anonymity. According to Osborne (2012), this anonymity provides a safety measure for players to explore aspects of their identity. Her research on gender disparity in gaming included a participant named R033, who played a male role despite being biologically female. R033 used this male character to conceal her homosexual relationships. She explained that playing the game character gave her the opportunity to 'explore personas and actions that I am not allowed to comfortably explore in "real life"' (Osborne, 2012, para. [5.21]). This anonymity is supported by two main elements: pseudonymity and characterisation. Pseudonymity guards against the risk of being recognised in real life, while characterisation provides a natural mask for self-disclosure. This mask allows players to explore alternative identities and provides a sense of security, making them feel safer when revealing personal aspects of themselves.

The impact of in-game relationships on players is a controversial topic. Huvila et al. (2010) offered a relatively optimistic view; They adopted an early questionnaire about social capital in the real world to determine whether the virtual environment of Second Life[4] helps build social capital. Their results showed that Second Life is a profoundly social environment that enables residents to generate and contribute to social capital. The researchers categorised participants into two groups: producers and non-producers. Producers are individuals who consider themselves contributors to the virtual world. Huvila et al. (2010) found that the social capital indicators for producers were always higher than for non-producers. In their study, Huvila et al. (2010) concluded that online game organisation can function as "kind of spontaneous and voluntary community, or rather a compound of communities" (p. 311). Their research showed that the more players contribute to 'producing' something within the game, the more social capital they earn.

Yee (2006) also suggested that in-game relationships may have higher quality than real-life intimate relationships. He explained that players create idealised projections of each other, as he said:

> We focus on all the things we do agree on and the sense of compatibility is enhanced even though this would not have been the case if this meeting occurred in the real world. In other words, many relationships that would never have even begun in the real world have a far better chance of developing online (p. 8).

[4] An online video game that allows people to create virtual representations of themselves.

Yee (2006) also believed that in-game relationships encourage players to engage in self-disclosure, leading to deeper connections: “We get to know each other much more, we truly tell each other what we think/feel and you really create this amazing bond with one another. It’s much less superficial than some RL friendships can be” (p. 11).

However, some scholars have argued that players carefully select what they self-expose to their online friends. Steinkuehler and Williams (2006) described online games as a ‘third place’ for social interaction, in addition to the traditional environments of home and workplace. The concept of ‘third place’ originally came from Oldenburg (1999), who defined the home and the workplace as the first and second places, respectively, with the third place being social surroundings distinct from both. Steinkuehler and Williams (2006) identified the online gaming space as such a third space. They described that the tone of communication in this third space is playful and casual (Steinkuehler and Williams, 2006). For example, when a guild member attempts to introduce a serious topic, the other members quickly steer the conversation towards lighter and more enjoyable subjects. This ‘playful mood’ often prevents players from engaging in emotional and weighty conversations.

Online games provide players with sociality, social support (Trepte et al., 2012) and a safe space for exploring one’s true self (Osborne, 2012). However, not participating in game activities can lead to negative feelings, including a sense of loss (Domahidi and Quandt, 2015), a feeling of being control (Yee, 2006) and a sense of guilt towards fellow guild members (Hommadova Lu and Carradini, 2020). For instance, if a player cannot join a guild activity at the scheduled time, the player may feel ashamed and guilty towards other guild

members. The potential negative effects of video games are often related to the players' real-life situation. Players who lack social support in real-life are more likely to become highly engaged in video games (Domahidi and Quandt, 2015).

In addition, in-game relationships can also facilitate a form of immaterial labour. A notable example is the relationships within in-game guilds. Early research on game guilds often described them positively, highlighting their role in helping players develop social capital, expand social networks and explore new friendships, romantic relationships and community ties (Williams et al., 2006; Ang and Zaphiris, 2010). However, Zhang and Fung (2014) suggested that guilds may be alienation from being purely social places to mediating sites that form new labour relations between game players and game companies. As mentioned earlier in this chapter, guild managers sometimes use guild members as bargaining tools in negotiations with game companies and may receive benefits when a guild members spend money in the game.

Of course, trades between guild administrators and game companies do not always happen. Depending on the game structure, guilds can vary significantly in size, from small groups of 2–3 people to large groups of hundreds. The scale of the guild directly impacts the negotiation strategy of the game company. Many guilds place no demands on players, and organisers rarely engage in direct management. Thus, the conclusion drawn by Zhang and Fung (2014) that the strategies "companies have adopted to capitalize on the guild community have transformed the early guild culture of mutual support and collaboration into one of antagonism and contradiction" (p.

46) is not entirely accurate. This scenario mainly applies to part of large-scale guilds, which represent only a small percentage of the total player population. In other words, the early guild culture of mutual support and collaboration coexists with the competitive guild environment, forming a complex ecosystem rather than a simple dualism.

Zhang and Fung's (2014) research was focused on online games in China's political and cultural environment. Since the late 1970s, China's development has heavily relied on cheap labour, state monopolies and foreign investment (Hong, 2008). This reliance has stifled innovation across industries, including the game industry. Piracy and Shanzhai (a Chinese term referring to counterfeit, imitation, or parody products) have made it difficult for high-quality products to survive in the fiercely competitive gaming market. According to Cao and Downing (2008), many online games are mere copies and low-quality knockoffs of other successful examples. In such a highly capitalised, profit-driven game vendor environment, ethical considerations are often neglected. In this framework, guild members may experience being commodified, with their in-game relationships exploited to increase the value of these commodities.

In another aspect, online games also offer opportunities to redefine or develop existing relationships. According to Yee's (2006) survey, 19% of MMO players had played games with their family members (excluding romantic partners or spouses). The experience of playing together can reshape family relationships, Wen, Kow and Chen (2011) found that family members visited each other's virtual farms 3 to 24 times a day, while other forms of communication (e.g. face-to-face talks, phone calls, or emails) occurred only once or twice a week.

One participant (a 36-years-old daughter) in Wen, Kow and Chen's (2011) study stated, "This game [QQ Farm] opened a door to us to become farmers —the role we couldn't be in the practical world, it was exciting that we can plant and harvest just like a real farmer...We found more things to talk about and found more joy in our conversation" (p. 10). Thus, the content of online games can strengthen ties between family members and reshape the existing relationships.

Current research supports the idea that online games can strengthen family bonds in multiple ways. For example, Wen, Kow and Chen (2011) clarified that online games create a relaxed space for family members to engage in non-conflictual dialogue, helping to sidestep potential intergenerational value conflicts. Additionally, Boudreau and Consalvo (2014) conducted a study on Social Network Games (SNG) involving 163 respondents and 11 in-depth interviews. They revealed that players are more likely to help family members, even at the expense of their own gaming progress. Their research also suggests that SNGs provide a leisure space that helps family members engage together and feel connected with each other. Further, Wang, Taylor and Sun (2018) surveyed 361 parents through Amazon's Mechanical Turk. Their results showed that the frequency of family members playing digital games together positively correlates with family satisfaction and closeness. Families with poor communication benefit more from playing together than those with effective communication. Furthermore, Musick, Freeman and McNeese (2021) interviewed 20 individuals who had played modern digital games with their parents or children. They identified three main positive impacts of gaming on family relationships: "augmenting parent-child

relationship with friendship, promoting close connection by removing physical and emotional barriers, and facilitating quality time" (p. 15). They argued that digital games, as a common activity, can benefit the parent-child relationship and promote a 'democratized' (p. 20) family life.

Additionally, gaming together can increase intergenerational communication. Pecchioni and Osmanovic (2018) recruited college students and asked them to choose an immediate family member over the age of 55 to participate with them. The experimental group consisted of two subgroups: the first group had 182 participants who were instructed to play video games with their immediate family members for at least three hours a week, while the second group consisted of 88 participants who were asked to engage in conversations with their selected family member for the same duration. After the 6-week experiment, the first group reported stronger family ties, greater self-other overlap and a deeper understanding of each other's lives, knowledge and thoughts. The second group reported less significant effects in these aspects. This evidence suggests that playing games together can serve as an intergenerational bridge to maintain and enhance relationships between generations.

Pearce et al.'s (2022) research during the COVID-19 pandemic demonstrated how playing video games together can help family members cope with both communal and individual stress. They interviewed 27 families (including 33 parents and 37 school-aged children) who played Animal Crossing: New Horizons. The 90-minute interviews revealed that video games play a significant role in relaxation, anxiety relief and stress management. Playing games together was viewed as a communal coping behaviour that helped

family members deal with pressures. Respondents indicated that family members felt a responsibility to spend time together and needed a way to connect and pass the time. Communal gaming activities allow family members to connect with each other and with those who are physically separated, enabling them to ‘be together in games’ (p. 785).

In maintaining and developing existing relationships within the context of online gaming, real-time presence becomes less important. In Wen, Kow and Chen’s (2011) study, farm development in a game did not require real-time participation, as family members could visit each other’s virtual farms even when the other was not online. De Grove (2014) suggested that, in online game friendships, the discourse of the relationship is more important than the time spent together. This argument indicates that online games reshape both the methods and content of information transmission between parties in existing relationships, allowing these relationships to develop. According to Bengtsson et al. (2021), ‘experienced game player’ interviewees felt more relaxed in relationships facilitated by screen interactions compared with face-to-face interactions. This finding supports the idea that transitioning from reality to online practices may lead to changes in social relationships and how these relationships are maintained and developed in the digital age.

The relationship between humans and in-game NPCs can also significantly influence players’ in-game experiences. Isbister (2016) believed that rich and lively interactions with NPCs can create an anthropomorphic affective experience. She conducted an experiment focused on desert survival, where participants were informed that their plane had crashed and they needed to rank the importance of various items, such as a compress kit, a book, and a

raincoat. During the task, an NPC would try to convince participants to change the rank of these items using different strategies, including body postures and phrases of advice. According to the strategy of body postures and diction, the NPCs were categorised into four types: consistent dominant cues, consistent submissive cues and two mixed types (dominant body with submissive phrasing, or submissive body with dominant phrasing). The results showed that participants who interacted with the mixed-type NPCs were less likely to change their rankings, a trend similar to human-to-human interactions. In real-life social environments, consistency between verbal and body language is linked to honesty and trust. This human perception of consistency or inconsistency also applies to communications between humans and NPCs. Isbister (2016) explained that “to the extent that NPCs display human-like actions and reactions; we engage them using social norms and intuitive emotional responses” (p. 22).

Waern (2011) and Ganzon (2019) further explored how human players may develop relationships with non-human characters (NPCs) instead of other humans. Waern (2011) analysed 62 articles related to players’ romantic experiences with NPCs in the game Dragon Age. Many players admitted to falling in love with their targeted characters, despite fully understanding that these characters are fictional. Waern (2011) stated that the ‘love effect’ is embedded in players’ daily lives: some players wrote that they ‘regularly dream about (the non-player character), had trouble sleeping that night’. Waern (2011) referred to this phenomenon as ‘bleed-in’, meaning that “the player shares the emotions of the character” (p. 5). These findings underscore

how deeply virtual interactions can resonate with human emotions and shape players' perceptions and experiences outside the game.

In the context of mobile gaming, Ganzon (2019) highlighted the emotional labour experienced by female players in the mobile game Mystic Messenger. This game requires players to communicate with various in-game characters and develop romantic relationships with them. Ganzon (2019) argued that female players "consent to give their own time and money for the performance of emotional labor within in-game relationships" (p. 147), suggesting that this setup predisposes female players to develop emotional relationships with non-human characters.

However, the emotional connections between humans and NPCs may pose risks to human players. Southerton and Tomlinson's (2005) research on the Health and Lifestyle Survey in the UK showed that individuals may suffer from time disorders due to feelings of obligation. The realistic emotional experiences between NPCs and players may lead to a risk of humans developing a sense of obligation towards digital roles. This potential risk is discussed further in subsequent chapters of this thesis.

2.5 The Influence of Video Game Mechanics on Players' Daily Life

This section first introduces quest design in video games before exploring the effects of video game mechanics on players' daily lives. Espen Aarseth (2004) defined a,quest as "the player-avatar must move through a landscape to fulfill a goal while mastering a series of challenges" (p. 368). In most MMO games, quests typically require the player to complete a series of tasks, including killing a certain number of monsters, delivering messages, or helping

someone achieve a goal—in simple terms, a to-do list. The concept of the ‘quest’ became a standardised feature of game design around the mid-1990s. It was not an inherent mechanism but rather a tool created by game designers to communicate with players. Early game designs did not include clear quest instructions. For example, in games such as Tetris or Galaxian, player achievement was represented by scores, while games such as *Donkey Kong and Super Mario*, used the level system to encourage players to continue exploring through progressively challenging levels. Modern game design provides clear guidance on how to complete quests; game systems provide extensive assistance for players, including step-by-step guidance and in-game automatic navigation.

In the 1930s, American psychologist Burrhus Frederic Skinner (1972) designed a mechanical device for animal experiments. This device, known as the Skinner box, features a lever on one side of the box wall and a small hole beside the lever. When an animal presses the lever, a grain of food immediately falls into the box from the hole. After several repetitions, the animal forms a conditioned reflex to press the lever to obtain food. These conditioned reflexes are not natural but can be acquired through training. Some commentators have criticised the World of Warcraft (and many online games) as being akin to a Skinner box. Yee (2003) explained how ‘shaping’ in operant conditioning experiments works in the context of online games. Operant conditioning includes several schedules of reinforcement for animal behaviour: fixed interval schedules, fixed ratio schedules and random ratio schedules.

The fixed interval schedule means that animals receive a reward (such as food) at regular intervals, regardless of whether they perform the expected behaviour. In the context of the Skinner box, this means that, for example, a mouse gets a reward every 5 minutes, regardless of whether it presses the lever. Although Yee (2003) considered fixed interval schedules ineffective and rarely used in online games, after 21 years, popular video games have come close to applying this model, often referred to as ‘idle game’ or ‘idle mechanics’. The first idle game, Progress Quest, was created in 2002. Many elements of Progress Quest were similar to those found in the popular online game Endless Quests at that time. However, the significant difference was that the idle online game did not require players to take any actions—no clicking, dragging, or controlling the direction was necessary. The game had an automatic progress bar at the bottom of the screen, and when the bar filled automatically, players would receive equipment, items, experience, or whatever they would get in traditional online games. The creation of Progress Quest appears to mock traditional MMO games. The effort that players put into completing game quests and achieving milestones in traditional online games was simplified to an automatic progress bar. In other words, the role of the game player was no different from that of an automatic progress bar or a robot that functions autonomously.

In other examples, some idle games put little operational pressure on the player, but this does not necessarily imply reduced engagement with the game. Cutting, Gundry and Cairns (2019) highlighted a significant limitation of traditional game research: it often considers only single sessions of play from start to finish, without accounting for the frequency or regularity of play and

how gaming becomes integrated into daily life. Cutting, Gundry and Cairns (2019) surveyed 1,972 participants, with 67.5% reporting that they opened idle games ‘many times a day’. Many participants had been playing for an extended period, with 38.9% playing this game for 2–4 weeks and 24.9% for 1–3 months. In the game they studied, Neko Atsume, ‘waiting’ is an integral part of the gameplay. Specifically, it is a cat-collecting game, after players use the currency to buy items (toys or food), cats appear in the yard once the game is closed. As a result, the game progresses only when it is not being actively played.

The most notable finding from this survey is the redefinition of game engagement time. The authors highlighted that traditional gaming engagement was previously understood as active gameplay, but players can also engage with the game through out-of-game interactions, such as sharing it on social media. They introduced ‘checking frequency’ as a metric for analysing player engagement alongside ‘time spent’. This research demonstrates that in the design of idle model, a player’s non-gaming time is also considered part of game engagement and can become integrated into the gaming world’s time cycle. Although the fixed interval schedule may be considered an ineffective method of behaviour training in Skinner’s studies, it remains applicable to online gaming because idle games fill daily time gaps. Idle games prompt people to frequently check the game for automated progress, although this behaviour does not lead to an actual increase in in-game revenues.

In Skinner’s experiments, the fixed ratio schedule proved to be more effective. It involves rewarding the animal after a specified number of actions are

completed. This method could potentially be more applicable to other gaming scenarios where direct interaction is required to earn rewards. Yee (2003) considered experience points systems in online games as fixed ratio schedules. This system functions as a character reinforcement mechanism, where players earn experience points by completing in-game quests or defeating enemies. Once players accumulate a certain amount of experience points, their characters level up. Skilled players can roughly estimate how many experience points they need to reach the next level and translate this into specific actions, such as defeating a set number of monsters.

For the game designer, the ‘specified number of actions’ for geting reward may become the method of game monetisation. As Zagal, Björk, and Lewis (2013) introduced ‘dark game design patterns’, which are “used intentionally by a game creator to cause negative experiences for players which are against their best interests and likely to happen without their consent ” (p.7). Whether a game design pattern is considered ‘dark’ often relates to the time commitment required from players. Karlsen (2018) considered that games which encourage players to ‘waste time (and money) on mindless activities or into excessive gameplay or addiction’ belong to dark game design patterns. Games such as The WoW, FarmVille, and many online games exhibit similar characteristics. Under this design pattern, layers may be unaware of how much time or money the game requires, often spending more than expected. A typical example is the ‘pay to skip’ system, commonly found in role-playing mobile games. In these games, the fighting or collection process is often boring and repetitive. Players must pay to speed up or skip these autoplay animations. The design of these repetitive autoplay animations intentionally

creates a payable option to entice players to skip them. In there, the ‘specified number of actions’, such as fighting or collection the specific times, were artificially designed as intermediaries for game monetisation.

Another example of the fixed ratio schedule in games is the concept of in-game multi-layered and overlapping goals, which is emphasised by Yee (2003). Most games establish clear in-game objectives, allowing players to estimate the distance between their current status and potential rewards. Rarely do players focus on a single target at a time; instead, they pursue multiple goals such as gaining experience points, earning in-game currency, completing quests, collecting equipment or props, and developing skills. These goals coexist and often overlap, with the reward from one goal quickly contributing to another. Therefore, players are always close to achieving a goal and receiving a reward, yet they are seldom far away from obtain all of their aimed rewards. Each time a player completes a single objective, the system immediately assigns a new one. While individual goals are easy to accomplish, the overall network of goals creates an endless cycle.

Finally, in Skinner’s experiments, the most effective reinforcement schedule is the random ratio schedule. In this schedule, the relationship between receiving food and the number of lever presses is completely random. The mouse knows that pressing the lever will result in food, but it cannot predict how many times it needs to press the lever. Yee (2003) explained the random increase of skill points and the unpredictable penalties of death to illustrate the application of a random ratio schedule in video games. Several years later, around 2010, the introduction of gacha/loot box systems in games provided another example of a random ratio schedule.

The loot box is a random reward system that emerged with the transition of online games from time-based to item-based monetisation. Li, Mills and Nower (2019) described the loot box as a system where “players can buy loot boxes or keys to open loot boxes, which, in turn, may contain valuable in-game items to enhance gameplay” (p. 27). However, this description is not entirely accurate. Keys for loot boxes can be acquired through various means, including real-world purchases or in-game currency, and may also be obtained randomly in-game. In most cases, the first few keys to loot boxes are provided free, likely as a strategy by game designers to familiarise players with the mechanism of the loot box. The similarity between loot boxes and gambling has been widely debated among game studies scholars. In their review article, Brock and Johnson (2021) highlighted how this phenomenon reshapes video game production and consumption. Johnson and Brock (2020) argued that the unpredictable reward element of loot boxes is a longstanding design feature in game development. The core distinction that fuels the gambling controversy is the ability for players to use real-world currency to purchase these boxes. They described the blurred boundary between gambling and digital gaming experiences as the ‘gambling turn’ in the monetization of digital games.

Brock and Johnson’s (2021) research further explores the evolving consumption patterns at the intersection of gaming and gambling. They noted that this emerging field sits at the crossroads of three distinct disciplines: consumerism, game studies, and gambling studies. As they explained, ‘consumption scholars address economic, sociological, and psychological phenomena, game studies scholars foreground humanities approaches and

close textual readings, while gambling studies scholars pursue models of pathology and deviance' (p. 9). The interdisciplinary nature of this field, coupled with the rapid development of the gaming industry, calls for more nuanced and critical approaches to studying the gaming-gambling intersection.

In early research on the relationship between online game patterns and the Skinner Box, Yee (2003) analysed the three operant conditioning schedules separately. However, in contemporary free-to-play game design, some mechanisms are closer to a combination of multiple patterns. The Battle Pass represents a new type of monetisation approach for online gaming that has gained minimal scholarly attention. It originated with Dota 2's eSports tickets and was widely promoted by Fortnite. The prototype of the Battle Pass model, as seen in Fortnite's new season update on December 14, 2017, has since become a popular game design strategy (as of July of 2024). According to Joseph (2021), the Battle Pass is a seasonal business timetable that indicates "when games will be updated with content and events" (p. 69). This new game monetisation strategy provides players with the opportunity to earn rewards for completing specific actions within a time limit. A typical Battle Pass offers two parallel reward paths: the first is free, and the second requires payment. Each time a player completes a quest (or wins a battle), they receive Battle Pass points, which accumulate on the path to rewards. Many of these rewards include loot boxes. The Battle Pass represents a hybrid of a fixed-interval schedule and a random ratio schedule. Players are aware of how many points they need to progress to the next stage, and part of the rewards content is loot boxes keys. Joseph (2021) viewed the Battle Pass as a showcase for purchasable items and an incentive for players to engage more deeply in the

monetisation of the game. He noted that gameplay and monetisation strategies are increasingly intertwined, demonstrating “how games are now shop” (Joseph, 2021, p. 81).

Yee (2003) believed that the online game environment functions as an interconnected network of Skinner boxes system, which he refers to as a Skinner Network. In his view, individual Skinner boxes are not particularly interesting, but the Internet and online games link all of these boxes together to form a social network. Each Skinner box is tailored to the player’s needs and reinforcement schedule, and the owners of the boxes can interact with each other. His description bears a resemblance to *the Matrix,* where everyone is isolated in their nutrient vat yet able to interact with others in a digitally constructed world.

The essence of the Skinner box is a training system that motivates behaviour through rewards. The reward and ‘level up’ systems of online games are essentially endless. Thus, behavioural training never ends. For skilled players, the cost of switching from one game to another is relatively low, which means their trained experience is not lost but rather transfers from one game to another. This trained ability is what Keogh (2014) calls ‘embodied literacy’. The following section continues exploring research on game embodiment and examines how these digital experiences shape player behaviour and skills across various gaming platforms.

2.6 The Game Avatar and the Embodied Experience of Gaming

2.6.1 The Avatar in Gaming

When new players first log into a mobile game, they are usually required to create a character. Within certain limits, a player can adjust attributes such as gender, appearance and sometimes race and background. After these adjustments, the player can usually customise the full name of the character. This adapted character often becomes the character that the player controls. In this process, the character created by the player is often referred to as an 'avatar'.

Game studies showed that avatars have a close relationship with the human self. According to D'Aloia (2009), the avatar is:

> "an extension of the player's own body and entertains a prosthetic relationship with it; it incorporates the player and disciplines his/her body. It is the embodied manifestation of the player's engagement with the game world; it is, at the same time, a reflection of ourselves and an envoy of ours in the parallel world in order to conquer new territories and retake possession of the lost world" (p. 51).

Klimmt et al. (2009) described that players perceive a game's main character as "a merging of their self and the game protagonist" (p. 354) rather than as an independent social entity. This view is reflected in the descriptions provided by the interviewees in this thesis, where the merging of the human self with the game avatar appears nearly indistinguishable.

Further, Boellstorff (2010) explored the role of avatars in the game world and established a framework for understanding the player's virtual body. Boellstorff (2010) emphasised that a game avatar does not merely represent a human body; rather, it forms a type of embodiment that constructs

emplacement within a virtual world. The presence of the avatar is an embodiment of one's presence in the digital world; it is "the locus of perception and sociality" (Boellstorff, 2010, p. 507). According to this perspective, the digital avatar and the virtual world constitute each other. The virtual body (avatar) is the bearer of all digital activities which make human interaction in the digital world possible. Expanding on this concept, Boellstorff (2010) cited Merleau-Ponty's (1962) opinion on phantom limbs to draw a parallel. Merleau-Ponty's (1962) stated,

To have a phantom arm is to remain open to all the actions of which the arm alone is capable; it is to retain the practical field which one enjoyed before mutilation. The body is the vehicle of being in the world, and having a body is, for a living creature, to be intervolved in a definite environment, to identify oneself with certain projects and be continually committed to them. (Merleau-Ponty, 1962, p. 81–82).

This parallel highlights that just like a phantom limb, the avatar serves as a conduit for sustained engagement and identity in the virtual world.

Expanding Merleau-Ponty's (1962) view of the digital world, avatars imply the intervolvedness of a virtual environment. In other words, the performance of embodiment involves actions intertwined with the practical field. The imagined limb or avatar is not merely a conceptual entity but carries an individual's ability to perceive and interact with the external world. The body self-constructs the person's being-in-the-world. Boellstorff (2010) quoted Heidegger's term of 'dwelling' to analyse Merleau-Ponty's (1962) view of 'being-in-the-world'. Merleau-Ponty (1962) explained embodiment as "a thing

in objective space, but as a system of possible actions, a virtual body with its phenomenal “place” defined by its task and situation. My body is wherever there is something to be done” (p. 250). According to this argument, Boellstorff (2010) used the term ‘indexicality’ to support the idea that virtual bodies influence or change the digital world. Indexicality links the actual bodies and the subject’s emplacement in perception and social landscapes and articulates the dwelling relationship between embodiment and place. This argument proves the significance of virtual bodies or ‘being in the world’ in digital form and reconfigures or concretises longstanding notions of humanity. From the perspective of phenomenology, the presence of digital avatars connects human embodied experiences in both the physical and game worlds. The following subsection details studies on game embodiment.

2.6.2 Game Embodiment

Research on embodied experience can be traced back to Sudnow (1983). His book written during the era of arcade games, describes a time when game screens featured simple lines, blurred photos and minimal text—far from the rich, high-fidelity imagery of modern games. However, Sudnow (1983) used an almost immersive style to describe his interactions with other participants and games. Sudnow (1983) described that players in front of their TVs, like commanders, intercepted missiles, produced bombings, guarded cities and saved the world from a room in their house close to the kitchen.

Sudnow (1983) discussed how through practice, players develop in-game techniques to achieve their goals. Actions such as timing missile launches or hitting a ball grow into microscopic, concrete, perceptible skills embedded in

the player's body. The performance of human organs is transmitted from a three-dimensional physical space to a miniature screen world, displayed with the image, line, or movement of in-game items. Actions to cope with specific game mechanics become 'embedded' (Sudnow, 1983, p. 101) into the human body and transform into natural reactions to corresponding game situations. This process constructs the learning of gaming skills in the out-of-game human body.

The body records various behaviours related to the body, including eye movements, finger trajectories, heartbeats and blood flow. These behaviours are crucial for the player's in-game character improvement, which is achieved through a continuous 'Repetition–Feedback' process. This process helps the player's body adjust to a model that enhances interactions with the game. Sudnow (1983) described this process as 'programming' (p. 46) for the human player. He regarded gameplay and game narratives as "scripted interactions with various sorts of computer-generated events" (p. 46). Through interaction with these events, human body organs, such as eyes and fingers, learn complex skills through long-term repetition.

Sudnow's (1983) argument about the process of the body developing gaming-related skills is similar to the concept of the 'symbiotic circuit' argued by Friedman (1995) in his article about game interactive textuality. In this article, Friedman (1995) described the feeling of being 'lost' inside a computer game as "flowing through a continuous series of decisions made almost automatically, hardly aware of the passage of time, the player forms a symbiotic circuit with the computer" (p. 8). In this framework, Friedman (1995) regarded the computer as an "organic extension of one's consciousness" (p. 8)

and suggested that players may also feel themselves as an extension of the computer. The process of a player taking an in-game role—such as mayor or industrialist—reflects how players internalise the game program into their consciousness.

In a subsequent essay, Friedman (1998) expanded and clarified the specific processes of cyborg consciousness. He defined the interaction process between humans and computers as “computer games teach structure of thought” (Friedman, 1998, p. 136). In this process, players are encouraged to learn and predict computer logic to outperform it. While Sudnow’s (1983) concept of ‘programming’ focuses more on bodily movements, Friedman’s (1998) argument emphasises how games shape mental structures, cognition and perception. Friedman (1998) argued that player pleasure comes from entering a ‘computer-like mental state’ (p. 136) and replacing sentient cognition with ‘thinking like a computer’ (p. 136). He described this interaction between player and computer as ‘melding’.

Building on the ‘symbiotic circuit’ concept presented in 1995, Friedman (1998) introduced the term ‘cybernetic circuit’ to describe the ‘player-game’ relationship—a constant feedback loop that stimulates continuous play. Within this framework, the computer responds immediately to the player’s inputs, and the player reacts to the computer’s responses, creating a perpetual loop that blurs the distinction between the player’s consciousness and the computer’s logic. The act of logging into the game is viewed as the moment when a player transcends their physical body. Friedman (1998) described this process as “alienation” (p. 138) for refusing and recognising the physical experience, which also leads to rethinking cyborgs (Haraway, 1985), a hybrid

of machine and organism. The connection between a game and a player creates a cybernetic link that maintains the cyborg state, expanding new kinds of stories and new forms of understanding, unlike conventional media. Building on Friedman's (1995, 1998) ideas, Giddings (2007) inherited the term 'cybernetic circuit' and argued that "to play a digital game is to plug oneself into a cybernetic circuit" (p. 1). He proposed that a cyborg functions as an 'augmented body' that extends human nerves, senses and motor actions from bodily systems to the "prosthetic devices and environments of controllers, dance mats, and virtual worlds" (p. 5).

Keogh (2014) posited that analysing video games through the lens of 'gameplay as a cybernetic circuit' is one of the 'most fruitful' approaches. He conceptualised the 'text' of a video game as a cybernetic circuit that bridges both actual and virtual worlds. Keogh (2014) also viewed this cybernetic circuit as primarily serving the embodied pleasure of the player, whose body is "distributed during play across actual and virtual worlds via the video game hardware" (p. 4). Video gaming represents a mixed state of the player and the game. Thus, the game player should not be understood as a separate entity from the game, but rather as "a component of the video game text" (p. 15), "redistributed across a network of information and actors and materialities" (p. 15). During gameplay, the player "embodies a hybridized body, incorporating flesh, hardware, and virtual objects and beings into their corporeal schema" (p. 15).

Following this premise, the player and the game must be analysed as a singular, inseparable whole. Swink (2009) described how an action game's assault rifle feels 'meaty' and a driving game car feels 'heavy'. The outputs of

a video game are received by the player's physical senses (sight, hearing and touch), and then the player's bodily actions are inputted into the game hardware (e.g., keyboard and controller), changing the game's audiovisuals.

The player's feelings during gameplay are described as "an embodied pleasure caught in an intimate coupling of bodies" (Keogh, 2014, p. 16). This pleasure arises from the actions on the game screen and the player's perception of reality in the physical world. Hence, Keogh (2014) used the phrase "meshing of materially different bodies into a single, cyborg body"(p. 16) to describe the symbiotic relationship between the player's flesh and the video game. He emphasised that video game analysis should not isolate the player's physical body nor focus solely on the world within the screen. Instead, the text of the game must be understood from a 'distributed, cyborgian, embodied perspective' (p. 16).

Four years later, Keogh (2018) proposed a more detailed and comprehensive framework for understanding the gaming body and embodied experience. Keogh (2018) described the confusion experienced by players oscillating between the systems of human flesh and game hardware, lights and sounds. He stated:

> For the video game, as for me, just who I am in this collection seems to flicker between bodies and between worlds. I am both Iota and myself; I am both here and there... This virtual world is not my world. It is not, truly, a world at all. Yet I perceive it as if it were a world, and I engage with and feel some sense of presence in this world as if I somehow enter it. But I don't enter it. (Keogh, 2018, p. 2)

This narrative demonstrates the dual existence of the player, existing simultaneously in both physical and digital worlds, with a sense of embodiment that spans both on-screen and off-screen environments.

Keogh (2018) described the video game experience as an ‘embodied textuality’ (p. 21), referring to “the synthesized embodied experience of audiovisual design, video game hardware and the player’s physical body constitute the site of meaningful engagement with the video game” (p. 21). The embodiment in video games is reflected in the mutual relationship between player and game, existing within the ‘player-game’ assemblage, rather than as separate and independent subjects and objects. The player is not merely a manipulative entity but rather exists symbiotically with and is in a sense created by the video game. From Keogh’s (2018) perspective, neither the player nor the game exists as a pre-existing whole; rather, both are defined by their relationship to each other. In the dynamic and ongoing ‘player-game’ relationship, the shared frame between them shapes the player and is shaped by the player simultaneously. The human body is not stable and essential but is an essentially unstable intercorporeal entity continuously mediated by interactions with other human and non-human bodies. The human being-in-the-world comprises the intercorporeal assemblage of objects (such as video games) and the body. The experience of embodiment arises from the ongoing process of integration with multiple corporealities. Just as a blind person uses a cane to interact with the external environment, electronic devices (such as computers and mobile phones) are incorporated into the player’s self and become part of the being-in-the-world.

One key argument regarding this integration is the combination of input devices (for games) and the human organism. Keogh (2018) noted that while playing video games, his thumb 'effortlessly' and 'unconsciously' moves from 'X'[5] to 'Square' to command his character to move, jump and kill enemies. Meanwhile, his housemate struggles to comprehend how he accomplished this. When Keogh (2018) tried to observe his own actions on the gamepad, he realised that these movements were unconscious. His thumb would "roll down and then to the left" (p. 76) without him consciously directing it, while his brain focused on in-game actions such as jumps and spins rather than the physical movements of his fingers on the gamepad. The connection between 'in-game activities' and 'specific gestures entered on specific devices' should be recognised as an ability which Keogh (2018) referred to as 'embodied literacy'. The process of a game player learning how to interact with a video game through repetitive practice corresponds with Henri Lefebvre's (2013) description of 'dressage' (this thesis further discusses the related content in the analysis chapters).

Video games teach and train players in a set of perceptual and interaction methods (skills) to the player through repeated practice until the player considers them normal. Specifically, the buttons on a gaming device (such as circle and triangle) do not have a logical connection[6] with the in-game actions. The process through which players establish a link between these buttons

[5] Buttons on a video game controller typically include four buttons on the right side of the joystick: O, X, Triangle, and Square.

[6] In the current era, the logic of the gamepad varies between Europe, Japan, and Hong Kong. The same in-game action, such as jumping or attacking, may correspond to different buttons in the same game across these regions. As Keogh (2018) noted, "In the late 1990s and early 2000s, it was common for PlayStation games made in Western countries to use the X on the gamepad as a confirmation button in menus and Triangle as a cancel button. Japanese video games, however, used O as a confirmation button and X as a cancel button" (p. 94).

and their corresponding in-game actions through repeated practice is ‘dressage’ described by Lefebvre, rather than occurring ‘naturally’. In this process, the game device, such as a gamepad, becomes integrated into the schema of the human body, effectively merging technology with physical intuition.

Chess (2005) conducted research based on the video game GTA to demonstrate the process of player learning. She argued that the in-game disciplining mechanisms operate through three aspects: space, time and the docile body. First, in both the digital and physical worlds, the player’s perception can be affected by the game. In the game world, players must navigate within the limitations of the game map and narrative. Completing a mission grants the player more freedom to unlock additional content. Simultaneously, the player’s physical body must remain stationary, staring at the PC or TV screen. Second, the game design uses time as a metric to measure a player’s skill. The time taken to complete a mission serves as a stable measure to distinguish between good and poor performance. Third, repeated in-game practice within the game trains players to learn the functions of the buttons on the control device. When players need to act in the game, they must press the corresponding button with precision. Through this process, players’ bodies learn the rules of the game. In her article, Chess (2005) argued that video games train players to use their bodies (hands, fingers, eyes and ears) to achieve game goals. The method of playing is not ‘automatically intuitive’, so the player must learn the standard gestures to “acquire the necessary automatisms” (Chess, 2005, p. 84).

This process of training and growing the ability to interact with the game is similar to the concept of ‘embodied literacy’ proposed by Keogh (2018). For Keogh (2018), the term ‘embodied literacy’ refers to a “knowledge that has sunk beneath consciousness” (p. 91), an ability to link specific gestures, actions and tool interactions with in-game events. The gameplay logic across different video games resembles a ‘performative grammar’ (Keogh, 2018, p. 91). Experienced players can easily interpret the text presented by different games through a conventional spatial syntax of the input device. It is a body-based language and grammatical system that must be mastered through learned experience. As Keogh (2018) argued,

> it is to perceive virtual spatialities and physicalities through the resistances, textures, distances, and movements of plastic under thumb and finger. Such literacy does not come naturally but is instilled through the ritualized repetition of behaviors and the sensitization of the body. (p. 107)

Keogh (2018) further emphasised the importance of repetition and discussed the concepts of cyclical and linear rhythms from Lefebvre’s (2013) rhythmanalysis framework. He describes gaming as a constant, cyclical process interspersed with linear repetition (Keogh, 2018). This includes “failing and trying again, the repeated switching on and off again of digital buttons to perform the same stop–start actions on one level after another” (Apperley, 2010, p. 40). The player’s body adapts and incorporates gaming within these cyclical processes and linear repetitions.

Although Keogh (2018) primarily focused on the process of players dying and trying again during gameplay, he clarified that the focal circuit between the player's body and the video game hardware is "always already situated within particular material and social contexts" (p. 147). This circuit is "a subsystem that branches out and is situated in much broader networks and rhythms. The experience of time in video game play is always already embedded in and mediated by the rhythms of the player's everyday life, not detached from them" (p. 147)

When the time in a video game 'progresses' through repeated rhythms, it always wraps around itself (Keogh, 2018). The experience of gaming is, therefore, part of the experience of daily life. According to Keogh (2018), the player does not 'step into' a new body or world but enters a 'partial becoming' (p. 199). Playing video games involves a "distributed, immanent, and partial lived" (p. 199) experience. The player's body undergoes a cyborgian embodiment through the digital and physical worlds, with the cyber avatar and physical flesh in an imperfect and unstable form.

After Keogh's (2018) argument, Brock (2022) discussed phenomenology in game studies, introducing four case studies to understand the gaming body. The first case study includes Keogh's (2018) experience of playing Audiosurf[7] and how playing this music game translated into embodied practices. The second case study involves James Ash's (2013) research on how gaming environments cultivate a feeling of captivation and apply Heidegger's concept of attunement and Stiegler's applications of retention in the gaming body. The

[7] Audiosurf is a music-adapting puzzle racer game that allows players to create unique experiences with their own music. The player can influence the shape, speed, and mood of each ride by choosing specific tracks (AudioSurf on Steam, 2008).

third case study, by Brock and Fraser (2018), investigated gaming craft and how players develop skills or 'craft' through the movement of their hands and fingers in the game Defense of the Ancients 2[8]. The final case study by Bennerstedt and Ivarsson (2010) examined how players coordinate through avatars in MMO games.

In his article on Call of Duty 4[9], Ash (2013) demonstrated how game mechanics encourage players to develop skills and knowledge. Ash observed the growth of two players from inexperienced beginners to competent and skilled players. Ash (2013) proposed that the game provides an organised and commodified form to the body's sensual and perceptual relations. The user's body occupies a central role in Ash's (2013) analysis. Building on Heidegger's concept of 'attunements', which refers to "the fundamental ways in which we find ourselves disposed in such and such a way" (1995, p. 67) and "how according to which one is in such and such a way" (1995, p. 67), Ash (2013) further explained attunements as "complex assemblages of bodily capacities and cognitive processes, which work together in skilled gameplay" (p. 14). In his analysis, this process is realised through the development of bodily and cognitive skills educated by game mechanics.The user adopts both somatic and analytic attunements during gameplay. Somatic attunements are reflected in the player's development of hand-eye coordination and control of the muscle groups in the hands to move the crosshair to an exact point on the screen. Analytic attunements appear when users move their avatars to specific parts of the map based on intuition nurtured by past experiences.

[8] Defense of the Ancients 2, commonly referred to as Dota 2, is a multiplayer online battle arena game. The core gameplay involves two teams of players competing against each other on a map.

[9] A first-person shooter game set in a modern-day context.

Thus, when the user tries to defeat others or avoid being defeated, they draw upon both types of attunements.

Brock and Fraser's (2018) gaming craft theory focuses on how players "apprehend, name, and reflect on their practices" (Brock, 2022, p. 15) and how players develop creativity and strategy through craft labour. In Brock and Fraser's (2018) analysis based on Defense of the Ancients 2, they described how players understand the rules of the game through the interaction between their bodies and input devices (mouse and keyboard). By reflecting on and learning from mistakes, players coordinate the information obtained from the game screen with their bodily movements to adjust and improve their personal actions. Thus, gaming skills result from creative thinking and extensive practice involving precise movements of fingers, shoulders and eyes.

In another research perspective, Bennerstedt and Ivarsson (2010) analysed text-based chat in the MMO game Lord of the Rings Online. Through 90 hours of participant observation of player group activities, they found that players cooperate on missions in the virtual world through a series of situated practices. Their research focused on how online actions, which do not originate from the physical body, are recognisable in online group activities. During gameplay, players follow a shared order based on situated practices that allow them to recognise the meaning of specific actions in given in-game scenarios. For instance, when a player's avatar displays a specific kneeling position, other players immediately understand it signifies setting up a trap, prompting them to stand behind the trap setter, reorganise and maintain group formation. Similarly, when an avatar in the group draws a weapon and

appears ready to fight, other players immediately look around and search for the enemy's location.

Bennerstedt and Ivarsson (2010) pointed out that players often regard specific in-game actions as 'precursors of unfolding events' (p. 223) and take subsequent actions based on their projections of possible future scenarios without verbal communication. They argued that players can project the next action using various resources, not limited to turn-taking in conversations or physical body actions. This skill may depend on a player's proficiency in the game or the amount of time invested in it. However, in general, people can learn to use communication systems that are independent of their physical bodies.

Different research studies on game embodiment have shown that research is a complex and multifaceted field. These studies covered various aspects of game embodiment study, including players' bodily perceptions and engagement in gaming, the interaction between input devices and players' senses, gaming craft and the development of gaming skills. The popularisation of mobile gaming has also introduced new contexts for related research. Farman's (2009) article on the embodied experience of mobile gaming, particularly in location-based games, demonstrated that the daily experience of mobile gaming involves "navigating the correspondence or disjunction between the physical landscape and the digital landscape" (p. 4). In this context, the player's presence becomes a discontinuous patchwork between the virtual and real worlds. The active play with the 'proprioceptive-semiotic' body embodies the socio-cultural texts produced simultaneously with the hybrid digital-physical space. This body is defined as "phenomenology

converging with the inscripted body-as-text in a world of stimuli and signs" (p. 5), existing in the hybrid augmented space landscape.

Hjorth and Richardson (2009) emphasised the concept of '(tele)presence' in mobile gaming embodiment and engagement experiences. A person may simultaneously interact with others in reality and live in the game. Daily gaming occurs within the gaps between productive and telic or goal-oriented activity. Hjorth and Richardson (2009) argued that mobile phones are a device to achieve the 'body-in-waiting' proposed by Bissell (2007). In public spaces, mobile games create a state of constant interaction with the screen, which allows players to reach a common social understanding with strangers to avoid direct interaction, while still maintaining 'environmental knowing' and an 'open' approach to the external environment to respond to external changes. Mobile gaming collaboration reveals a kind of labour that can fill temporal gaps in daily life. Further, Keogh (2018) proposed the term 'co-attentiveness' to describe the embodiment of mobile gaming. This term is defined as "the player pays attention to two worlds at one time" (p. 54). It means the player exists in hybrid worlds, that are 'not created in the way one world distracts us from another but in the way the player's attention is held by two worlds simultaneously' (p. 67).

The development of mobile gaming has exposed the 'actual/virtual' circuit, which is often obscured in traditional gaming. It clarifies that game players simultaneously allocate their attention in a hybrid 'virtual-reality' space. Keogh (2018) also emphasised mobile gaming's lower requirement for player attention—in other words, the "video game player is able to perceive the screen space as a virtual world while remaining consciously aware of the

presence of the actual world they are situated in and moving through" (Keogh, 2018, p. 54). This dual awareness leads to a multi-dimensional perception. This collaborative perception should not be seen as one world distracting from the other. Instead, it creates a state where the "player's attention is held by two worlds simultaneously" (p. 67). Keogh (2018) refers to this as 'immersion as distraction'. This seemingly paradoxical term describes the essence of co-attentiveness in mobile games: the player is touching, perceiving and paying full attention to both physical and digital worlds simultaneously. The player's palms touch the screen and interact with the images on it, while the player's 'distraction' is not a prerequisite of mobile gaming but an unavoidable result.

Each world, whether physical or digital, can absorb the player's attention and disrupt the equilibrium, causing the player to lose primary focus on the other world. This creates an unstable equilibrium. In the balancing process, players realise the presence of mixed attention and the assemblage between the actual and virtual worlds and bodies. The game scholars' articles on the embodied experiences created by game-player interactions provide a solid theoretical foundation for this thesis. Building on this foundation, this thesis focuses on the migration of bodily interactions from gaming time to other moments in daily life. In Sudnow's (1983) research, gaming time and space were distinct from other events. While the player was seated in a small room, other guests, the chef and the party continued outside the gaming space, with game and non-game events remaining separate and rarely interfering with each other. However, the popularisation of mobile gaming has increased the extensibility of gaming in both space and time. As Hjorth and Richardson (2009) and Keogh (2018) have shown, mobile gaming allows players to

engage with or leave the game at any moment in their daily lives, not just when sitting in front of a computer or at a desktop. Thus, the link between players and games is no longer spatially and temporally deterministic but has become available at all times in everyday life. Therefore, game researchers need to shift their focus from a slice of determined and separate ‘gaming time’ to the context of everyday life. The relationship between gamers and games is intertwined with their daily lives; their choices to engage or leave are influenced not only by the game but also by their external environment.

For example, players may engage in mobile gaming between lectures, on the bus, during lunch breaks, or even simultaneously with working, studying and other social activities.[10] As Keogh (2018) mentioned, mobile players construct the ‘actual/virtual’ circuit and operate in a hybrid ‘virtual-reality’ space as part of their daily routines. Building on this premise, the contributions of previous studies on embodied experience—such as the repetition to train players’ skills, the internalisation of computer logic and the effects of avatars on players—can be applied to how players adapt, arrange and learn to integrate gaming into their daily lives both temporally and spatially.

Building on Keogh’s (2018) research, this thesis further develops the rhythmanalysis framework in the context of mobile game studies. This framework refers to the series of physical training produced by the ‘player-game’ interaction, the skills players develop, their gaming schedules and the physical or mental patterns that evolve to accommodate mobile gaming, all of which contribute to a game-based rhythm. This thesis aims to construct a comprehensive picture of the interaction and mutual influence between game-

[10] These examples were derived from participants’ descriptions during data collection.

based rhythms and everyday life outside of play. From this perspective, the impact of mobile gaming on players is not a momentary force occurring only in the present. Instead, it represents habits, behaviour patterns and time-use strategies cultivated through countless repetitions over time. These habits and patterns, or the mechanisms of learning and formation, can be understood through Lefebvre's (2013) rhythmanalysis. The introduction of this core theoretical framework effectively explains players' management of game time and space and the recurring and ongoing negotiation of game and non-game events in everyday life. It also extends the impact of games on players more explicitly to the entirety of an individual's social lifetime. In addition, this thesis also addresses game embodiment research from two perspectives.

First, Keogh (2018) discussed everyday synesthesia in creating the game feeling through multi-sensory compounding. The feelings evoked by video games are a combination of visual, auditory and tactile perceptions. Even when players cannot actively interact with the game, such as during a cutscene or another player's turn, they should still be considered actively engaged in the audiovisual play space. He clarified that the engagement between eyes and screens, muscles and input devices and ears and speakers is a form of perceptual engagement that is intertwined with a video game's form. In Chapter 4, I analyse how mobile games' automated mechanisms encourage players to multitask. This state covers the attention engagement between players and games even when they are not physically interacting with the game. Just as the skin's tactile sensations can be subordinated to the fingers, the flow of attention can be understood as originating from the brain. In this context, the perception of time management

and attention allocation related to mobile gaming should be regarded as part of the everyday synesthesia that games create for players. Thus, the everyday synesthesia of mobile gaming may occur in a broader socio-temporal context.

Second, with the development of popular game design, the game mechanics related to daily repetitive gaming experiences have evolved. For example, the experience of avatar death and Save/Load mechanisms address the temporal experience of PC or console video games. Keogh (2018) demonstrated that the repetitive experience led by the player character's constant death embodies the flow of rhythm and time during play. In contemporary mobile gaming, however, few mobile games focus on player death or failure, and they generally do not support Save/Load mechanisms as in single-player games. The passage of time in mobile games is single-threaded and synchronised with the social clock. Players are rarely punished for failing during gameplay. In games that do not encourage direct competition between players, daily tasks or repeated dungeon runs are more common than failure. Compared to the single-player game era, players are less worried about the risk of death or failure and more anxious about losing rare in-game items or currency updated in real-time. Time is still used as a form of punishment, but not in the way Keogh (2018) described single-player games, where it "dismisses the time invested from the previous save point to the character's demise" (p. 153). Instead, it encourages players to complete repetitive content within a specific period or measures how much longer players must spend to acquire precious in-game resources. On the Chapter 4, this thesis introduces contemporary common mobile game mechanics, including daily goal systems,

Battle Passes and daily log-in systems, to analyse the game-based rhythm and its influence on players' daily lives.

The following section elaborates on Lefebvre's (2013) rhythmanalysis theory framework and outlines the necessity of adopting related concepts for a deeper understanding of the research questions in this thesis.

2.7 Development of Lefebvre's Rhythmanalysis Theory on Daily Life Research

This section discusses Henri Lefebvre's rhythmanalysis theory to analyse the role of freemium games in daily life. In the early twentieth century, French Marxist philosopher Henri Lefebvre introduced the concept of 'rhythms' to develop his critique of everyday life. Lefebvre's (2013) analysis of rhythm begins with the human body, which he described in terms of "respirations, pulses, circulations, assimilations – durations, and phases of these durations, etc"(p. 5). He employed a method of reasoning that starts with full consciousness of the abstract to arrive at the concrete in order to elucidate the existential nature of rhythm in everyday life.

Rhythm, according to Lefebvre (2013), is a measure of time allocation that illustrates how individuals organise their presence within social practices. He described it as the "most personal, most internal' aspect of life, which is both internal and social" (Lefebvre, 2013, p. 76). In his view, a rhythm points to temporal and spatial repetitions in everyday life, and these repetitions themselves create the rhythm. The back-and-forth pattern is not an entity but a certain immaterial presence that is difficult to perceive objectively by those who are attached to it. To some extent, rhythms are repetitions and can be

defined as “movements and differences within repetitio” (Lefebvre, 2013, p. 90)’. Lefebvre (2013) introduced the concepts of the ‘cyclical’ and the ‘linear’ to describe diverse forms of rhythms in everyday life.

First, the ‘cyclical’ rhythm originates from natural phenomena, such as tides, celestial movements, the alternation of day and night, and the changing of seasons. Lefebvre (2013) described it as:

‘The processes and movements, undulations, vibrations, returns, and rotations are innumerable, from the microscopic to the astronomical, from molecules to galaxies, passing through the beatings of the heart, the blinking of the eyelids and breathing, the alternation of days and nights, months and seasons ’(Lefebvre, 2013, p. 76).

These cyclical rhythms or periodic repetitions are inspired by the natural world. However, a significant proportion of cyclical rhythms are also artificial, such as the movement of crowds to and from tourist attractions and rush hours for commuting. As Lefebvre (2013) stated:

> “These last rhythms (schoolchildren, shoppers, tourists) would be more cyclical, of large and simple intervals, at the heart of livelier, alternating rhythms, at brief intervals, cars, regulars, employees, bistro clients. The interaction of diverse, repetitive, and different rhythms animates, as one says, the street and the neighborhood” (p. 30).

The rhythms of tourists, children and shoppers are cyclical, and their appearance and disappearance are based on a scheduled timetable. The order or repetition produced by the rhythm itself highlights the division of

labour and the distribution of productivity in society. Under this social rhythm, leisure time also becomes part of the production. As Lefebvre (2013) explained, ‘leisure activities are also produced (and productive), although they are proclaimed free and even “free time”’(p. 32).

The linear rhythm originates more from social practices and represents an ‘imposed structure’ (Lefebvre, 2013, p. 8), governed by clock time. For Lefebvre, it is a “series of identical facts separated by long or short periods of time” (2013, p. 76). Lyon (2018) described it as “quantified and fragmented time, imposed by technology, industry, and consumption” (p. 35). This research contextualises Lyon’s (2018) viewpoint which suggests that a series of in-game repetitive behaviours is designed to encourage more in-game payments.

These two styles of rhythm—cyclical and linear—are not in opposition but rather exist in unity within their opposition, interacting and interfering with each other. They form a relationship of mutual comparison and measurement, where one is the measure of the other and vice versa. Although this study highlights the prevalence of cyclical and linear rhythms in mobile games, the two are inseparable and cannot be completely distinguished. They exhibit inter-containment and cross-referencing within games. The composition and interaction of diverse rhythms from different parts—much like the organs of the human body—construct a cohesive ensemble. The process of rhythmanalysis integrates these rhythms from various sources into an analysable state of being. As Lefebvre (2013) stated, “ the act of rhythmanalysis integrates these things—this wall, this table, these trees—in a

dramatic becoming, in an ensemble full of meaning, transforming them no longer into diverse things, but into presences" (p. 23).

Lefebvre (2013)' s concept of rhythmanalysis reflects multiple aspects of daily life. Beyond linear and cyclical rhythms, there are many studies focusing on the notions of polyrhythmia, eurhythmia and arrhythmia. Based on Lefebvre's (2013) original descriptions, rhythmanalysis scholar Dawn Lyon (2019) further clarified these concepts in her book (Table 8).

Table 8: The Definition of the Core concept of rhythmanalysis.

	Lefebvre's original description	Dawn Lyon's clarification
Polyrhythmia	"It suffices to consult one's body; thus the everyday reveals itself to be a polyrhythmia from the first listening'"(Lefebvre, 2013, p. 16).	"A multitude of rhythms; the effects of different configurations of rhythm"(Dawn Lyon, 2019, p. 25).
Eurhythmia	"Rhythms unite with one another in the state of health, in normal (which is to say normed!) everydayness" (Lefebvre, 2013, p.16).	"When rhythms combine smoothly, for example in good health" (Dawn Lyon, 2019, p. 25).
Arrhythmia	"When they are discordant, there is suffering, a pathological state (of which arrhythmia is generally,at	"Discordance between rhythms, being 'out of step'" (Dawn Lyon, 2019, p. 25).

	the same time, symptom, cause and effect). The discordance of rhythms brings previously eurhythmic organisations towards fatal disorder" (Lefebvre, 2013, p. 16) .	
Isorhythmia	"isorhythmia (the equality of rhythms) completes this repertoire of fundamental concepts. With one reservation: isorhythmia - and eurhythmia are mutually exclusive" (Lefebvre, 2013,p. 67).	"An 'equality of rhythms' beyond eurhythmia, for example in the coordination of an orchestra" (Dawn Lyon, 2019, p. 25).
Dressage	"One can and one must distinguish between education, learning and dressage or training [le dressage]…… Humans break themselves in [se dressent] like animals. They learn to hold themselves. Dressage can go a long way: as far as breathing, movements, sex. It bases itself on repetition" (Lefebvre, 2013, p.39).	"Process of bodily entrainment and repetition through which rhythm is learnt and becomes evident in the body over time, for example in military drills" (Dawn Lyon. 2019, p. 25).

In further research on rhythmanalysis, scholars from different disciplines have applied these concepts to various topics. Geography and History researcher Marcu (2017) focused on the mobility experiences of young Eastern Europeans in Spain. She categorised mobility into three types: arrhythmic, polyrhythmic and eurhythmic mobility. Marcu (2017) described ‘arrhythmic’ mobility as ‘disruptions and loss’ (p. 414). ‘Polyrhythmic’ mobility is defined as “situated between unpredictability and flexibility” (Marcu, 2017, p. 414). ‘Eurhythmic’ mobility is described as “composed of diverse and equilibrated rhythms” (Marcu, 2017, p. 414).

Specifically, the experience of arrhythmia is linked to young people’s loss of employment or temporary work. The disconnect from stable employment leads to a “ concatenation of multiple spatio-temporal insecurities” (Marcu, 2017, p. 410). The conflict between the expectation of secure salaried work and the reality of high mobility intensifies the discordant experience of temporal rhythm. Meanwhile, the precarity and flexibility of young people also refer to polyrhythmia in rhythmanalysis. The experience of travelling to different cities creates a multiplicity of rhythms for individuals who experience rapid changes in their life state. Lefebvre’s (2013) concept of eurhythmia is evident in interviewees with stable studies or permanent work contracts, reporting regular routines and patterns of social practices. From Marcu’s (2017) perspective on rhythmanalysis, everyday life is an interweaving of many different rhythms.

The best-known case of rhythmanalysis is Lefebvre’s (2013) balcony observation. This involved observing the interaction between different, repetitive and varying rhythms: the rhythms of cars, regulars, employees and

patrons of the bistro, as well as those of walking people, traffic lights, buses and tourists. For Lefebvre (2006), everyday life is an interconnected whole; human life cannot be understood as a mere sum of daily activities. As he stated:

> The word ‘‘daily’’ refers to the set of everyday acts, and especially the fact that they are interlinked, that they form a whole. Implicitly, it is accepted that daily life does not boil down to a sum of isolated acts: eating, drinking, dressing, sleeping, and so on, the sum total of consumer activities. Except when society is defined exclusively by consumption (something increasingly rare), there is an awareness that consideration of these isolated acts does not exhaust daily life, and that we must also attend to their context: the social relations within which they occur. Not only because each action taken separately results from a micro-decision, but because their sequence unfolds in a social space and time bound up (p. 17).

The life of an individual belongs simultaneously to the individual, the social group (family, company, etc.) and society. As he stated, daily life is “simultaneously individual, ‘group’ (family, colleagues and friends, etc.), and social” (p. 17).

This view can also be understood through Wertheimer’s (1938) concept of ‘Gestalt’. According to the principle of gestalt, people perceive existing things as wholes rather than as independent parts. Each part has specific functions or attributes, but it can only be defined in relation to the whole. This means that when people think of ‘life’, they are considering the life experience as a

whole. The independent parts of daily life cannot be completely separated from life as a whole.

The interlinked nature of daily activities implies that ‘playing mobile games’ is not an isolated activity. First, ‘playing’ is ‘embedded’ in personal life and is connected to a wide range of other activities. Second, ‘playing mobile games’ relates not only to the individual but also to the social context. As Lefebvre (2006) stated:

“Everyone knows how to live in 1981. They know it thanks to a knowledge that does not originate with them, which they have assimilated, and which they apply to their cases, managing their personal affairs – their everyday lives – in accordance with the models developed and diffused for them”(p. 72).

This knowledge is not intrinsic but learned through patterns designed for them. In 1981, the women’s magazines provided daily schedules tailored for women, including activities such as buying and selling items, dress codes and cooking menus. Each day’s schedule was filled with per-determined tasks. The purpose of these designed life patterns was to produce daily satisfaction. However, their ultimate aim was to produce discontent. As Lefebvre (2006) argued: “It is merely the result and the application to daily life of a management technique and a positive knowledge directed by market research. The economic prevails even in a domain that seemed to elude it: it governs lived experience”(p. 72).

Lefebvre (2006) used the example of the tourism industry to illustrate how the economy influences experience. The leisure industry provides tour plans or group tours, where people buy pre-prepared experiences, including the

discovery of new places. People buy the ‘discovery’, the change of scene, the departure and escape, which often proves disappointing because they no longer align with the initial wish (not desire) and advertisement. The tourist industry perfects the organisation of leisure and culture, fragmenting it into exchangeable pieces like space. The extraordinary sells well, but it becomes a sad mystification. This way, the image of pseudo-freedom takes shape, practically organised and substituted for “genuine freedom, which has remained abstract” (Lefebvre. 2006, p. 72).

In rethinking gaming, the disassembly of mobile games reveals a series of predetermined plans, similar to tourism plans. These plans can be seen as a series of nested linear or cyclic rhythms that predefine the player’s experience. Just as tourist attractions pre-design tourists’ viewing locations, video games per-determine the reward content for player actions. Everyone who lives in the mobile game world knows how to live in the game.

In 2011, game culture studies scholar Tom Apperley applied rhythmanalysis to the field of game studies. He believed the rhythmanalysis method is “a conceptual tool that is able to cope with approaching the analysis of the intersection between everyday life and the digital game ecology on a number of different scales” (Apperley, 2011, p. 19) and emphasised the importance of the body in the engagement between daily routines and the in-screen world. He pointed out that the body is the convergence point of in-game and out-of-game rhythms, reflecting their harmonies, clashes and feedbacks (Apperley, 2011). Rhythmanalysis provides a way to incorporate everyday presence into the digital game ecology. The gaming body, as the centre of polyrhythms, includes a series of intertwined daily rhythms, including but not limited to

eating, working, sleeping, toileting, communicating with others, lighting, digital and control devices, power and software. As he stated, “The bundle of gaming body is a network composed of the elements required to produce play with the literal body of the gamer as its central node” (Apperley, 2011, p. 38).

Apperley (2011) introduced the term ‘local rhythms’ (p. 84) to understand the interaction between video game rhythms and the player’s everyday life rhythms. He contrasted ‘local rhythms’ with global rhythms to emphasise the life rhythms generated by people in specific geographic settings. According to Apperley (2011), players’ gaming rhythms are generally affected by local rhythms. In his study of Venezuelan cybercafés, Apperley (2017) noted:

> They attended school in shifts, some in the morning, and others in the afternoon. Students used the café as a meeting place, to gather on their way to and from school, as well as to crossover and socialize with students from the other shift (Apperley, 2017, p. 237).

In his research, Apperley (2011) considered the periods during which specific groups of people entered the café to play digital games as cyclical rhythms influenced by local life rhythms, such as commuting to and from school.

However, Apperley’s (2011) research on game rhythms did not explore the impact of specific in-game mechanics on rhythm production, nor did it address mobile games. Nowadays, when people log in to mobile games, they can still experience a well-designed schedule, visit the guild, buy a new outfit for their character, and gain a higher reputation by killing monsters in the field, etc. There is a designed pattern that tells players what they are expected to do. The managing skills and knowledge of the game designer segment the

experience into quantifiable and actionable steps with the fundamental aim of meeting user demand. Pre-designed needs, expectations and satisfaction can be detached from the existence and the experience itself. The ‘practically organised time’ of exploring experience and freedom is produced in the process of playing.

2.8 Conclusion

This literature chapter revisits the concept of the ‘magic circle’ (Huizinga, 1938) in video game research history. In early video game development, the game world and the real world were separate. However, in the current gaming context, mobile game mechanisms attempt to incorporate more real-life elements into the virtual world. The evolving game industry makes the game and the gaming process highly compatible with the players’ lives, including, but not limited to the merging of in-game environments with out-of-game geographical locations, the synchronisation between in-game and out-of-game time and the exchange of out-of-game currency for in-game items. With the concept of hybrid space discussed in this chapter, people are simultaneously living in the overlap of virtual and real spaces. Digital games are no longer pure, ideal townships: they engage people in real life across multiple dimensions, including space, time and intimate relationships.

These overlaps can lead to potential risks for game players. The exchange of out-of-game currency for in-game items may lead to the phenomenon of free labor in online games, especially in China, where digital labour is widespread but not well-recognised. The number of invisible ‘gold farmers’ may be greater than currently acknowledged (Liboriussen, 2016). This phenomenon is also

influenced by cultural and historical contexts. The concept of ‘immaterial labour’ is often used in feminist discussions on unpaid household labor. Due to the lack of feminist discourse in China, mainstream opinions struggle to address female unpaid domestic work. This lack of reflection on labour definitions may make the concept of unpaid digital labour harder for the public to understand.

Additionally, Rettberg (2008) and Zagal et al. (2013) pointed to the risk of video games increasing player engagement to the point of compulsion. Rettberg’s (2008) description of endless tasks explains the motivation for players to stay in the gaming world, while Zaga *et al*. (2013) proposed the concept of ‘dark game design pattern’ to describe how games insert themselves into players’ daily lives, even controlling their daily schedules to meet gaming requirements.

In the area of in-game relationships, as Huvila et al (2010) noted, these relationships are not simple mirror images of real-world relationships. Huvila et al. (2010) and Yee (2006) offered optimistic views, while and Williams et al. (2006) took a more pessimistic stance. Relevant research indicates that in-game relationships can be commodified, yet they also have the potential to enhance players’ social support levels. At the end of this chapter, Henri Lefebvre’s (2013) rhythmanalysis theory and spatial theory are introduced. These theoretical frameworks will be extensively applied in the data analysis chapter of this research.

In addition, the Skinner boxes discussed in this section are also related to the linear and cyclic rhythms in Lefebvre’s (2013) rhythmanalysis framework. The

fixed interval schedule, as seen in the experience point system, reflects linear rhythms, while the progression through the Battle Pass system involves a series of cyclic rhythms. A more detailed analysis of these mobile game mechanisms is provided in Chapter 4.

In summary, this chapter presents research on game players' time use, living space and in-game intimacy. Most of the literature focuses on single-player games or MMO games played on personal computers or consoles. Although the mechanisms of mobile games may not differ significantly, the differences in game devices may cause variations in how players interact with the game. These differences caused by the development of game devices, may represent a new gap in current game studies.

Chapter 3 Methodology

3.1 Introduction

This chapter outlines the research methodology, including the participants recruitment strategy, coding process, and study limitations and challenges. Specifically, section 3.2 detailes characteristics of participants, including the gendered, educational and occupational background, the methods employed to recruit them, the organisation of question sets used in the interviews, and the online interview process. Depending on the type of mobile games the participants had experienced, they received tailored follow-up questions during the interviews in order to encourage them to share their daily gaming experiences..

Section 3.3 describes the coding methods utilised in this study, drawing from Deterding and Waters's (2021) three-step coding process: attribute codes, index codes, and analytic codes. Attribute codes refer to both player characteristics (such as gender, educational background,and professionals background) and mobile game attributes, such as game genre. These codes facilitated the comparison and analysis of the interviewees based on different attributes. Index codes are used to establish cross-interviewee-case connections, in this thesis, they applied for comparison between the daily gaming experiences of different participants. Analytic codes are directly related to the research topic which link the interviewees' responses to the research questions to the theoretical framework and contribute to constructing the analysed chapters.

Section 3.4 describes the researcher's insider status within the mobile gaming society. As a researcher, I am also a natural insider of this society, familiar with its sub-culture, terminology, collective memories and common sense,.This insider status enables me to build trust with my interviewees and influenced my observations during data analysis. My dual identity as both a researcher and a gamer shaped my perspective in this study.

Section 3.5 explores the challenge of context translation. Both the interviewees and the researcher were familiar with in gaming terminology, and specific in-game terms were used throughout the interviews. Hence, individuals unfamiliar with the gaming terminology may find the original interview text confusing. Moreover, the interviews were conducted in Mandarin, and many Chinese gaming terms, rooted in a specific subcultural

history or context, lack direct English[11] equivalents. To avoid confusion, I included research notes for clarification. However, these notes may not fully explain complex game terminology background and history, potentially resulting in information loss during translation.

3.2 The Participant Information, Recruitment, and the Development of Rhythmanalysis Method

During the recruitment process between October 2020 and June 2021, the researcher contacted 48 Chinese mobile game players to participate in the study.

Due to the COVID-19 pandemic, the interviews were conducted online. Between October 2020 to June 2021, the interviewees were recruited through three online gaming forums: the NGA game forum, the Zhihu game area, and the Douban game group.

Among these forums, Zhihu and NGA had more male players (Weiboyi and Pangjing,2022, Yingchao, 2019), while Douban had more female players. NGA player's tended to be older and had more gaming experience. The researcher posted recruitment notices on these forums, collected respondents' email addresses, and sent detailed invitations to participate in the study. Upon agreeing to the informed consent form[12], the participants were offered a selection of available periods and online communication tools (including Skype, Discord, Tencent QQ and Wechat),for the interview. They were

[11] For example, "Washing face' means "Begging for good luck', "diamonds' or "stones'refer to the "in-game currency for gamble'

[12] With the consent of the Ethics Committee, the interviewee may not use his/her real name for signing the informed consent form. The user ID on social media software or an in-game pseudonym is allowed to signature.

allowed to choose the preferred time slot and conversation tools for the formal interview.

All paticipants in this study were over 18 years old and legally considered adults. Their ages ranged from 20 to 40 years, with most participants between 20 and 25 years old. For privacy reasons, the researcher did not inquire about their exact ages, but rather age ranges. Of the participants, 29 were male, and 19 were female.

Regarding their occupational backgrounds, 17 interviewees were current university students, 29 were employed, and 2 were in a gap or relaxation period. Both professional and non-professional participants were recruited through the same channels. At the beginning of the interviews, the researcher asked the participants whether they had any relevant work experience in the gaming industry, and the those who answered affirmatively were classified as professionals. Nine interviewees had relevant experience in the gaming industry, including one game journalist, one game operations manager, one game reviewer, three game designers (with one being an independent game designer), two online game planners, and one individual who preferred not to specify positions.

Compared with non-professional participants, the professional participants were more inclined to offer more direct negative reviews on mobile game mechanics. For example, one professional participant, who described himself as a ‘player of anti-mobile game’, explained that most game industry professionals enter the field aiming to ‘produce a good game’. However, due to pressures from commercial entities and career prospects, the freemium

model often does not align with the designer's personal intentions. Instead, it is driven by the requirements of the company, the market, and capital investment. The duality of professional requirements and personal wishes was also evident in the interviews with other professional participants. Some provided two views on the same question: one as a professional and the other as a player.

Due to limitations of the sampling method, volunteer interviewees presented features that may not reflect with the broader mobile gamer demographic.

First, the average education level of the participants was higher than the actual Chinese mobile game players' education level. All participants had attained or were pursuing university-level education, including two PhD students and two with international study experience. Second, the participants might have a higher interest in video games than the general population. They likely had a more extensive experience in gaming, including personal computer and console games from an early stage in their lives. Many interviewees mentioned they have at least one game console. In China, the ratio of console gamers to mobile gamers stands at approximately 16.7 million (Nikopartners, 2023) to 657 million (Statista, 2023), with approximately one console gamer for every 39 mobile gamers, However, the proportion of console gamers in this study is exceeds this figure. Third, the mobile games frequently mentioned by interviewees tended to be more trendy and of higher quality. The pirates or copycat games were hardly mentioned, despite their market presence in China.

Finally, the interview data showed that all middle-aged participants had gaming experience (whether console or personal computer games) at a younger age. This early engagement might explain why they established their identity as gamers in early life. However, due to the mainstream media context in China in the early 21st century, the identity of gamers is often associated with low education levels, low income, unemployment, or over-sexualisation (Jiayi Zhang, 2014). It is, therefore, challenging for those with negative perceptions of gaming to identify as mobile game players, even if they engage in gaming on their mobile phones. The digital divide further complicates this issue for older phone users in China who often have access only to a limited range of social media content. Despite this, the games that spread through social networks could still influence this elder group, even if they do not personally identify as gamers. Therefore, this research might only include individuals who self-identify as game players, thus excluding those who play games but do not self-identify as such.

For these reasons, the findings of this research may be limited as the participants of this study may not be representative of the average population in terms of their gaming habits and attitudes. They represent a cohort that is more knowledgeable about video games and gaming culture and more inclined to qualify as ‘hardcore’ and in-depth gamers than the general population.

3.2.1 The Interview Structure and Questions

This thesis used an online semi-structured interview method for the data collection.

This semi-structured method was chosen to provide flexibility in the interview process. First, the mobile gaming market in China is highly dynamic, with players frequently changing their primary games in several months. This variability made it challenging to predict which games interviewees were likely to play. Second, as a kind of subculture, experienced game players often communicate using specific gaming terminology. The diversity of mobile games and the complexity of gaming terminology has led to a rich variety of language texts that people use to describe their in-game experiences. Interviewees might use different language systems to describe the same thing. For these reasons, maintaining a degree of openness during the interviews was essential in the thesis.

In the month leading up to the formal interviews, as part of the recruitment process, I downloaded the top 10 games in each category from the Chinese software application market. I logged in and played these games as a new player to ensure that I could understand most of the popular in-game terms and use these terms effectively in conversations with the interviewees. After that, my supervisors and I developed a basic framework including ten questions. These questions covered aspects of players' daily play time, play space, and their relationships with others.

3.2.2 The Interview Process

According to the interviewees' preferences, the online interviews were held via WeChat, Skype, and Tencent QQ. Forty-three interviewees consented to voice recording, while four refused to be recorded and opted for text communication only. One interviewee agreed to record, but the recording

document was corrupted due to equipment failure; as a workaround, she signed the interview text transcript as an alternative. At the beginning of the interview, I read the brief informed consent form and asked the interviewees whether they were legally adults, had perused the complete informed consent form in advance, and understood their right to have their interview data deleted post-interview by contacting the researcher's email address.

Once the interviewees affirmed that they had read and signed the informed consent form, the interview formally began. The researcher initiated the interview with questions from a pre-structured framework and followed up with specific follow-up questions based on the interviewees' responses. At the beginning, the interviewees were asked three to four questions to identify their main daily mobile game. After that, each interviewee was presented with ten pre-designed main questions. However, the order of these questions and the follow-up questions was flexible. As Adams (2015) discussed:

> The agenda for a semi-structured interview is never carved in stone, If a conversation unexpectedly turns from the first to the fourth topic, by all means, reorder the topics on the fly and return later to pick up the ones that were skipped (p. 198)

When an interviewee's answers deviated from the topic of one question to that of another question, the researcher guided them to fully express their thoughts on the diverted topic before steering the conversation back to the original questioning sequence of questions.

The follow-up questions varied based on the responses to the main questions. For example, Main Question 2 asked, 'Could you describe your daily routines

and explain how mobile gaming fits into it? Have you played the mobile game when you are doing the other stuff?'. For interviewees who affirmatively answered this question, possible following follow-up questions included：

'What are the other daily activities you do while playing the game? What times do they usually happen?'

'How do you play mobile games and do other activities at the same time?'

'Do mobile games and other activities ever interfere with each other?'

In contrast, if interviewees indicated they did not engage in other daily activities while playing games, they received different follow-up questions, such as:

'Have you ever been interrupted by other things while playing games?'

'Do you schedule uninterrupted periods in your daily life for gaming?'

For those affirmatively responding to Main Question 8: 'Have you formed any relationship within in-game character.? It was this important to you and why did you choose to make these connections?', a series of follow-up questions about the relationships within the virtual world and with game characters included the following:

'How would you describe a non-player character with whom you had developed a relationship?'

‘To what extent, do you believe in the realism of the mobile game world? To what extent do you believe that virtual relationships reflect your real emotions?’

‘Do you have real-life relationships that co-exist with virtual relationships? (e.g., having both a game character and a real-life romantic relationship) How do you think in-game relationships differ from real-life relationships?’

These follow-up questions were generally open-ended and relatively flexible. They were also tailored to the interviewees’ specific gaming experiences. If a player’s main game did not have any non-player character (NPC) with whom they could develop an emotional relationship, related questions were omitted.

During the interview process, follow-up questions underwent a developing and iterative process and evolved with the researcher’s growing understanding of the research topic and framework. This iterative approach was profoundly influenced by the interviewees’ responses to the follow-up questions. Later follow-up questions were often shaped by insights gained from earlier interviewees’ responses to specific questions.

For example, in the early stage of the interview process, the typical follow-up questions about playing times focused on specific periods of playing, such as lunchtime or bedtime. However, after an interview with a participant who answered a series of questions while playing mobile games, it became apparent that gaming could happen in brief, discontinuous fragments throughout the day, rather than in a uninterrupted block of time, it may happen at the intervals of daily routine, in the gaps of daily events. This realisation led to the refinement of follow-up questions to explore how gaming fits into daily

life, the moments players engage with or disengage from gaming, and how these moments interact with, influence, or are influenced by other aspects of their daily routine. Similarly, when an interviewee mentioned that he always played in the taxi because it required minimal attention, the researcher noticed the potential for mobile gaming to represent a re-organisation of daily attention. Thus, I developed follow-up questions regarding how players allocate their attention to mobile gaming within their daily lives.

Further, some follow-up questions about intimate relationships within games were inspired by the experience of an interviewee who maintained a romantic relationship both with an in-game character and an out-game partner. These follow-up questions sought to explore this type of 'virtual-reality' relationships through questions such as, 'What do you think is the difference between in-game and out-of-game relationships?' And 'do you, or to what extent, you believe in the emotions game characters showed to you?' Another interviewee's mention of 'holding hands' with another player within a game prompted the development of more follow-up questions about the in-avatar of out-game self such as, 'Whether, or to what extent, have you consider your in-game avatar as an extension of yourself?' Such follow-up questions, developed early in the interview process, were applied in later interviews to capture more details about players' experiences. The progression of the interview process was also affected by my growing understanding regarding the topic, which evolved through diverse participant narratives about their daily gaming interactions.

Across all 48 interviews, most participants did not limit themselves to a particular game type. They were more likely to download several games on

their smartphones and to allocate their playtime according to personal preferences. While some had periods of dedication to one game before switching to another. A segment of the interviewees had preferences for particular types or styles of mobile games for a long term. However, the majority of player frequently changed games, which led to a focus on the games they were currently or had recently played. If an interviewee had been playing two or three games recently, questions were asked about each game separately to capture a boarder range of experiences.

3.2.3 The Build of Rhythmanalysis Method

This research applied rhythmanalysis as the main framework for data analysis. It benefited significantly from conversations in the early stage of the interview process. In these initial interviews, respondents frequently mentioned that their daily mobile gaming experiences were characterised by regular repetition. The updated daily and weekly tasks required them to repeat in-game actions with which they were already familiar. Earlier work in this thesis was built on analyses of the repetition observed in these interviews. Thus, the rhythmanalysis framework was applied to analyse concerns regarding daily repetition. Lefebvre (2013) argued that rhythm is built on the repetition inherent in daily routines. In this research, the concept of rhythm provided a concrete shape to the mobile game players' daily recurring repetitions. It also offered a framework for detailed observation of the life order organised by mobile games and other entities (e.g. companies, families, and social organisations) in daily life.

When an interviewee mentioned having to repeat the same in-game content consecutively for eight hours and continuously click on her smartphone to maximise in-game benefits, I realised this was a linear rhythm occurring in the context of everyday life, as described by Lefebvre (2013). Also, I found that the updated daily and weekly goals could be analysed as in-game cyclical rhythms that the producers aim to impose on the player's body. Coincidentally, mobile game players usually refer to their daily gaming activities as '日常,' a term that denotes all the repetitive tasks they need to perform in the game each day. This term can be directly translated to 'routine,' which is also a key concept in Lefebvre's (2013) framework on everyday life.

In the early stage of the research, the plan was to apply the rhythmanalysis method as one chapter of the analysis framework. However, through in-depth conversations with interviewees and following suggestions from supervisors, the importance of the rhythmanalysis approach in understanding players' everyday lives became evident. Lefebvre's (2013) argument on rhythm, automatisms, or spontaneity became the core focus of the interview process. A large percentage of the interviewees expressed a sense of being forced or obligated, claiming that they felt expected to engage in mobile gaming before the expiration of daily rewards. Despite often feeling physically tired or bored, they tended to log in regularly. However, mobile gaming cannot force anyone to be a 'player'; players can uninstall games from their phones at any time. This blurring of voluntary and involuntary engagement could be strongly interpreted by the rhythmanalysis method. Lefebvre (2013) explained that objects consume time and occupy individuals' time and space, and the rhythm for the individual is perceived as "necessary and absolute, as essential and

authentic" (p. 75). Yet, this perception is fragile and illusory. The introduction of new elements to the daily experience can disrupt original rhythms as individuals negotiate a new steady state. This argument explains how mobile games consume players' daily time.

From the view of Lefebvre (2013), daily rhythm is an acquired or trained state. The tendency of individuals to attribute results from external constraints to an essential need highlights the ambiguity of automatisms or spontaneity in daily rhythm. This framework effectively addressed the paradox between players' willingness to engage and their sense of obligation and provided a strong structure to analyse the conflict between the mobile gaming demand for daily time and other daily event requirements.

3.3 Code and Data

The coding process for this research is based on Deterding and Waters's (2021) three-step coding method, in which the code is divided into attribute codes, index codes, and analytic codes. The coding process was performed using NVivo 12 and was later upgraded to NVivo 20. As Weston et al. (2001) highlighted, coding does not precede the study but is an important part of the analysis. A part of the coding system was developed through communication with the interviewees. It also underwent several adjustments throughout the study.

3.3.1 Attribute Codes

Deterding and Waters (2021) described that attribute codes are:

> “the salient personal characteristics of the interviewees that played a role in the study design. These may be demographic variables such as age, gender, race, occupation, socioeconomic status, or specific contextual data such as experimental group or control group, state, or neighborhood of residence” (p. 724)

In this research, attribute codes include two groups. The first group involves human attributes, including gender, age, educational level, and occupational profile. The second group pertains to mobile game content and mechanisms, Codes in the second group covered three aspects: (1) the main playable content of the game is provided by the environment or other players; (2) the focus of the game’s content is on competition or cooperation; (3) the presence of automated mechanisms (detailed further in Chapter 4). In particular, the presence or absence of automated mechanisms significantly influences the analysis of mobile games’ impact on players’ daily schedules. These attributes helped determine whether players need to devote their full attention during the gaming process.

Players and non-player characters can foster deeper emotional connections in games that emphasise interaction with a computer-controlled environment (Player vs. Environment game). However, this similar emotional connection is nearly absent in competitive (Player vs. Player) games. Games with automated mechanisms do not require players to maintain high concentration throughout. Instead, much of the gameplay unfolds automatically, requiring players to make simple clicks with fingers. Conversely, non-automated mobile games necessitate active player engagement. Players must continually control their game character and interact with the game world. A prime

example is Genshin Impact., an open-world mobile game where players navigate their characters to explore and engage with the environment. Activities such as running, jumping, engaging in dialogue, attacking, dodging, and using skills require specific player inputs on the screen. Similarly, accessing the game's playable content—including challenging dungeons, opening boxes, and interacting with NPCs—requires continuous command inputs from the player. Therefore, the player's physical interaction with the game is unceasing. The mechanisms of mobile games significantly affects how players engage with the game and manage their gaming time within their daily schedules. Thus, the game's mechanisms constitute a critical aspect of the attributes code.

3.3.2. Index Codes

The next step in the coding process involves index coding, which is " the inverse of line-by-line coding. Index codes represent large chunks of text, enabling data reduction and retrieval as the analyst proceeds through con-strutting and documenting their argument" (Deterding and Waters, 2021, p. 726). In this study, this approach enabled comparing the interview texts across several different questions and linking them to broader content areas. In total, six index codes were developed to categorise aspects of how a player's attitude towards mobile gaming influences their daily time, space, and intimacy.

The first index code is 'The Player's Description of the Mobile Game Mechanisms'. This code captures the interviewees' descriptions of in-game

design and mechanisms, including daily tasks (daily goals) system, log-in systems, and stamina systems, etc.

It also includes their responses related to online payments: In mobile games, specific freemium items (e.g. doubling supplies and increasing battle speeds) can significantly reduce the repetitive in-game actions. Additionally, other freemium items (e.g. monthly cards and battle passes) require daily logins or the completion of a certain number of daily in-game actions for players to gain additional rewards after purchasing these items. Hence, the interviewees' willingness to make payments and their views on freemium items are closely tied to their daily in-game behaviours.

The second index code is 'The Player's Description of Their Daily in-Game Action'. This code includes the duration and timing of players' engagement with mobile games. Typically, players have regular playtimes; four key periods were identified as common gaming times: upon waking up, after lunch, after dinner, and before bedtime. This pattern does not imply that every player engages with mobile games during each of these periods: in general terms, most interviewees preferred playing during two or three of these times, with post-dinner being the favoured slot. The daily playtime spanned usually between 1 and 2 hours, with the duration a player spent in the game each day being relatively consistent.

The index code also captures players' feelings about their daily in-game actions. Initially, gaming was often be described as a fun experience: however, over time, the interviewees' aim shifted towards acquiring to 'get new characters or items in the game', or 'gather in-game resources to strengthen

their characters'. Some interviewees used the words 'salary' or similar descriptions to described their motivation for completing daily tasks or daily goals. A significant number of interviewees used the term 'routine' or similar terms, such as 'daily list to do' and 'clearing daily stamina points' to describe their in-game daily activities. Nearly all descriptions of daily in-game repetitive efforts are closely tied to the objectives pre-set by the game's developers, highlighting the influence of designed game goals on player behaviour.

The third index code is '**The Impact of Mobile Gameplay on the Player's Daily Schedules:** This code focuses on the interviewees' descriptions of the interactions between mobile gaming and their other daily activities. These interactions include activities happening simultaneously, one activity interrupting the other or occurring in a seemingly arbitrary sequence. Many interviewees reported being influenced by the mobile game's schedule to varying degrees. They might find themselves subconsciously aligning their daily routines around the game's reward schedule or attempting to schedule other daily activities according to negotiate with their in-game commitments (which is discussed in Chapter 6).

The fourth index code is **The Geography Location of Daily Playing:** This code pertains to the descriptions of a playing spaces. Some interviewees reported playing mobile games exclusively at home or in their residences, while others indicated engaging in gameplay in transit or at work, including on the subway, bus, company shuttle, office, laboratories, and classrooms. This index code also captures interviewees' responses about the differences between playing at home and in public spaces. According to the interview data, the private residence remains a traditional gaming environment. When

interviewees discussed the distinctions between playing at home and in other public spaces, they shared their views regarding various gaming environments.

The fifth index code is '**The Relationships between Human Players**'. This index code covers the interviewees' discussions about their interactions with other human players. It includes three aspects:, the relationship between the player and another player, the game organisation, and the online public discussion group.

According to the interview data, interviewees were more likely to develop in-game relationships with others who had already established a weak social tie with them. Becoming friends with individuals met in mobile games is uncommon. Most people prefer to play games with those they already know in real life. Previous studies on gaming for intimacy, such as those by Wen, Kow, and Chen (2011), Boudreau and Consalvo (2014), and Osmanovic and Pecchioni (2016), have documented cases of gaming fostering family relationships. However, in this thesis, interviewees did not report playing games with family members from previous generations. The development of existing relationships observed in this research typically involved classmates, roommates, colleagues, and neighbors—usually among people within the same age group. Normally, the role of an online friend involves collaboration to complete in-game cooperative content. As Greitemeyer and Cox (2013) noted, "players help other players to attain a common goal" (p. 224), such as defeating monsters by the help of other players, borrowing the game characters from each other, or exchanging in-game materials.

The term ‘game organisation’ typically refers to a game guild, which can range from a small group of individuals to a large organisation with hundreds of members. Among the interviewees, a common experience was joining a game guild and its associated chat room. However, they often remained silent within these chats. Some noted that other guild members posted non-game-related messages, such as complaints about exams or concerns about work, but only a few admitted to sharing aspects of their own lives. Typically, chat rooms are dominated by a small number of active members, with the majority remaining silent. Some interviewees expressed a desire to avoid joining a guild or engaging in in-game social activities altogether, preferring a more loosely organised connection with the guild. They opted to use the in-game message board for communication rather than social media, which allows for asynchronous and word-limited interactions (the game’s message board supports only short messages).

The public discussion group typically refers to online game forums, which host a vast community of mobile game players. It serves as an online gathering space for players of the same game, often manifesting as a website, a social media platform, or an application. Compared with game guilds, game forums are more loosely organised and commonly feature game tips, articles, and player-created fan art. However, discussions in many online game forums are is not strictly confined to gaming topics. Interviewees have reported that they often read posts from other users sharing daily experiences, whether related or unrelated to the game, such as romantic relationships, studies, and friendships. As members of the public discussion group, users can share a common identity as players of specific mobile games. This shared identity

sometimes leads to sharing personal information within this game-related discussion space. The impact of these three types of in-game relationships is further discussed in Chapters 5 and 6.

The sixth index code is '**The Relationships between Human Players and the Non-Player Character**'. This index code was inspired by Waern's (2011) research on players who develop romantic feelings for in-game characters. It includes interviewee descriptions of their their feelings and actions during the interactions with non-player characters. Interviewees reported that they developed emotional relationships with NPCs which could be male, female, gender-neutral, animals, or anthropomorphic objects. They also described their emotional connections and the interactions with these NPCs. Some interviewees mentioned that they would hold a birthday event or send a message to the character in a non-game environment. Those relevant descriptions are also coded under this index code.

3.3.3. Analytic Codes

Analytic codes "represent the concepts to explore in a single paper or book chapter and integrate emergent findings with what is known from the literature" (Deterding, and Waters,2021, p. 722). In this research code, the analytic codes are closely interconnected with Lefebvre's (2013) rhythmanalysis relevant concepts, especially for eurhythmia and arrhythmia.

First, Lefebvre (2013) defined rhythm as 'movements and differences within repetitio' (Lefebvre, 2013, p. 90)'. In this thesis, this code led to the development of an analytic code focusing on **'Repetitive Tasks'**. This code also drew on the research into gold farming and online labour by Dibbell

(2007), Dubbell (2015), Liboriussen (2016), and Rettberg (2008), etc. The distinction between repetitive and non-repetitive playtime produces different feelings in players' daily routines. Players often use the term 'farm' to describe their repeated daily actions in the game. This term can also be used to refer to repetitive playtime. During these periods, interviewees described their daily in-game behaviour from login to the completion of daily gaming, including completing challenges, defeating enemies, collecting items, and interacting with NPCs. These 'repetitive' actions exemplify rhythm performance and production in mobile gaming and show its impact on players' emotions, which is further explored in Chapter 4.

Second, according to Lefebvre (2013), polyrhythmia is "suffices to consult one's body; thus the everyday reveals itself to be a polyrhythmia from the first listening" (Lefebvre, 2013, p. 16) and eurhythmia occurs when "rhythms unite with one another in the state of health, in normal (which is to say normed!) everydayness" (p.16). This research interprets polyrhythmia as the moment of mobile gaming and other daily activity's muti-tasking status, and eurhythmia as the harmonious integration of mobile gaming into the player's daily life rhythm.

In examining the polyrhythmia and eurhythmia within the context of mobile gaming, the concept of '**Multitasking'** emerged as the second analytic code. In games which include automated mechanisms, almost all interviewees admitted that they were used to engage in other activities while gaming. At these moments, the rhythm of mobile gaming intertwines with other daily activities, such as listening to music, watching TV shows or movies, eating lunch or dinner, using the toilet, working in the office, cooking, exercising, and

chatting with friends or family members. These activities are united with one another in a ‘normal’ (Lefebvre,2013, p. 16) way. According to the interviewee’s descriptions, players often place their mobile phones to one side, regularly tap the phone, and simultaneously engage in other tasks. Some individuals concurrently open a mobile game and work software, quickly switching between the two.

Lastly, arrhythmia is the discordance between rhythms, being ‘out of step’ which Lefebvre (2013) describes as “the suffering, a pathological state” (p. 16). In the context of mobile game rhythmanalysis, arrhythmia indicates that the player’s original daily life rhythm is interrupted and distorted by the mobile gaming rhythm. This research identified ’**The Negative Feedback on Unfinished Game Tasks’** and ’**The Player’s Sense of Compulsion’** as relevant analytic codes.

The negative feedback on unfinished game tasks emerged from interviewees’ descriptions of their feelings about not completing a task or the time they have not dedicated to gaming. This often includes missing daily or weekly tasks, failing to complete game events, or not logging into the game on time, leading to a loss of in-game rewards. Such negative reactions to disruptions in the playing rhythm are considered part of arrhythmia and rhythm conflict.

The player’s sense of compulsion emerged in the interviews where interviewees expressed a sense of compulsion regarding their daily gaming tasks. Despite citing reluctance and reasons such as physical fatigue or appointments, they would inevitably complete the daily mobile gaming tasks.

This sense of compulsion often reflects moments when the rhythm of mobile gaming conflicts with the rhythm of their non-gaming everyday lives.

Interviewees, preoccupied with daily commitments, may miss the deadlines of in-game daily goal systems. Due to this oversight, they may suffer strong negative emotions, typically described as a sense of ’loss’ or ’missing’ something. While some interviewees expressed that they might not be concerned with the specific in-game items missed, they were more affected by the feeling of missing out. When they discussed the equivalent value of unobtained items, such as in-game currency, they might show a more resigned attitude. However, the emotional impact of an ‘unfinished game daily task’ tends to be stronger than that of missing out on specific items. The motivation for regular play appears to lean more towards ‘avoiding loss’ rather than ‘gaining reward’. Players may strive to maintain the behavioural inertia of daily play, a tendency that contributes to the production of daily rhythm: this aspect is revisited in Chapter 6.

Furthermore, this research used ‘T**he Influence of Other People/ Non-Human Player Characters on the Player’s Behaviour’** as an analytic code to examine the rhythms—whether combined or in conflict—in the interviewees’ daily lives. During the eurhythmia process, this influence was usually reflected through covenants, shared goals, and the desire to develop or maintain relationships between the interviewee and others. The interviewees reported playing a particular game to spend time with others, share a common identity, or maintain a topic of conversation. This influence extended to common standards of playing time and frequency, the considerations for maximising in-game benefits, or standards to related to in-game character abilities.

Similar to relationships between players, the relationship between humans and non-human characters, controlled by computer algorithms, can also motivate individuals to change their behaviour. Adhering to the requirements of a machine program represented by a human-like character may cause rhythm conflicts between the player's daily routine and the in-game rhythm demands. The interactions between the player and others significantly shape the player's in-game behaviour, potentially leading to rhythm conflicts, a topic that is discussed in Chapter 6. When an interviewee could not follow the rhythm provided by others, they risked experiencing arrhythmia. Using the analytic codes discussed, this thesis explores the impact of mobile gaming rhythm on the player's daily life. The relevant discussion is shown in Chapters 4,5 and 6.

3.4 The Researchers' Internalities and Limitations

Sociologist Merton (1972) introduced a structural conception of 'Insiders and Outsiders' to describe the role of social science researchers within the observed groups. According to his view, insiders are " the members of specified groups and collectivizes or occupants of specified social statuses" (p. 21), while outsiders are the non-members. Within this conceptual framework, I am an insider within the mobile game player group. My engagement with mobile games began seven years ago, and my total gaming history extends to 22 years which is almost the same as the longest duration reported by any of my interviewees. Being an insider provided me with many advantages during the interview process. As summarised by Labaree (2002). these advantages include "the value of shared experiences; the value of greater access; the

value of cultural interpretation; and the value of deeper understanding and clarity of thought for the researcher" (p. 103). These advantages of insider status were evident throughout my research process.

As introduced in the first chapter, until the submission of this thesis, I have managed a personal video game review social media account with around 20 thousand followers for seven years and had worked in games journalism prior to attending university. Half of my friends are currently or have been employed in the gaming industry, and my articles have amassed millions of reads within the gaming community. Some of the interviewees were familiar with my work or had read my articles before deciding to participate in the research. Upon receiving the informed consent e-mail, some individuals chose to Google my name, read the results, and consequently decided to trust me. The presence of my articles and social media posts within the gaming subculture has significantly facilitated the establishment of trust and connection with interviewees. They regarded me as a member of their group, readily sharing their personal experiences. Outsiders might find this level of access and truthfulness challenging to achieve.

As a researcher, I am obliged to reflect on my interiority, yet it is undeniable that my research material and data significantly benefitted from this interiority. The interviewees shared their personal feelings based on a shared identity and background. We share a common space of experiences, including playing games in the middle of night, playing games in public, being admonished by elders and parents, and using gaming as an escape from crowds. These insider perspectives allowed me to gain a deeper

understanding of my interviewees' thoughts and to construct analytical logic from their narratives.

However, it is also essential to acknowledge the limitations that this insider status had on my research. Throughout the research process, my identities as both a mobile game player and a researcher were intertwined. For example, when my TAP mentor, Hayley, pointed out the possibility of gaming addiction among my interviewees, I realised that I had been avoiding the related topic. As an insider, I might unconsciously refrain from employing negative stereotypes such as violent, addicted, criminals, or any similar descriptors for players. This 'subconscious avoidance' does not refer to exclusion or denial but indicates a blind spot—a bias in perception that arises from my position as the observer within the group. Similarly, when writing Chapter 5, my supervisor inquired about how mobile game players switch between gaming and reality. This was an aspect I had overlooked: as a gamer, this switching was so routine for me that it escaped my notice. This observer blind spot means I might miss out on research insights that could appear evident to an outsider.

Besides that, my understanding of mobile games might shape or influence the language of my interviewees. On one occasion, after an interviewee had finished his response and I was about to transition to the next topic, he became keenly aware of my familiarity with all the evidence, data, and viewpoints he had mentioned. He then asked, 'Why would you ask me a question to which you already know the answer?' This question made me realise that I have a pre-existing, consensus-based system of understanding as a mobile gamer or video game player. Despite my efforts to control it, this

internalised knowledge invisibly shaped my reflections on the interviewees' answers, influencing my expressions, body movements, and tone of voice. etc. This, in turn, may have led my interviewees to share what they perceived as the consensus among game player—what I supposedly already knew—rather than their own personal daily experiences.

In insider research, the expectations of interviewees become more obvious, as illustrated by the example of Beoku-Betts (1994). As a researcher of African descent, she had an advantage in conversing with African women. However, cultural norms also dictated her avoidance of interactions with local Black men. Her insider status implied that conducting her research without being influenced by the expectations of the observed group was challenging. From the perspective of my research, my interviewees expected that I would not to label them as 'addicts' or 'people controlled by mobile games'. This expectation might differ from that of an outsider researcher. They were also likely to withhold parts of their playing experience from an outsider of the gaming community.

For a social science researcher, claiming complete detachment from the expectations of the observed group is challenging. As Labaree (2002) described his experience with a faculty senate study, "Responsibility to one's community is a particularly vexing issue because any false representations of the phenomenon, either real or perceived, could lead to feelings of betrayal on the part of the participants" (p. 110). Whenever I quote an interviewee's words, I grapple with the challenge of fully conveying the implicit meanings of their statements. This struggle leaves me feeling as though I have betrayed the community of gamers or disappointed them. This emotional burden confirms

that I cannot maintain the stance of a neutral outsider. I am constantly concerned that my academic writing may not accurately reflect the real or perceived realities of the gaming community, always doubting whether there is a significant gap between my descriptions and the truth of the complex, delicate relationship between people and games.

In the data analytical chapter, which explores the combination and conflicts between the non-game daily life rhythm and the mobile game rhythm, I found that the phenomena of combination or conflict were mirrored in my own life. I was actively adjusting my work-life balance and mental health through playing mobile games. In this context, I navigate the boundary between being the researcher and the observed subject of my research. My personal experiences share much in common with those described by my interviewees, leading me to a dilemma highlighted by philosopher Ralph Barton Perry (1910). Perry (1910) suggested that researchers may face an 'ego-centre predicament' when attempting to solve a certain problem. As he posited,

> Within my own field of consciousness, I may attempt to define and subtract the cognitive relationship, in order to deal exclusively with the residuum. But after subtracting the cognitive relationship, I must still 'deal with' the residuum; and 'dealing with' is a variety of the very relationship which I sought to banish. Finally, just in so far as I do actually succeed in eliminating every cognitive relationship, I am unable to observe the result. Thus, if I close my eyes I cannot see what happens to the object; if I stop thinking I cannot think what happens to it; and so with every mode of knowledge (Perry, 1910, p. 8).

This implies that a researcher cannot eliminate all ties with the subject of study. In my case, my knowledge of game players, the gaming community, game history, and game design methods served as my ‘eyes’ to perceive the implicit context of my interviewees’ discussions. This knowledge came from my insider identity in the gamer community and is rooted in my long-term subjective gaming experiences. I aimed to analyse and understand the interviewees’ discourse from an observationalist perspective. Following Labaree’s (2002) argument, ‘For the insider, who is already a ‘native’, the corollary presumption is that true understanding can only be attained by ‘going observationalist’ (p. 116), I sought to analyse the mobile game rhythm from a position that maintains a distance from the familiar player’s daily routine. However, the experience and identity of being an insider might also affect my observation, understanding, and analysis throughout the research process.

For this reason, it is necessary to convey explicitly how my subjectivity might influence the research I conduct. The insider perspective as a game player affords me certain advantages and simultaneously impacts my view of game rhythm. This research is deeply shaped by this insideness.

3.5 Language Translate and Intercultural Context

In this thesis, for the convenience of the reader, all interviewee names are represented by English pseudonyms. The method for assigning these names was as follows: The research used a computer program to randomly generate 50 male and 50 female names. The interview materials were then numbered from 1 to 50, after which a pseudonym was randomly linked to each number.

This research opted for pseudonyms based on English rather than Chinese because Chinese pseudonyms would require phonetic transcription, potentially leading to confusion for the reader.

Further, video gaming, including mobile gaming, is a context-rich domain where players often use specific terms to describe their experiences. The language within gaming communities can be complex and may be challenging for outsiders to understand. For instance, when players of the same game refer to ‘crystal’ ‘diamond ’and’‘stones’, they are actually discussing the same in-game currency, which can be purchased with real-world currency, despite the official name for this in-game currency possibly being different. These terms may originate from early popular mobile games that have since faded from popularity, yet the terminology persists in gamer language. To build trust with interviewees, the researcher also adopted gamer language during interviews. However, in writing this thesis, it was necessary to translate gaming terms into the daily life language. While efforts were made to accurately capture the interviewees’ descriptions, some nuances of the original meaning might inevitably be lost due to the translation process.

In addition to translating the Mandarin interviewee’s text into English and converting highly contextualised gaming terms into daily expressions, the researcher needed to navigate the cultural contextual differences between different countries. For example, the ‘overtime’ phenomenon has different cultural contexts in the UK compared with China. In many Chinese companies, a significant proportion does not compensate for legal overtime, and employees are expected to work until 8-9 pm regardless of whether they have completed their tasks. As a result, one strategy for employees might employ is

to deliberately delay their work throughout the day, stretching the 8 hours of expected work into 12 hours. During this extended time, mobile gaming becomes an option to occupy the hours. Similarly to the ‘overtime’ example, certain aspects of Chinese culture are challenging to translate into brief terms. This hidden context might result in information loss during the transformation between different cultural and social backgrounds.

3.6 Conclusion

This chapter introduces the process of collecting the interview data which might have the following limitations: First, the demographic distribution of the research interviewees does not mirror that of the general mobile game player population. The interviewees in this research were generally more educated, had a longer history of gaming, and most had experience beyond mobile gaming. This leads to the potential for the research interviewees’ in-game experiences to differ significantly from those of the general population. This discrepancy may stem from the sampling method, which only included individuals who self-identify as game players, thus excluding those who play games but do not self-identify as such.

Second, the researcher had an insider status in the research process. As a long-term game player, my knowledge and experience in mobile gaming provided advantageous access and trust. However, this insider role also limited the analysis to the researcher’s subjectivity.

Third, the interviewees’ language texts may have incurred losses through multiple cross-cultural and cross-contextual translations. Fully translating the

game context and the context based on Chinese society and culture into English presented significant challenges.

This chapter details the interviewees' basic information, the process of conducting semi-structured interviews, and the coding methods used to analyse the interview data. The following three chapters explore the analysis of interviewee data based on the rhythmanalysis framework. Chapter 4 discusses how in-game mechanisms produce linear and cyclical rhythms and how these rhythms are integrated into the everyday life of the players. Chapter 5 focuses on the interplay and co-functioning of mobile gaming rhythms and daily life rhythms, while Chapter 6 addresses scenarios where gaming rhythms and non-gaming rhythms conflict.

Chapter 4 Establishing Gaming Rhythms within Everyday Life: From the in-screen World to the out-screen Physical World

4.1 Introduction

The first three chapters of this thesis introduce the background of China's freemium gaming environment and the methodology for data collection. The following three chapters explore polyrhythmia, eurhythmia and arrhythmia between gaming and non-gaming daily life. In this chapter, the terms 'in-game rhythms' and 'out-game rhythms' are used to describe rhythms associated with mobile gaming and those related to other daily activities, respectively. Further discussion on this topic continues in Chapters 5 and 6.

Based on Game scholars Tom Apperley's (2011) argument about online gaming rhythms, this study expands the intertwining of game rhythms and

daily life rhythms from the space in front of the computer/console to a broader time-space social area. This expansion of the time-space gaming area is driven by the ‘mobile’ nature of gaming devices, particularly with the popularisation of smartphones. However, the shift in gaming trends from stationary home-based play to mobile gaming does not necessarily result in a quantitative increase or decrease in playing time. Instead, it enables players to organise and schedule their gaming activities more freely according to their own preferences. For example, Sabina, an interviewee, detailed how she arranges her daily gaming time:

‘An hour in the morning, half an hour at noon, playing in the evening until dinner, and playing after dinner until bedtime’.

——Sabina.

Sabina’s gaming time is evenly integrated into different segments of her daily life, such as after waking up at home in the morning, during her lunch break at work at noon and in the evening after dinner at home. Her act of playing is neither continuous temporally nor spatially, as her daily gaming occurs in three periods (morning, noon and evening) and across three locations (the bedroom, office and dining room). This flexibility blurs the boundaries between gaming and non-gaming activities. For players like Sabina, the portability of smartphones allows them to engage with games anytime and anywhere. Gamers can thus constantly reorganise the rhythm of gaming to match the rhythm of their lives at any moment of their daily schedules.

At the same time, it is necessary to consider the impact of mobile games on human behaviour, rather than merely regarding them as leisure devices.

According to interview data, players do not turn on their phones to engage in games solely out of personal desire; they are also motivated by the fear of missing out on rewards pre-designed into the game's timetable. This chapter discusses how in-game rhythms influence players. In general, it explains how gaming rhythms are produced in the digital world and how these constructed rhythms affect the non-gaming world. In this thesis, the 'gaming rhythm' refers to a series of regular and repetitive in-game behaviours that occur due to mobile game mechanisms[13].

This chapter is divided into five sections. **Section 4.1** introduces this chapter. Section 4.2 discusses how in-game mechanisms generate linear and cyclical rhythms, supported by interview data and descriptions of the interviewees. Linear rhythm refers to the repetition of a player's in-game actions over a short period. For example, players may challenge the same in-game level repeatedly. In the physical world outside the game, this manifests as the player tapping the screen repeatedly with their fingers. Subsection 4.2.1 introduces linear rhythm in the gaming world by describing two in-game mechanisms (the stamina point system and the dual-currency system) to help understand the combined rhythms and rhythm conflicts that are analysed later.

In subsection 4.2.2, the discussion transitions to cyclical rhythm, which involves repetitive actions performed by the player within specific time intervals, such as daily, weekly, monthly or annually. Typical examples include challenging in-game bosses[14] three times a week, collecting materials or sending gifts to friends daily. The cyclical rhythm of mobile games is

[13]Such game mechanisms include the login time rewards, guild battle periods, and the rules of in-game events, etc

[14]In-game bosses are relatively powerful in-game monsters.

usually bound to social time: it serves as a mechanism to link in-game rewards with real-world time. The subsection explores the game content cyclical system and the monthly pass system to help understand how cyclical rhythm functions in mobile game design. Subsequently, Subsection 4.2.3 explains how linear and cyclical rhythms interact within the game. It introduces the daily/weekly task and battle pass systems to explain the combination of multiple in-game rhythms.

Section 4.3 discusses polyrhythmia, multitasking and semi-automatic features of mobile games. Lefebvre (2013) described polyrhythmia as the configuration of multiple rhythms. In mobile games, semi-automatic mechanisms, such as auto-run gaming events, allow players to leave the game running for short periods. This feature means that the way the mobile game fits into players' time is intermittent and encourages multitasking in their daily lives. Furthermore, the semi-automatic and highly repetitive nature of mobile game interactions requires less of players' attention compared with the traditional games. This feature also fosters the occurrence of mobile game behaviour in parallel with other everyday activities.

Section 4.4 discusses in-game avatars. When players log into the game world for the first time, they are assigned an in-game avatar to represent themselves. This avatar, which can be a model or image, is not merely a blank slate; it typically comes with a designed background story, social relationships, personal identity, motivations and goals. These attributes can only be selected or modified within the limits allowed by in-game mechanisms. In other words, the avatar has an innate set of internal rhythms. The mobile game uses the in-game avatar as a trainer or guide to help players adapt to

the in-game rhythm. The section also details how the rhythms of the digital avatar influence the rhythms of the physical world.

D'Aloia (2009) regarded the avatar as a spiritual bearer for the player in the digital world. Hence, the avatar's pre-engineered rhythms can be transferred to the player's physical body outside the game through the link between the human player and the digital avatar. This connection allows the rhythm of the game to influence the actions of the player outside the game. For instance, when a player takes an action outside the game, the in-game avatar performs a corresponding reaction on the screen. Simultaneously, the avatar's in-game timetable. designed by game developers, integrates into and influences the player's daily life schedule.

To execute a command action for a digital avatar in a mobile game, the player needs to tap, touch or swipe on their smartphone screen. Through pre-designed interaction logic between humans and smartphones, the in-game behaviour is translated into the actions of the player's biological body. This connection reflects all in-game rhythms into the player's daily behaviour outside the game. As Gee (2008) described in his argument about embodiment in video games, "the player, acts in the game as if the goals of your surrogate are your goals" (p. 258). By embodying the character, players inherit the goals or needs of the in-game avatar and are be given the powers, limitations and even the perspective of the avatar.

In total, this chapter briefly introduces how mobile games establish rhythm through in-game mechanics. It also explains the role of the in-game avatar and the transmission process between in-game rhythms and daily life rhythms

outside the game. This sets the foundation for the following two chapters, which explore the combination and conflict between mobile gaming rhythms and non-game rhythms.

4.2 Linear and Cyclical Rhythm Performance in Mobile game

The following subsections proceed with a rhythmanalysis based on Henri Lefebvre's (2013) theory, using common mechanics in mobile games to explain how the linear and cyclical rhythms are produced within the game environment.

4.2.1 Linear Rhythm Performance on Mobile Gaming

The linear rhythm in mobile games is usually expressed as a series of repetitive in-game actions. This section begins by introducing descriptions from interviewees to show how the repetitive behaviour manifests in daily in-game daily playing. The discussion starts with transcriptions of daily tasks (daily goals) from three interviewees: Zachary, Werner and Andrew:

'What is the daily goal? It is like waving to a good friend, opening a door, chasing a light appearing on a particular map, or, for example, lighting some candles or fighting with many crabs to fight.'

——Zachary

'If that is what you are talking about, there should be some specific dungeon you will have some of each day and knock those out.'

——Werner

‘The daily tasks are mainly completing fixed challenges, killing enemies, and something I do not feel sure about, like collecting vegetables or similar activities’

——Andrew.

Regarding of the terms used by the interviewees—whether crabs, candles, dungeons or commissions—their descriptions highlighted a similar repetitive action process. They repeatedly engaged in the same quantifiable standard behaviour within the game.

Andrew’s example of challenging dungeons can be used to explain how in-game behaviour is analysed in linear rhythmanalysis. The process of ‘completing a challenge’ begins when the player clicks on a button to start a specific challenge, waits for a while, clicks on the screen to receive the reward and then clicks the ‘start challenge’ button again. During this process, the player performs an action equivalent to tapping the phone screen twice. The position of the taps and the timing between the two taps are the same when the player performs this action repeatedly. These repeated and regular clicks are typical performances of linear rhythm in the daily gaming. Next, this section introduces two common mechanisms that foster repeated clicking and produce linear rhythm.

The first mechanism is the stamina points system. Mobile games limit the time a player can engage in daily game activities by using stamina points. These stamina points naturally increase over time, typically by one point every 3 to 8 minutes. Players must spend a specific number of points to participate in in-game activities. For example, in ‘Genshin Impact’, stamina points are called

‘Original Resin’. When it falls below 160 points, the game automatically increases it by one point every 8 minutes (Genshin Impact Wiki, 2023). Each time a player collects an in-game reward, they need to consume Original Resin, typically between 20 and 40 points. Meanwhile, acquiring average in-game equipment (referred to as ‘Artifact’ in the game) for a character requires several dozen challenge attempts. As the content of the challenges is usually fixed and the amount of stamina points increases over time, the player’s behaviour in consuming stamina points becomes endlessly linear and repetitive. These repetitive in-game behaviours establish the linear rhythm produced by mobile game mechanisms imposed on players.

In some interviews, interviewees expressed a desire to use their stamina points in the ‘most efficient’ way, which greatly intensifies the repetition, as seen in the case of Calvin. Calvin plays a mobile game called Arknights, which allocates 240 stamina points per day. To obtain the most cost-effective rewards, he plans to spend all the stamina points in a precise way.

‘We calculated that, if we used the stamina points on the Challenge 1-7, we would get the most rewards …Nevertheless, that challenge only has a little consumption of stamina, so it takes a long time to operate, I have been playing for a month, and I cannot stand this’.

——Calvin

The challenge he described (named 1-7) consumes six stamina points per attempt. Therefore, Calvin needed to complete the same in-game challenge 40 times a day. As previously mentioned, these 40 times of the in-game commands are entirely repetitive.

The motivation for players to spend stamina points, especially in the ‘most cost-effective way’, is to acquire materials to reinforce their in-game characters. In order to ‘grow’ their characters (generally meaning to increase their abilities), players need to collect experience points or specific materials. These are usually obtained by repeatedly spending stamina points to complete challenges. For example, Calvin needs to tap his phone screen in exactly the same manner 40 times. The in-game challenge actions performed by the avatar and the out-of-game tapping performed by the player create the linear rhythm that is a product of the mobile game’s design.

Another interviewee, Cornelius, shared a similar experience:

‘Sometimes you complete the same challenge several times over for a certain material,or that currency, or experience point.,although I do not want to do it a second time’

——Cornelius.

Each time he tries to pass the challenge, the required in-game action remains the same. This theme of repetition is echoed by Rowena, who described her own experience:

‘There could be hundreds of times when you start; (when you begin) it could continue like that for the next twenty minutes.’

—— Rowena

For the interviewees, spending daily stamina points on the challenge may involve repeating actions that have just occurred or have occurred repeatedly

over time. These repetitions do not occur naturally but are designed and guided by an artificially designed machine program. Players need to click specific locations on the screen to begin and end the challenge. The content, timing and frequency of these actions are pre-designed by game mechanics. The process through which a player receives rewards from a repeated challenge serves as training, fostering or educating them to engage with a game-based linear rhythm. As described by the interviewees, Cornelius and Rowena, this repetition in game behaviour aligns with the definition of linear rhythm as a “series of identical facts separated by long or short periods of time” (Lefebvre,2013, p. 76). To keep the stamina points increasing, players must collect or spend them at regular intervals. A game’s stamina maximisation limit should be viewed as a signal, hint or instruction that influences players to return to playing at regular intervals and should be regarded as guidance for fostering the linear rhythm been designed by the mobile game.

There may be a form of rhetorical trickery within the narrative framework of the mobile game system, where a mobile game allows players to spend stamina points on a specific challenge, suggesting a game-given reward for the player. In contrast, the experience that players might have received—such as a whole and controllable character and a complete story—is broken into countless pieces. This requires players to repeat specific behaviours many times to obtain it. Stamina points are a tool designed for repeated challenges, splitting players’ experience and keeping them engaged in endless gaming.

One of the interviewees, Sabina, had set an alarm for midnight to remind her to log in and collect some in-game resources that her character needs. In this

case, Sabina's primary objective is to enhance her in-game character. To achieve this, she has developed a secondary objective: using her stamina points more effectively. For this developed secondary aim, she set this midnight alarm to avoid wasting stamina points. This case illustrates a conversion of demands within the game system, where a player's in-game needs are converted into out-of-game behaviours. The path for this conversion between in-game and out-of-game actions can be dictated by the mobile game's pre-designed system.

In this context, the logic between players' natural desires (to strengthen their characters, pass levels and know the next part of the story) and their actions can be designed to a considerable extent arbitrarily. Another interviewee, Juliana, exemplified this: She repeats the in-game challenge countless times to obtain the game's Christmas reward. Each challenge lasts 15-20 minutes, totalling approximately 60 hours spent during in this specific Christmas game event. In this case, the time spent per challenge, the number of challenges and the number of rewards are all adjustable within the pre-designed game system. The game company may design highly repetitive content to induce players to pay to avoid parts of it, for instance, acquiring strong characters or equipment[15], rare item or the option of jumping the challenge.

Stamina points are designed to quantitatively assess and limit the highly repetitive content of games. On the one hand, they limit how often a player can engage with the repetitive content within a given period. On the other hand, they encourage players to continuously consume their stamina points, which automatically regenerate over time. This ongoing consumption of

[15] These items or characters usually require Gacha.

stamina points eventually becomes a habit, which is converted into a game-based linear rhythm.

After that, the in-game dual-currency system emerges as the second common mechanism for supporting in-game linear rhythms. The dual-currency system allows players to use both out-of-game currency and in-game virtual currency generated within the system to purchase in-game items. Typically, there is a one-way conversion from out-of-game currency to in-game currency. However, in some specific games, through a player-to-player trading system, players can also exchange virtual currency for real currency. The most common application of items in a dual-currency system is for loot boxes.

Loot boxes are a random reward payout mechanism that links in-game virtual currency with out-of-game currency. On the one hand, players can be rewarded for completing daily or weekly tasks with in-game currency, which they can then use to purchase loot boxes. On the other hand, loot boxes can also be bought with out-of-game currency. Hence, loot boxes are a type of purchasable item for both in-game and out-of-game currencies, making the value of a player's repetitive in-game tasks measurable in real money.

For the interviewees, the moment of opening a loot box may provide a strong positive feeling. The reward items within individual boxes are randomly generated[16], obtaining a 'Superior Super Rare' reward item is an exciting experience. For instance, Lance expressed that he prefers this moment as the most enjoyable part of his gaming process, as his description as following:

[16] There has been some debate about whether the loot box is random. It probably depends on the different mechanisms of each gaming company.

‘Opening the Loot box is probably the only moment where I can feel the fun’.

——Lance.

To acquire a loot box, players must either continuously complete repetitive tasks or directly pay for it. Through the loot box mechanism, the linear rhythm within a mobile game is linked to consumption. This repetitive in-game behaviour can be regarded as a “social practice that comes from human activity” (Lefebvre, 2013, p. 8), according to Lefebvre’s theory of rhythmanalysis. The repetitive in-game action represents quantified and regulated social time, and players may use this regulated time to exchange for randomly distributed rewards by the game system. On the one hand, to prolong the player’s online time, the game imposes repetitive tasks on them; on the other hand, this repetitive work can be significantly reduced through online payments.

Interviewee Wright, who works in mobile game design, supported the positive correlation between playing time and the players’ willingness to consume based on his experience:.

‘The longer the online time, the longer the player has to play the game, the more likely he is to bring more benefit to the mobile game’.

—— Wright (mobile game designer)

In the digital gaming world, the materials that the players pursue, such as experience points and items for their characters, are almost cost-free in a physical sense. They are composed of pictures, numbers and program logic. The perceived price of an in-game item is not determined by its actual

production and distribution costs but by the amount of effort required by players to acquire it, or in other words, by the number of repetitive actions they are required to perform.

Through this method of game design, the value of an in-game item (e.g. characters, weapons, equipment, experience points and enhancement materials,etc) can be measured by the number of times an action needs to be repeated by a player. Powerful or rare items require more repetitions, while weaker or common items require fewer repetitions. Since items usually feature a random reward mechanism, the actual number of repetitions may be uncertain but generally fluctuates within a fixed range. At the same time, the in-game repetitions require the player to invest a corresponding amount of time and attention as a cost. Thus, the player's private time and attention invested in the game become the weight that is exchanged for the value of the game item and the measure of the value of the game's items.

In the case of the interviewee Dora, he spends 30-40 minutes per day in the game and earns a tenth of one mobile game character. In the mobile game he played, some characters are free, while others can only be acquired by paying out-of-game currency or by performing repetitive actions in-game. In the latter scenario, paying with out-of-game currency is equivalent to 300-400 minutes of in-game repetitive actions. The value of the mobile game character, as an exchangeable commodity, is validated by the personal time and attention invested by players such as Dora and becomes the metric for other players who use the out-of-game currency to acquire the same item.

With in-game items as intermediaries, mobile games sell experiences that should inherently belong to the players. A notable phenomenon is that players often need to pay for opportunities to save time. Many mobile games include options to ‘skip challenges’ or ‘speed up challenge animations’ in their payment options. These skippable contents typically represent a series of repetitive game enemies or scenes that require players to continuously click the screen or watch the record of the last time they completed the same challenges multiple times. Hence, players are tempted to pay to avoid long, repetitive animations or the need to repeatedly click the screen numerous times. If a player refuses to pay, they would experience a more linear and completely repetitive in-game experience to achieve the same result as a paying player. In this case, the game content that can be paid to skip represents a linear rhythm imposed on the player’s body.

Thus, the design goal of ‘skip challenges’ aligns with Zagal, Björk and Lewis’s (2013) concept of dark game design patterns, where the game uses linear repetition to produce negative experiences for players to induce them to pay to reduce these negative experiences. In this context, the in-game linear rhythm is the method or means to create the experience that the player wants to avoid, an artificial schedule occupying the player’s leisure time. The function of in-game consumption is to re-purchase of the normal gaming experience and daily leisure time that have been overtaken by the ruled in-game linear rhythm behaviour.

However, in traditional PC or console games, features such as double speed or ‘skip challenges’ are often included in the ‘Options’ menu at no extra cost. This contrast between PC or console games and mobile games may suggest

a further commodification of game functions. Through the dual-currency system, a player's repeated in-game actions can be bought with out-of-game currencies, leading to the potential exploitation of the player's attention or personal time.

In conclusion, this section argues that repetitive behaviour within mobile games exists. The game creates a to-do list to consume stamina points and establishes the in-game repetitive time as the standard of value for virtual products. With the intrinsic, inherent meaninglessness of this to-do list, the player's gaming time is typically highly repetitive, which further leads to a linear rhythm in the physical body of the player.

4.2.2 Cyclical Rhythms Performance in Mobile Gaming

This section explores the performance of cyclical rhythms within China's freemium mobile games. Cyclical rhythms include multiple actions that are linked head-to-tail and repeat at regular intervals. Compared with linear rhythms, where the same action is continuously repeated, game-based cyclical rhythms more often involve cycles that oscillate back and forth within a specific period. In mobile games, cyclical rhythms are usually performed according to a specific schedule. Specifically, the mobile game produces content or events that correspond to clock time, encouraging players to engage with the game at these specific times. This section focuses on two in-game mechanisms that generate game-based cyclical rhythms.

The first mechanism is the game content cyclical system, which refers to the availability of game content that changes according to the social timetable. The appointment model, which is based on real social time, has become a

renowned design technique, often referred to as the appointment dynamic. As Zagal, Björk and Lewis(2013)'s concept of 'play-by-appointment', a model based on real-world time that " requires players to engage at specific times and dates as defined by the game, rather than by the players" (p. 4). This model is exemplified in the interviewee's case discussed in this section, where the cyclical content and login systems in mobile games effectively mandate that players adhere to a 'play-by-appointment' schedule to engage in gaming.

For example, certain game content may only be accessible on specific days of week, month or year. This mechanism can be explained using the description provided by the interviewee Abner:

'There is the possibility of getting a particularly good reward [from participating in the in-game activity] on Saturday or Sunday, only once a month. I will participate whenever I play that game, which is part of my daily activities'.

——Abner

In Abner's description, the rhythm of mobile games is linked with the social calendar. The time frames he mentioned (Saturday or Sunday, every month) refer to the cyclical periods measured by out-of-game calendar systems. The in-game mechanism links the in-game event with the out-of-game calendar and repeats the cycle according to the days, weeks or months that pass on the calendar.

One common cyclical rhythm created by this link is the daily login activity. With this mechanism, mobile games provide rewards to players who log in during a specific period. Motivated by in-game rewards, players may develop

the behaviour of daily login, which Lefebvre (2013) described as cyclical repetition. The daily restart and rerun of the game each day correspond to the cyclical rhythm. This mechanism can be understood through the descriptions provided by the researcher and the interviewee Rowena:

‘Rowena: Most of, or at least half of (Mobile) games, will ask you to log in at a particular times, especially 12:00–14:00, and then at night, there might be 6:00–8:00 pm or 7:00–9:00 pm. These two golden hours, ask you to go online to be able to receive stamina points or receive other benefits like that.

The researcher: Did you do it?

Rowena: If I am not busy with work, I will. It also depends on the degree of addiction. For example, in some games, when I am in a grinding period, even when I am shopping with friends and I see the time is noon, like 12:00 pm, and I will also go online to receive (the in-game reward).’

The ‘logging in’ of the interviewee Rowena at a specific time each day has become part of her daily routine. In-game mechanics link the in-game reward to specific times of the day; as Rowena described, she logs into the game from 12:00 pm to 2:00 pm, 6:00 to 8:00 pm or 7:00 to 9:00 pm. This behaviour, which cycles every 24 hours based on established clock time, sets a daily cyclical gaming rhythm for players. Rowena and other players who adhere to this regular login schedule exemplify this daily routine. Through reward mechanisms, a mobile game integrates itself into the daily 24-hour cycle, aligning with the scale of the clock. In addition to the 24-hour system, the mobile game also incorporates mechanisms tied to the weekly cycle. For example, some game challenges are updated every Monday morning, and

challenges to obtain specific materials are available only on certain days of the week.

Other mobile game mechanisms are linked to natural months or country holidays, such as Christmas or summer holidays. Many games update the shop commodities on the first day of each month or hold events on bank holidays each year. For events that regularly occur during specific months of the year, interviewees may prefer to refer to them by the name of the holiday[17] rather than the official in-game event name. For example, in her response, the interviewee Juliana refers to an in-game event in December as a 'Christmas Event' instead of its official in-game name, '闪闪祭'.

In addition to mechanisms that tie game events to specific times, another common in-game mechanism for producing cyclical rhythms is the log-in reward system or the monthly pass system[18]. Both are reward distribution mechanisms within mobile games., The log-in reward system delivers rewards to players who enter the game daily, while the monthly pass is a payment option in the mobile game. Typically, a player pays a relatively low amount (normally 30 Yuan, around 4 to 5 pounds) and receives an instalment return each day for 30 days. Essentially, it distributes the commodity the player has already purchased at regular time intervals. The case of interviewee Elisa could help to explain this mechanism further:

[17]Common names include Summer Events, Winter Events, New Year's Events, and Christmas Events, etc.
[18]Depending on the effective date, the similar mechanisms also include the season pass, annual pass, and lifetime pass. The monthly pass is the most common one.

‘I get nothing from my repetitive actions, but I have to do it for the rewards. Because I need to draw cards or buy other builds, I need stones[19], so I have to go and do the quests. I could not get stones any other way unless I paid for them, and I did buy monthly cards for three or four months. With the monthly card, I could get 50 stones per day and some acceleration tickets [researcher’s note: referring to the in-game time acceleration items]. The monthly card was supposedly the cheapest, costing 30 Yuan (about 4 pounds]. The game gave me 900 free stones per month [As mentioned above, the interviewee needed to perform repetitive actions to get these stones], then add 50 mending stones per day, then that is 1500, plus 30 days for daily tasks, that is 2400, and you only need to pay 30 Yuan [The direct purchase price of 2400 stones is about 240 Yuan, approximately equivalent to 30 pounds].’

——Elisa

By implementing cyclical reward delivery, mobile games encourage players to return at regular time intervals. As Elisa noted, the total reward from a monthly pass usually exceeds that from an instant top-up. However, the revenue a player accumulates is directly proportional to the number of days they log into the mobile game; the more days they log in, the higher the percentage of return becomes. Although the overall benefit of a monthly card is relatively high (1,500 stones), players can only access a limited portion (50 stones) of it in a single day. This suggests that game mechanics create a cyclical rhythm by regularly distributing rewards to players.

[19] Stones, or diamonds. tickets,etc, refer to the in-game currencies used to exchange for Gacha chances

Besides the common login rewards, the cyclical mechanic that links game time with real time can also impose penalties on players, a topic previously discussed in research on mobile gaming. For example, Chess (2018) described the casual game FarmVille 2: Country Escape, where players are given a small plot of land to plant crops. These crops require real time to germinate, grow and bear fruit, compelling players to return regularly to tend to their crops. If players do not return after the crops ripen, the crops will wither, resulting in a loss of potential revenue. In this game, the growth cycle of the crops serves as a cyclical rhythm that marks the player's time by periods of productivity enhancement. This in-game cyclical rhythm also fosters a habit in players of returning to the game at regular intervals, as dictated by the game mechanics.

Similarly, research by Lu and Carradini (2019) identified a punishment mechanism in The Lords Mobile[20], which includes a 'constant risk mechanic.' In this game, if players do not return regularly, their in-game assets are at risk of being attacked by other players. Unlike the case in FarmVille 2, the consequences in The Lords Mobile are more random. A player may leave the game for an extended period without any consequences, or they might be away for just slightly longer than the game's safety period and find their assets plundered by an attacker.

In the current (2023-2024) mobile gaming market, direct punishments, such as reducing players' resource income as described in Chess's (2018) article, are less common. However, mechanisms like monthly passes and login rewards are almost universally applied across mobile games, which can also

[20] a mobile multiplayer online real-time strategy game.

be seen as a more subtle form of punishment. As illustrated in Elisa's interviewee case, each login rewards the player with 50 'stones.' Conversely, this mechanism implies a loss of 50 'stones' for each day the player does not log in, subtly penalising inactivity.

According to Zagal, Björk and Lewis (2013), in the 'play-by-appointment' model, the decision regarding when and for how long to play is dictated by the game, not the players. They argue that the game may 'manipulate or take advantage of a player[21]" (p. 7). The interviewees' descriptions of the cyclical mechanisms within their games highlight strong negative experiences, which will be further discussed in the following chapters.

Overall, drawing on the interviews with Abner, Rowena and Elisa, this section explores the relationship between mobile game mechanisms and real time. It introduces the login and monthly pass systems and analyses how these mechanisms establish a cyclical rhythm in the players' gaming experience.

4.2.3 The Intertwining and Combination of Cyclical and Linear Rhythms

The previous two subsections respectively described how the mechanics and design of mobile games produce linear and cyclical rhythms within the gaming environment. This subsection introduces two common mobile game mechanisms that combine these rhythms: the daily/weekly task and battle pass systems.

[21] According to Zagal, Björk, and Lewis (2013), some games, such as Pokémon and Animal Crossing, incorporate mechanisms related to real-world time as an element, but they do not aim to manipulate or take advantage of players. While these game events may require players to participate at certain real times, players can still have a relatively complete gaming experience without engaging with these elements.

The daily/weekly tasks are a system that measures and calculates player in-game actions and awards points accordingly. This system refreshes the rewards each cycle (usually daily or weekly) and is available to all players at no cost. When a player performs a specific in-game action, the system awards them points. Once a player accumulates a certain number of points, the player receives the corresponding in-game reward. This system, which measures player performance through in-game scores, can be illustrated by the case of the interviewee Zoe, a player of a fashion design and matching game.

> ‘My habit is to sign in, then I will send stamina points to my friends as well as receive stamina points. I will do five commissions for the Alliance and then go to the library to sort out some information. I will go to the Alliance shop to buy 1-2 items, do three commissions at the Dream Weaver[22], and then draw once on the island... By this time, it is almost halfway at 3/5 of the progress. At this point, I will collect some stamina points and then go and do the Arena. Then I will see [what daily tasks I have not completed]...By this time, your task process is almost to 5/6. I will then see if there are any easy tasks you could do.’
>
> ——Zoe

In Zoe’s detailed description, she used various phrases to estimate her progress in completing daily tasks, such as ‘almost halfway’,‘3/5 of the progress’ and ‘almost to 5/6’ . This way of quantifying progress suggests that

[22] an in-game building

she is calculating how many bonus points she needs to collect to obtain all the in-game rewards.

First, Zoe's in-game behaviour is cyclical. She begins the introduction of her playing process with the word 'habit'. This word suggests that engaging in daily tasks has become routine for her. During the interview, she indicated that the list comprises tasks she repeats daily to complete. The behaviours she described recur in cycles over her period of playing the game. Second, parts of Zoe's daily in-game behaviour contain linear tasks. For example, she mentioned 'do the Arena' (which involves challenging five opponents) and 'clear stamina points (as previously explained, consuming stamina represents a linear rhythm). These tasks require the completion of repetitive behaviours a specific number of times.

In Zoe's case, the daily task (or daily goal) system coordinates and integrates cyclical and linear rhythms. When the player completes linear tasks, such as using up 100 stamina points, their achievement contributes to the scoring system. This scoring system then distributes rewards based on the score and updates the rewards at a fixed time (normally at 4:00 or 5:00 AM). Since the system updates in a cyclical rhythm, the player's log-ins and engagement in linear rhythmic behaviours are intertwined with the updated cyclical rhythm. The player's in-game behaviour incorporates a series of cyclical and linear rhythms which are guided by the daily task system.

Furthermore, the refresh times for daily tasks in mobile games are also likely to influence people's habitual thinking about games. This is illustrated by the description of the interviewee James regarding his daily quests:

> ‘After 4:00 AM., I suddenly returned to my senses and realised I had forgotten to do the daily task. It is like inertia, making it natural to remember to complete it’.
>
> ——James

Like James, other interviewees also showed that they habitually think about the status of their daily tasks before going to bed. James described his thinking about the game’s daily tasks as ‘natural’ and other interviewees, particularly those who regularly participated in timed in-game events, exhibited similar attitudes towards completing their daily tasks. This phenomenon may suggest that, beyond physical engagement, players are likely to develop a mental habit of considering daily tasks at cyclical intervals with the guidance of the game’s mechanisms.

Following the daily task system, the discussion explores the battle pass mechanism, which also demonstrates the combination of linear and cyclical rhythms. The battle pass system (players usually refer to it as the ‘Big Monthly Pass’) is similar to the daily/weekly task system. It consists of a collection of in-game tasks that usually last for 30–40 days or one ‘season’[23] of the game. Players earn a certain number of bonus points (independent of the daily task bonus points) upon completing tasks associated with the pass. When a player accumulates a certain number of bonus points (usually 100 or 1,000), the battle pass is upgraded, and the player receives a reward.

Normally, there are two versions of the battle pass: the basic version and the paid version. The basic version is complimentary, while the paid version

[23] Season or version refers to the period of major content updates in the game.

requires a ‘seasonly’ fee. The paid version offers better rewards compared with the free daily/weekly task system. Like the daily goal system, the battle pass guides players through a series of rewarding linear behaviours, and it usually has a more flexible time limit.

Both the daily task and battle pass mechanisms align with the definition of a daily goal provided by Deconstructor of Fun Guest Writer (2016), which stated, ‘the player is given the opportunity to do a finite amount of a specific action, with these opportunities refreshing after a specific set of time’.

In this definition, ‘a finite amount of a specific action’ represents the performance of an in-game linear rhythm, and ‘refreshing after a specific set of time’ corresponds to the performance of a cyclical rhythm. Hence, the daily goal system can be viewed as an ensemble of cyclical and linear rhythms.

Additionally, the bonus points in both the daily task and battle pass systems resemble the ‘symbolic currency’ discussed by Christopher A. Paul (2018). In his book, Paul (2018) elaborated on dragon kill points (DKP), where players participating in an in-game activity, such as killing a dragon, have the opportunity to roll dice to determine the winner of an item they desire. Paul (2018) described this as an ‘effort-plus-chance system’ (p. 113) and argued that the DKP mechanism has evolved into a ‘symbolic currency’ used for exchanging in-game goods.

The reward system for daily tasks in mobile games represents a developed and more complicated form of DKP, where the player’s in-game effort is transformed into bonus points. These bonus points can then be used as counters to reward the player with in-game currency. Typically, this in-game

currency is used to gamble for new characters, weapons or items. Compared with the DKP system in MMORPGs, the mobile game ‘effort-plus-chance system‘ introduces an exchange between in-game currency and real-world currency. This may provide game producers with a stronger motivation to enhance players’ desire for in-game currency. Without spending real-world currency, the main method for a player to acquire in-game currency is to follow the game system’s guidance, which is a nested and intertwined system of linear and cyclical rhythms.

To keep players engaged with a game, designers often provide a set of aims. Werner, an interviewee who has worked as a mobile game community manager and reviewer, provided the following description using Hearthstone Legend[24] as an example:

‘The daily task provides you with 50 gold coins: however, you often find yourself have 90 gold coins, You might want to get up to a hundred gold[25] coins, so you keep playing. This is what all free-to-play games are designed to do, [to make you] either invest time or money. If you have already invested money, you can continue to become stronger.’

——Werner

In Werner’s case, when he finishes the in-game daily goal, it also means he has partially achieved another small goal, such as winning three campaigns, which are part of another cycle. Werner’s experience demonstrates a threefold in-game rhythm: The first is the daily task rhythm that refreshes

[24]A card battle game produced by Blizzard Entertainment, available for both mobile and PC.
[25]In Hearthstone Legends, players can buy a card pack for 100 gold coins or $1.99 . Each pack contains 5 randomly selected cards . When a player wins 3 campaigns, they will receive an extra 10 gold coins.

every 24 hours. The second is the victory reward that grants ten gold coins for every three victorious campaigns. The third is the rhythm of opening a pack, which requires one hundred gold coins to purchase. These nested and intertwined cyclical rhythms occur every day of playing.

In their descriptions, interviewees commonly used the term ‘daily routine’ to describe all the repetitive actions they perform as part of the daily goal system and the battle pass system. Normally, the ‘daily routine’ includes the in-game content where players spend most of their time. The term ‘routine’ likely stems from players’ experiences of everyday repetition within the game. According to Becker (2005), the concept of ‘routine’ involves a recurring interaction pattern—frequent repetition of the everyday. Hence, the players may use this term to describe their daily experiences in the game due to the repeated everyday behaviour patterns and the feelings of monotony that accompany them. Furthermore, they often directly or implicitly describe their ‘routine’ as repetitive or tiresome. This is evident in the descriptions of three interviewees, Werner, Darlene, and Jack:

‘I will give up on the mobile game when I do not do the daily tasks, not the specific day, but if I do not want to do the routine anymore. So, for example, if I spend much time at work someday and forget about doing the daily routine, that is tolerable. However, if I do not want to do the routine and feel like losing something about the routine reward, I will uninstall the game’.

——Werner.

‘It depends on the game, and if I do not get bored with it, I will do all the daily routine’.

—— Jack.

‘It is almost torture for me, and this mobile game is played without the joy of action. I do my daily goal and get rewards from there, rewards that allow me to strengthen some abilities of my character, but strengthening attributes does not please me. I complete my homework daily tasks, like a primary school student doing his homework.’

——Darlene

In the cases of Werner, Darlene and Jack, they discussed feelings of being ‘ bored’, ‘not please[d]’ and finding the game merely ‘tolerable’ with the daily tasks. These feelings can also be seen as their negative experiences of the same rhythm of play repeating over and over again. The interviewees were aware of what behaviours were included in each day of their gaming experience and showed clear dissatisfaction with the linear or cyclical model that was repeated many times.

Another interviewee, Berg, provided a more precise description of the negative experiences of being bored and tired. He described that he gets burned out on the game when he cannot make his in-game character stronger in a short time.

> ‘We know those games; we know that, in the beginning, when I log into the game and complete the daily goal, I will be boosted. For example, my character level is not high enough when my main story missions have not been completed. I do the daily goal; I get the experience points from the daily tasks. Most games are like that: the boost is noticeable in the early

stages of the game, but when it comes to moving to the long term, like many online games, generally online games, there will be long periods where players come online and just do things. It does not feel like anything has changed from yesterday. I will get tired of it'.

—— Berg

In his response, Berg described the everyday routine in-game as a method that must be endured to reach a higher level of in-game goals. These in-game goals may include collecting a new game character, acquiring a new item, or enhancing a character they already have. One example is Darlene, who described that the moment of getting a new character is the best part of the game. Another is Lance, who prefers to repeat the same game level over and over again to obtain the item he wants, as he described:

'I will spend some in-game resources to strengthen my character, and I can do that daily as long as I have time until I get the item'.

—— Lance

The descriptions given by these interviewees show that the daily routine in mobile games can be expanded and recycled simply by continually adding new characters or objects to the game. All the work involved in the daily routine could be valued, measured and transformed into bonus points. The game system could then reward players with different types of materials based on the accumulated bonus points during each period. After that, players use these materials to acquire new characters or reinforce their roles.

Albert, an interviewee who has worked in the mobile game industry, noted that a player's devoted time or money is necessary to perform well in a free-to-play mobile game. Within the designed rules of the game, these resources can be converted into each other at a specified rate. Many designs in mobile games compel forcing players to spend one or both of these resources. As Albert stated:

'Stamina systems, building cool downs time[26], the random card packs……those designs aim to require time or money'

——Albert

As previously demonstrated, the stamina system embodies a linear rhythm of production, while the building cooldown time can be considered a cyclical rhythm that encourages players to log in at a specific intervals. Another interviewee, Brady, who works as a mobile game designer, stated, 'The only thing we can do is create repetitive work to keep players in the game', the demands or requirements of mobile games affect players' off-game rhythm behaviour.

This process can be explained in three steps: First, the requirements that mobile games place on their players, as described by Albert—either time or money—are transmitted and manifested as in-game materials. For instance, interviewee Werner mentioned that the game's requirements are represented as gold coins, which can be obtained either by winning campaigns or through online payments. In the case of the interviewee Zoe, the requirements are

[26]Cooldown is commonly abbreviated as CD. In the context of sentence, it refer to the duration required for an in-game building to produces a resource(such as gold or other materials) again producing it once.

represented as the diamonds, acquired by completing daily goals or via online transactions. In this step, the player's time or money is quantified by the in-game currency.

Second, the rules for acquiring in-game currency or rare materials dictate the player's in-game rhythm. All mechanisms introduced, including stamina points, daily log-in systems, daily tasks and the Battle Pass system, form part of a comprehensive game design system. This system values the in-game currency or materials alongside player behaviour. It establishes rules for the exchange between the player's actions and the in-game materials, subsequently encouraging repetitive actions that manifest as either linear or cyclical rhythms within the game.

Third, the final step involves transforming in-game behaviours into out-of-game behaviours. This transformation can be illustrated by the experience of the interviewee Elisa, who described repeating daily game activities day after day:

> 'It has probably changed what I do every night before I go to bed and what I do in the morning. The last thing I do before I go to bed and the first thing I do when I get up in the morning is to open the game. In the past, I might chat with my friends, watch the news on my Weibo account, check the news, and then look at other apps or platforms. But now, after I have said good night to everyone. I open the mobile game and do the task, and It is really like a patterned operation'
>
> ——Elisa.

In Elisa's case, the statement 'The last thing I do before I go to bed and the first thing I do when I get up in the morning[27]' implies a strategy to maximise the benefits provided by in-game mechanics, which might not be obvious to non-players. Placing playtime at bedtime and in the morning is not merely a casual choice but a strategic move to avoid wasting stamina points. As mentioned in the previous section, stamina points naturally increase to a maximum limit; therefore, consuming the points before bedtime and after waking up helps to reduce the loss of potential excess.

Elisa's strategy demonstrates how game-based rhythms influence out-of-game living rhythms. As the interviewee James mentioned, 'making it natural to remember to complete it'. This description highlights that the 'natural' process of mobile gaming rhythm change people's daily routines. Elisa also noted, 'It has probably changed what I do every night'. Players adjust their daily schedules to accommodate gaming, often reorganising their daily routines to align with the game's demands for regular engagement. Game mechanisms subtly encourage players to tap the screen at prescribed times—not through compulsion, but subtle induction by the in-game rewards and incentives

In Apperley's (2011) analysis of digital game rhythms, he argued that the effect of game rhythms on human players can be described as 'training', which could be argued as: "They train people in the rhythms (timings, movements, patterns. positions) of digital games, in the gestures, and postures appropriate to play" (p. 48). He also described the aspect of training

[27] In the previous interview response, the mobile game which was Elisa playing currently includes a stamina point system.

as “sitting in front of the screen for hours on end” (p. 48). However, based on the data from the interviews conducted for this study, it could be argued that the training imparted by mobile games extends beyond mere contact between the user and the screen, pointing instead to the reorganisation and reshaping of the order of players’ daily lives. A game trains people not only to master the gestures, postures and body control necessary for playing the game but also enables them to adjust their daily schedules to facilitate physical entry into the game at the ‘right time’. While analysis of computer gaming suggests that the trained playtime refers to the period a player is connected to the computer screen, in mobile gaming, the trained time includes all the player’s daily time.

For mobile game players, the act of playing can be regarded as interacting with a smartphone and internalising the logic of mobile games into their consciousness. This notion aligns with Ted Friedman’s (1999) argument of consciousness computerisation based on traditional PC games named *SimCity.* This game is based on a series of hypothetical logic about city building. It uses computer logic to simulate urban development, expecting players to grasp this approach. Friedman (1999) described the state of full immersion in the computer as creating a ‘symbiotic circuit’ between humans and computers. This concept refers to the blurring of lines between the human senses and the computer, where players feel that they become extensions of the computer. As Friedman articulated (1999) :

> When a player ‘zones’ a land area, she or he is less identified with a role than with a process. Furthermore, the reason that the decision, and the continuous series of decisions the gamer makes, can be made so quickly and intuitively is that you have internalized the logic of the program so that

> you are always able to anticipate the results of your actions. 'Losing yourself' in a computer game means, in a sense, identifying with the simulation itself (Friedman, 1999, p. 6).

Friedman (1998) also provided a detailed explanation of how human consciousness can internalise computer logic in his other thesis:

> To win, you cannot just do whatever you want. You have to figure out what will work within the game's rules. You must learn to predict the consequences of each move and anticipate the computer's response. Eventually, your decisions become intuitive, as smooth and rapid-fire as the computer's machinations…you have to know how to think like the computer because the computer provides artificial Intelligence that determines moves of your rival civilization (Friedman,1998, p. 136).

In this quote, 'your rival civilization' refers to the character operated by the computer, and the player must learn to think like the computer to understand the logic of the computer-operated characters' actions. As Apperley (2011) stated, this should be understood as a process of reconfiguration or adaptation of human consciousness. Furthermore, it is also an adaptation of the player to the computer-based rhythm.

The repetitive feature of rhythms aids the internalisation of human consciousness into gaming. In today's mobile gaming era, the complexity of the mobile game player actions is much simpler than in the time of Friedman's works, such as SimCity and Civilization. Interviewees from this research reported that most of their in-game behaviours are repetitive. They feel that their time spent in the game involves repeating past actions. Elisa, one of the

interviewees, highlighted the extent of repetition encountered during gameplay:

‘How much of the content is duplicated? Probably 90 percent’.

——Elisa.

Due to the repetition of in-game content, the interviewees described finding it less difficult to understand the logic of the computer’s performance while playing a game and to successfully predict the outcomes of their in-game behaviour. This familiarity allows their consciousness to more quickly adapt to the computer’s logic. Furthermore, after understanding this logic, some interviewees chose to introduce customised computer programs to take over their role in gaming. For example, some interviewees had downloaded pre-programmed software that simulates players’ actions within the games. These programs act as a substitute for the players’ finger, as exemplified by the interviewee Karin, who uses a mobile phone Clicker[28] to replace himself:

‘I got off a mobile phone Clicker, and if I have something to do, I will use it.’

——Karin

This Clicker program is not specifically tailored to any particular mobile game; it requires the users to set the tap positions, number of taps and duration of the clicks. Hence, when users use this tool as a substitute for themselves, it indicates their understanding and prediction of the behavioural model required by the mobile game’s computer logic. The functions of the program, as described by Karin, involve tapping the screen continuously and automatically,

[28] Or named quick macro. A kind of mobile game software which automatically repeats user-entered commands.

just as a human finger does. It works like a contemporary parable of water dripping through stone—Lefebvre's classic description of linear rhythm (2013). Another interviewee, Marko, explained why players use automatic programs to replace self-play. He believed that limited linear repetitive clicking leads players to prefer Clickers. During the interview, Marko quantitatively described the repetitive actions he needs to perform in the game:

> 'Let us start with two hundred cycles, twice a year, each for 14 days, an average of six hours per day.'
>
> ——Marko

Marko's experience relates to a yearly event in a mobile game. In this event, players typically use stamina items that they have accumulated beforehand to earn more in-game rewards. According to Marko, participating in these events can require up to 70 or 80 hours of completely repetitive steps, which can mechanically be replaced.

Similarly, another interviewee, Juliana, plays the same game as Marko but does not use Clicker. During the event, she spends eight hours per day playing for seven consecutive days each time this in-game event occurs. She stated:

'I bought from the event shop until it was sold out, ten times a day, and I would set a target for myself about how many times I had to buy it all, and the target had to be done before the game event ended'.

—— Juliana

When Juliana entered the scene, she did not feel frustrated. At that moment, she believed that constantly tapping the screen was exactly what she was supposed to do. In terms of outcomes, Juliana's human efforts are just as effective as Marko's Clicker; they both manage to purchase all the event items from the event shop as many times as they wish.

Juliana's case shows the internalisation of a linear rhythm. When she followed the guidance or demands of the mobile game, she engaged in repetitive and regular clicking behaviour, thus developing a game-based rhythm. From the interviews with Marko and Juliana, it is clear that in adopting in-game linear or cyclical rhythms, a human finger is no different from the Clicker. The existence of Clicker was created as a substitute for the human finger, can be seen as a player's revolt against a linear rhythm, but also as a metaphor for an imposed structure. Moreover, this metaphor also signifies the internal consistency between human consciousness and computer logic in daily mobile game playing. The 'symbiotic circuit' argued by Friedman (1999) may indeed be proved by players' use of Clicker to replace their own actions.

After the initial stage, players immersed in the scenario soon realise that they must perform continuous repetitive actions to meet the game's expectations, as explained by the interviewees Ike and Link:

> 'There is a button in the bottom right corner of the screen, and you have to keep tapping it, keep tapping and keep tapping, so many times, that your fingers get tired.'
>
> —— Ike

‘It is just clicking, click, and click. There is little difference between the daily tasks, not much change, it is the same.’

——Link

Like in the case of interviewee Marko, for many interviewees, the interaction between the player and the mobile game is more akin to mechanical repetition than to a creative intellectual activity. Brock and Fraser (2018) have shown how game players use interactions with the screen to reflect and improve their skills, and how improved skills can lead to the emergence of creativity. As they stated, “the development of skilled hands also facilitates creative expression” (Brock and Fraser, 2018, p. 1227). However, the simple ‘click’ of action in mobile games can hardly be regarded as an intellectual or creative expression due to the lack of thinking activity, as the illustrated by the description of the interviewee Erin:

‘I already had some almost mechanical movements when I was playing it. I would keep clicking repeatedly and not think about it in the process’.

—— Erin

Brock and Fraser (2018) highlighted ‘reflection’ as an important element of skill development. However, mobile gamers such as Erin do ‘not think about it in the process’. For mobile game players, the primary aim of playing is not to improve skills but to ensure they do not miss the game’s rewards. As Marko described, the in-game event was held ‘twice a year’, and each event lasted ‘14 days’. To get enough in-game rewards, players must perform a certain number of repetitive actions. Brock and Fraser (2018) showed the variability

and engagement demonstrated by players through mouse clicks while participating in game activities in Dota 2. Their demonstration illustrates how these clicks are a means to express player strategy and skills. In contrast. the interviewees in this thesis displayed strong consistency and repetition in their playing behaviour, where the click is not a tool for expressing thoughts but a repetitive action that must be performed sufficiently to meet the requirements of mobile game design.

The time limit of the mobile game event requires players to complete a specific number of actions within the event duration, and these actions are equivalent to a corresponding number of clicks. According to the descriptions provided by Erin and Ike, players perform clicks mechanically without regard for intrinsic meaning or reflection. Rather, the click is not an intellectually meaningful action but simply an action. As Ike described, ‘there is a button in the bottom right corner of the screen, and you have to keep tapping it, keep tapping and keep tapping’. When playing a game over long periods, players often do not perceive a difference between today’s and yesterday’s content, with repetitive tapping actions dominating a significant portion of their gameplay time. This mechanical operation model became habitual for the interviewees, allowing for extended periods of play without requiring extra attention. As the interviewee Andrew stated:

> ‘The mechanical action [in playing the game] does not require looking at the screen. I do not look at the screen when I am running on my routine’.—Andrew

When Andrew plays the game without looking at the screen, his fingers maintain a dominant, repetitive rhythm. The natural attitude of the interviewees towards these mechanised behavioural patterns suggests the possibility of humans internalising rhythms produced by machinery into their biological instincts. This could be considered a form of human self-programming, referring to the process by which people translate the logic of computers into their biological bodies. Alternatively, it could also be regarded as the performance of a player who has completed the online dressage, which is discussed in a further subsection. At the beginning of playing, players follow the guides of the game system to build their in-game behaviour habits. Subsequently, they develop a series of mechanical out-of-game body postures corresponding to the game system, as Ike described, ‘keep tapping it, keep tapping and keep tapping, so many times’. In these cases, the logic produced by the computer has been transmitted to the player’s consciousness and out-of-game body. As Ted Friedman (1999) stated, the ‘symbiotic circuit’ between the game and the player makes them share a series of logic. In the cases of the interviewees in this study, it also signifies the shared rhythm.

Lastly, players’ experiences of game-based linear and cyclical rhythms are not equal but are strongly impacted by their ability to make online payments. The interviewee Scott, who has ten years of work experience in the mobile industry, explained shows how the mobile games train the players into these rhythms through ‘timings, movements, patterns. positions’ (Apperley, 2011, p. 48):

> ‘For Chinese game designers, the numbers are the most important… planning is the core: our gameplay is not very important. We have a very

clear plan of the numerical growth for each player, about what kind of game fun will be given at which time, precise to the minutes, and the fun comes from which game mechanism. This is the absolute consensus among all mobile gaming companies. In order to guide the new game players, the game process is clearly planned. Players do not necessarily follow the planning strictly, but I have to give this planning about the for player actions'.

——Scott

Scott's response highlights how game designers meticulously plan the experience of mobile game players. This planning of player behaviour is normally extremely precise and detailed, it spans from the first minute a player enters the game to the last minute they quit.

As demonstrated by the interviewee Lance, motivations such as 'spending some in-game resources' and 'strengthening my character' motivate players to continue gaming. This numerical growth is a significant motivator for playing; the point at which players decide to give up a game usually coincides with the point at which numerical growth within the game becomes insignificant. Mobile game designers are acutely aware of this balance and plan accordingly. They understand exactly how much time a player needs to spend in the game and what rewards will be achieved. This planning is both clear and detailed.

From the view of game designers, detailed distinctions are made about player groups. The first criterion for classification is the length of time the player has played, and the second is how much the player has spent on the game, as interviewee Scott stated:

‘In terms of experience in game design, we divide games into phases. Through the system design of the game, the numerical growth is connected to behavioural planning’.

——Scott

All of these designs aim to keep players engaged in the rhythm of mobile gaming and encourage them to pay for the game experience. Players can be distinguished by their in-game payments. Based on historical consumption records, the mobile game designers categorise players into different groups, typically referred to as ‘small R’, ‘middle R’ and ‘big R[29]’. They plan the corresponding game experiences for each group. As previously mentioned in this section, players may acquire items to bypass repetitive tasks through online payments: the more money a player spends on the game, the more privileges they can acquire to skip the standard in-game linear and cyclical rhythms.

The interviewee Brady, who works for a game company, explained the profitability mechanism of the freemium model with the following statement:

> ‘The Gacha system in the freemium game is essentially price discrimination, in traditional video games, the players can, and only need to pay one time, no matter if they are rich or poor, however, in mobile games, if consumers want, they can make unlimited purchases’.

——Brady

[29]In the context of Chinese cyber culture, the capital ‘R’ stands for the ‘Renminbi’ which is the official currency of China

To explain this opinion, he added: ‘The player is not playing the game, but playing the existence beyond the game’.

According to Brady, there are three main reasons why people play and pay for mobile freemium games: First, some players enjoy the feeling of defeating others. Second, people want to discuss or show off their in-game items with friends. Third, some people want to offer or pay something to an object as a mental enjoyment. For these reasons, people continue to play mobile games although they recognise the repetitive nature of the gameplay.

In the cyclical and linear rhythm models of mobile games, each player may have a per-determined role. Even within the same mobile game, players who spend different amounts of money are assigned different rhythm models. As the mobile game designer Scott explained:

> ‘From the view of a designer, the system is the core, and it is based on the numerical value to express. The number is behind the glory: Who is the small R[30] ? who is the middle R? Who is the big R? We have to have strong systems to inform the all players who belong to which groups. We have designed this social hierarchy: we have to design the role of each person under the social hierarchy. For example, in a game guild, without the president, there will still be 6-8 characters. For these characters, we need to design their titles, functions and their interactions with other players. All of the in-game mechanics were designed to build a system...how do I generate in-game interaction and social connection based on the social hierarchies? The whole interaction system is the rules of the game, which

[30]The term ‘RMB player’ refer to a person who spends money on a game

were designed in advance, and the game mechanics will strengthen these social hierarchies...From a game design point of view, we never let bottom players flow to the top. The rules of the game world are much colder, the welfare is a bubble, colder than real life'.

——Scott

Scott's description outlines how the environment surrounding different 'player groups' can be differentiated. This variation arises because the game assigns multiple roles to groups of players, each developing distinct rhythmic patterns. For instance, players who purchase specific freemium options may have higher maximum stamina points, allowing them the privilege of exiting the game for extended periods without penalty. These varied and complex freemium options enable players to alter their gaming environment through online payments, thereby diversifying the game's mechanics and affecting both linear and cyclical rhythms.

The preceding three sections introduce common mobile game mechanisms that establish the linear and cyclical rhythms of player in-game behaviour. The following section discusses the features of automation in gaming and the function of in-game avatars.

4.3 Polyrhythmia, Multitasking and The Automation of the Mobile Game

As a key concept in Lefebvre's rhythmanalysis theory, polyrhythmia refers to a configurations of multiple rhythms. Lefebvre (2013) described it as follows: "it suffices to consult one's body; thus the everyday reveals itself to be a polyrhythmia from the first listening"(p. 16). The most common form of

polyrhythmia is the multiple rhythms of the organs in the body, where different organs each produce their own rhythm yet simultaneously support the same human body.

In the realm of mobile gaming, gaming time usually overlaps with other daily activities. The interviewees in this research typically display a tendency towards multitasking, engaging in gaming during regular daily events such as dining, working or taking breaks. This blending of rhythms from mobile gaming and non-gaming life can be viewed as polyrhythmia in the context of rhythmanalysis.

To present the concept of polyrhythmia in mobile gaming, this subsection briefly introduces the phenomenon of automation in mobile games. This discussion helps develop an understanding of how players automate the in-game cyclical and linear rhythms and integrate these into their daily lives, and how these automated in-game rhythms contribute to the construction of daily polyrhythmia. It is important to clarify that not all mobile games feature automated mechanisms. Nevertheless, automation is increasingly common, especially in the role-playing genre. Automatic mechanics are predominantly used in player-versus-environment (PvE) content but are less common in player-versus-player (PvP) interactions.

Automation in mobile games involves a two-step process: the player gives instructions, and then the game program automatically carries out the corresponding actions. This usually takes the form of auto-combat (referred to by Chinese players as ‘扫荡’, ‘saodang’) or auto-collection (commonly termed ‘idle’).

In some mobile games, auto-combat functions as the game system automatically replicating the commands a player used in their last challenge of the same dungeon. Consequently, players often refer to this feature as ‘watching a record’. In these instances, the automatic system takes the same amount of time as the player did originally, and the human player does not need to intervene. During this process, the computer program plays an animation to give the impression that the in-game character is performing these actions.

The essence of the auto-mechanism is akin to a timer or clock, where the player presses the start button, and the game issues a reward after a specified period. The duration of this period may depend on factors such as the strength of the player’s character and the time the player took to complete the last pass. Additionally, some mobile games offer options like a double-speed accelerator or the ability to skip the auto phase: players can ‘unlock’ these features by paying real currency.

With the automation system, players often experience gameplay intermittently rather than continuously. Ruffino’s (2021) work on idle games demonstrates fully automated ways of managing game space. However, according to interviewees’ responses in this study, the more common pattern of player-game interaction tends to be semi-automated rather than fully automated. Players are required to return to the game at regular intervals and maintain partial attention on the gameplay, but they do not need to manually control specific actions of the game characters.

The automated commands executed by the game system are not support pre-programmable, and the duration of automated commands is usually relatively short, often just a few seconds or minutes. Consequently, players may need to regularly return to the game, input some commands in the short term, and then leave again. This pattern of discontinuous and intermittent command input could be described as the intermittency of the playing experience for the mobile games with automation mechanisms.

Furthermore, the intermittent nature of gameplay encourages players to adopt multitasking strategies. Multitasking involves people 'interleave' two or more tasks by switching back and forth between the tasks prior to finishing any one task' (Carrier *et al*., 2015). The original metaphor for a multitasking machine is a bread toaster: while waiting for the bread to toast, people can perform other tasks in the kitchen, preparing both bread and other dishes simultaneously. This suggests that when intermediary processes can operate independently, people need only attend to the task at the beginning and the end, similar to how a chef presses the start and stop buttons on a toaster. This strategy allows them to manage multiple tasks simultaneously in the same space (Salvucci & Taatgen, 2008).

In the context of mobile gaming, the automation function allows players to engage in other activities while gaming. With assistance from the automation system, the player clicks the start button and then waits for the program to automatically work and generate in-game resources. Similar to the bread-toaster metaphor, players typically wait for the harvest provided by the automatic system and simultaneously move on to complete other daily tasks outside the game. For most mobile games with automation mechanisms, the

automatic running process, such as combat or collection, cannot be influenced by the players; in other words, it is a period during which the player has nothing to do but wait. This feature is explained by the interviewee Berg in the following statement:

> ‘I am confused as to why I can enter auto-battle and not have to do anything at all; it is a complete waste of my time that they [the game designers] have set the process so long and that I cannot skip it. I do not know what they are designed for, maybe to increase the player’s playtime... Do I have to keep an eye on the auto-battle every day? I do not even have to watch it; it does not get better just because I do. It is not like an idle game [a type of game], which, if I am watching, usually has a click to quickly get some kind of resource. Nevertheless, auto-battle does not have that feature, and I cannot change anything by watching it. The logic of this kind of game is that I just have to wait for that result, and even if I quit in the middle of battle, the result is all over, and the data has been uploaded’.
>
> ——Berg

Berg’s description highlights the player’s desire for engagement. However, during the process of automatic running, the player’s presence is excluded from the game; they cannot interfere with the in-game character’s actions or issue commands to facilitate or assist their character. The only interaction available is ‘watching’. Thus, the automatic mechanisms should be regarded as encouraging players to temporarily divert their attention from the game, although it also encourages them to return after a few seconds or minutes. As Chess (2018)’s argument of ‘interstitial time’ on the social network game,

players' real world and in-game experience constitute the 'push and pull ', the game pulls the players back to the game world but is not allowed to stay continually.

The intermittency of gaming time leads, guides or induces players to allocate their attention back and forth between in-game and out-of-game activities due to the regular operation of automatic mechanisms. This dynamic fosters or provides advantages for player multitasking. The case of interviewee Berg also details how players tend to multitask and demonstrates how players switch their attention between gaming and non-gaming activities.

> 'I usually do things like watch videos [at the same time as playing], something that I can stop at any time and do not have to spend too much attention. Generally, I watch videos the most while playing the game, like the [in-game] auto-battles, where you cannot stop at all during the and do not have to operate. The time [I] spent watching videos will probably depends on [my] playing game. I watch videos I would not watch a certain kind [slight pause here] and probably also choose more random videos that I can pause—so I do not have a specific time plan. I will watch the video while my phone is over there, and [when] it [the mobile game] tells me to click here. I pause the video, click somewhere, and then return to continue watching. '
>
> ——Berg

This excerpt demonstrates the interplay between the rhythms of mobile gaming and the players' daily lives, a topic to be explored in Chapter 5. Furthermore, it shows the polyrhythmia nature of a player's daily life. The

interviewee, seated behind the video player, should be considered as a whole subject experiencing polyrhythms, including the mobile game, online videos, physiological body (such as heart rate and blood pressure), and the external environment in his/her room,etc. Another interviewee, Dave, exemplifies the multifaceted state of polyrhythmia when he returns to his hometown for the Chinese New Year. During family gatherings, while Dave's parents watch TV operas, Dave plays mobile games. In these moments, the rhythms of TV operas, mobile gaming, chatting and other daily activities merge. Dave thus navigates and manages his attention amidst this polyrhythmic environment.

This polyrhythmia in mobile gaming naturally extends beyond the limits of time and space. Players might game with friends in other cities or leave their characters to assist others in overcoming challenges when they are not online. It involves players merging slices of mobile gaming rhythm with other aspects of their daily lives to construct their own polyrhythms. The semi-automatic mechanisms mean that the intrinsic rhythms of mobile games can be spliced and recombined with many events in the out-of-game daily life. Furthermore, with the advantages of mobility, semi-automated mobile games can integrate with daily rhythms occurring in public spaces such as universities, companies and subways, thus going beyond the limits of social space.

The way mobile game semi-automation works is usually quite simple, resembling the action of pressing a knob with just a one-time click. However, the frequency—or rather, the intermittent frequency—of gaming is more significant than the action itself. Engaging in intermittent gaming requires the player to devote attention at regular intervals over a period of time. As the interviewee Andrew described:

‘Andrew: It [the daily task] does not require much action, [I will] go in to take the phone and click every one or two minutes.

The Researcher: So you left your phone on the table at the other time?

Andrew: Yes’.

His interview case suggests the formation of an out-of-game bodily rhythm driven by the automatic mechanisms of mobile games. In the scenario he described, he simultaneously performs three different actions: ‘eating food, watching videos, and playing Arknights (the name of the mobile game) at the same time’ (Andrew). This indicates that his body is interweaving three parallel daily activities at the same time. His description of ‘go in to take the phone and click every one or two minutes’ implies a regular return to the digital space and context of the mobile game. In this cycle, he would repeat the actions of ‘putting down the phone’, ‘watching a video or eating’, ‘thinking for the process of gaming’, ‘picking up the mobile phone and interacting with it’ and finally ‘putting down the mobile phone’. This cycle is premised on the need for mobile games to require players to pay attention and interact at intervals.

The intervals, as other Arknights players describe to their gaming routine, are referred to as ‘playing the video record’. This means that when players use their stamina points on a challenge they have previously won, the game automatically carries out the same actions as when the player last passed the challenge, akin to playing a pre-recorded film. The player taps the screen at the beginning and end of a challenge, and in between, as interviewee Berg mentioned, there is almost nothing for the player to do while the ‘video’ is

playing. The presence of the ‘video record’ suggests an interval between the player’s attention entering and returning to the game. Although players may not strictly follow the video’s playback time, the gap is not very wide. Interviewee Andrew described this interval as ‘every one or two minutes’, which closely matches the duration of a daily typical video record challenge in Arknights.

When Andrew does not need to actively engage with the mobile game, he naturally shifts his attention to other daily activities. In the interview, he mentioned preferring to play the mobile game during his mealtimes—either breakfast or dinner—so that both activities could occur simultaneously. The ‘video record’ gameplay does not interfere with his other activities during these times. While he described tapping on the screen every few minutes, he also emphasised that the game ‘does not require much action’. This suggests that the impact of the mobile game on him relates more closely to his actions of entering and exiting the game rather than actively playing it.

In this case, the player develops a regular pattern of ‘switching in’ and ‘switching out’ of the game contexts based on the automatic mechanisms of the mobile game, demonstrating a spontaneous out-of-game body rhythm.

As discussed in the literature review, Keogh (2018) proposed the concept of ‘embodied literacy’, which addresses the interaction between gaming input devices and the human body, such as the use of hands. While traditional gamers are trained to use devices to control their characters’ movements, shooting, and jumping, mobile gamers, as exemplified by Andrew, develop a different set of body patterns by continuously switching in and out of gaming.

The natural reaction of ‘tak[ing] the phone and click[ing] every 1-2 minutes’ reflects the negotiation between the player’s body and the mechanics of mobile games, as well as the concretisation of human-game polyrhythms. This ‘returning action plan’ is not a natural behavioural tendency but is ‘instilled through the ritualized repetition of behaviours and the sensitisation of the body’ (Keogh, 2018, p. 107). Compared to ‘embodied literacy’ in traditional gaming, mobile game embodied literacy emphasises how players integrate mobile gaming into their daily, non-gaming lives. In Andrew’s case, for instance, he regularly switches between eating, watching videos, and playing, developing a cohesive routine that blends these activities into an integrated ensemble.

For further discussion, this thesis explores the interaction between body rhythms and everyday rhythms in the next two chapters. Furthermore, the trained body rhythm, such as clicking the smartphone screen every one or two minutes, integrates into the polyrhythmic life of the interviewee. The intersection and blending of multiple rhythms form the polyrhythmic environment in which the player lives. One rhythm may influence another, and some may facilitate the formation of another part, thus shaping the rhythmic ensemble of the player’s daily life.

In summary, this subsection highlights the semi-automated mechanisms in mobile game design and shows how they influence the polyrhythms in a player’s daily life. Due to the ruled running time of semi-automated mechanisms, during which the player has nothing to do, there may be

encouragement for multitasking[31]. As demonstrated by interviewee Andrew's case, he enters the game 'every one or two minutes', aligning with the intervals of a linear or cyclical rhythm pre-designed by the system. On the one hand, the semi-automated mechanisms encourage the player to divert their attention away from the game; on the other hand, they encourage returning at regular intervals. This regular return can be understood as a seductive method to guide the player to follow the game's pre-determined timing patterns, leading the player to develop an out-of-game body rhythm. Furthermore, this produced body rhythm, along with other daily out-of-game rhythms, constructs the polyrhythmic experience of the mobile game player in daily life.

This subsection also demonstrates the characteristics of mobile gaming and its demands for player attention, as well as the process of players switching back and forth between the physical world and the game world (this will be discussed in more detail in Chapter Five). It will help the reader understand the combination and conflict of rhythms between the mobile game and daily life in future analysis.

4.4 Create 'Your' Character—The Production of In-game Digital Avatar Rhythm

Almost all of the interviewees frequently used 'I, me, myself' rather than 'the character I created in the game' to describe their in-game behaviour or in-game relationships with non-player characters. They made extensive use of

[31]Under the research conditions, it is difficult to determine whether the automated design of mobile games leads to players' tendency to multitask of if the digital multitasking habits of players drive game design. In any case, there is likely a two-way facilitation relationship between the two. The more the content of the mobile game supports automation, the more frequently the game player will likely switch between in-game and non-game rhythms.

the rhetoric of ‘I kill monsters’, ‘I participate in the game’ and ‘I am with other people’, while omitting the presence of the game character as a mediator. For example, the interviewee Jessica described her gaming experience as playing a restaurant owner:

> ‘I have to click, to collect the seafood and flowers that I keep in the restaurant [every day], then click on the advertisements, then recruit [in-game characters], then see if there is anything to upgrade [in the restaurant], and reset something [the house layout]’.
>
> ——Jessica

In this description, Jessica’s in-game actions stemmed from a merger of herself and the protagonist, who was designed as the owner of a restaurant. The restaurant owner avatar is an extension of the player’s will, while the daily actions of this character have already been preset by the mobile game. At the same time, the interviewee also tends to perceive other in-game avatars controlled by other people as living beings; the rhetoric used to describe interactions between in-game characters closely mirrors discourse used in daily life. The following paragraph uses interviewee Zachary’s description as a reference:

> ‘If you have a friend, you get someone from your friend list, and that friend can hold hands with you, hold hands, and take him along for the ride. It is a feeling that is particularly romantic with the background of the game’s graphics, two people holding hands and running together, shoulder to shoulder’.

——Zachary

The phrases ‘holding hands and running together, shoulder to shoulder’, which Zachary described, do not occur between human physical flesh. Instead, these are two in-game avatars, representing two players, performing the ‘hold hands’ command within the logic of the game system and reflecting this graphic on the phone screen. As their avatar hands connect, the palms of the two players’ physical bodies are in contact with the phone screen—the hand-holding occurs within a media environment. This connection to the digital world is described using the same words as one would use in the physical world. The description of ‘holding hands’ shows how the interviewee Zachary links his perception with his in-game avatar. This connection has the potential to cause the player to confuse the actions predetermined by the game system for the game character with their own feelings about themselves, considering the game avatar’s failures or successes in the digital world as their own. In the case of interviewee Valentina, her in-game behaviour is focused on the achievements and harvests of her in-game avatar as a prefectural magistrate. Her description is as follows:

> ‘I have it set up [an alarm] every 8 hours, and then I will be at my strictest for a while. I will go and click at 12:00 pm to ‘start collecting taxes’ [an in-game action to collect resource], then get up at 8:00 am to click again, ‘start collecting taxes’, and then again at 4:00 pm to start collecting taxes. So, that is precisely three 8-hour periods a day. I will follow the time I am awake and can manipulate it. However, if this is disrupted one day, I have a day which I cannot wake up at 4:00 pm to start collecting taxes, it [referring to the in-game time counter] will be delayed into the evening. I will not be able

to click again at 12:00 pm for the next round. I will have one less round, and I will lose money. I would be mad about that'.

—— Valentina

In this case, Valentina's avatar is a prefectural magistrate[32] responsible for managing the city's taxes and buildings, requiring her to collect the taxes at regular intervals (in this case, every 8 hours). All these city management tasks are simulated by the in-game actions of clicking or dragging and dropping. The mobile game constructs a framework for the player's behaviour within a pre-designed range and encourages them to adhere to the in-game rhythm. When Valentina logs into the game, the system presents her with all the in-game tasks that a prefectural magistrate needs (or could) do, as reflected in her task list interface.

The rules of this simulation, namely the process between the action's purpose and the rewarding result received by the player, can be arbitrarily designed. For example, Valentina, who 'collects taxes by clicking on buildings every eight hours', is not bound by any natural reference for this eight-hour interval. A period of six hours, seven hours, or even one minute would not affect the meaning or the result of the act. Similarly, the act of clicking on the building or dragging it once, twice or a hundred times is merely a condition or a number set within the program. Thus, the significance of these rules is in shaping the player's in-game behaviour model; in other words, it constructs the in-game rhythm for the player. In this context, the avatar acts as an invisible guide shaping the player's in-game behaviour. Building on this discussion, this thesis introduces the concept of 'dressage', as proposed by Lefebvre.

[32] An ancient Chinese city administrator, similar to a mayor.

In the framework of rhythmanalysis theory, Dawn Lyon (2019) clarifies that dressage is the “process of bodily entrainment and repetition through which rhythm is learnt and becomes evident in the body over time” (p. 25). Lefebvre (2013) describes dressage as a ‘natural’ rhythmic pattern. In this context, ‘natural’ means “it conforms perfectly and without apparent effort to accepted models, to the habits valorized by a tradition” (Lefebvre, 2013. p. 38). Dressage refers to the process through which individuals undergo socialisation, enabling them to adapt to the rhythms of a country, group or society by bending and changing themselves. Lefebvre referred to those who are knowledgeable the rhythm as ‘breeders and trainers’ (2013, p. 40), who assist people in familiarising and understanding established rhythms through long-term repetition. As he stated: “one breaks in another living human being by making them repeat a certain act, a particular gesture or movement” (p. 39). Breeders could “bring about unity by combining the linear and the cyclical” (Lefebvre, 2013. p. 39) to create a series of repetitive instructions and a general organisation of time.

In the context of mobile games, the rhythm of the avatar is predetermined. It consists of a series of pre-produced criteria and predetermined actions, described as “models, the habits valorized by a tradition” (Lefebvre, 2013. p. 38). However, unlike the traditions maintained by humankind, the patterns of the avatar are precisely quantified and measured by computer programs. From the number of monsters killed to the number of taxes collected, the rhythmic patterns of the avatar are measured with exact precision.

One could regard the avatar as a pre-designed set of standard rhythms, with the person playing the role governed by the digital system to complete their

socialisation process in the online game world. The ‘breeders and trainers’ (2013, p. 40) mentioned by Lefebvre are not specific humans but rather designed industrial digital programs. This process can be related to Lefebvre’s (2013) explanation of animal dressage as follows: “Under the imperious direction of the breeder or the trainer, they (the animals) produce their bodies, which are entered into social, which is to say human, practice. The bodies of broken-in animals have a use-value. Their bodies modify themselves, are altered” (2013, p. 40). The in-game avatar acts as an invisible trainer, teaching the game player the rules of the game and reflecting rewards and punishments based on the avatar’s performance. When the player exhibits the ‘right’ behaviour, the avatar will perform stronger; when the player does something ‘wrong’, the avatar will show a loss, frustration or even death. The avatar serves as an indicator of whether a player is behaving correctly or not; this instructional process could be considered a training period.

Through the pre-designed set of standard rhythms in in-game avatars, the in-game rhythm can be reflected in the player’s daily life. For example, Valentina’s city buildings automatically generate money every 8 hours, which the prefectural magistrate then uses to construct new buildings. In the physical world, Valentina logs into the game every 8 hours to meet the requirements generated and imposed on her avatar by the game system. In the case of Valentina, she shares the social identity of the prefectural magistrate with her avatar in the mobile game environment. The process of shared identity occurs during the gaming experience when the player interacts with the in-game character or environment. Players are often referred to by the roles of their avatars, such as ‘Traveler’ in Genshin Impact, ‘Master’ in

Fate Go or ‘Prefectural Magistrate’ in The Hundred Scenes of Jiangnan. This title of the avatar also functions outside the game context; the game company uses it to interact with players on social media updates, offline activities, interviews, public events and player forums often refer to users by their in-game titles. Hence, the title of avatars usually carries a dual meaning: firstly, it represents the role of the avatar in the story of the game, and secondly, it refers to the player who plays this game. For the player, the playing experience is also the process of developing a connection with the designed title or identity.

At the same time, it is also possible for the player to inherit or transform the avatar’s social relationships with non-player characters. Some interviewees in this research tend to use the in-game relationships between the character and avatars, such as supervisors or subordinates, friends, or romantic partners, to refer to the in-game characters. Gee’s (2009) work explained the process of ‘ inhabit’, he claimed that players adopt “beliefs, values, goals, feelings, attitudes, and so forth” (p. 258) from the avatar and use these to interpret the character’s actions. This leads to an attunement between the in-game avatar and the player, as described by Gee:

> “By inhabit I mean that you, the player, act in the game as if the goals of your surrogate are your goals. Virtual characters have virtual minds and virtual bodies. They become the player’s surrogate mind and body” (p. 258).

On the first day, a player enters the mobile game, they are presented with the story of the avatar, which may involve searching for lost relatives, reviving a derelict town, etc. The in-game actions such as killing monsters, passing

challenges or constructing buildings are portrayed as parts of the avatar's story. The player's actions within the game drive the development of the avatar. Through the causal connection between the playing actions and the in-game results, the needs of the in-game avatar or character are converted into a list of actions that the player should (or could) undertake. Furthermore, the repeated in-game behaviour becomes the rhythm of the game environment and may further influence the player's daily life. Below is a communication text between the interviewee Herbert and the researcher, illustrating the process of the in-game rhythm belonging to the avatar transforming into the rhythm in the player's everyday life.

> The Researcher: 'So would you say that if it there was a guild war at 8 pm, would you be on the game at 8 pm?'
>
> Herbert: 'Yes'.
>
> The Researcher: 'Okay, do you set an alarm clock for it?'
>
> Herbert: 'I will remember it by myself'.

A game player such as Herbert may internalise the in-game cyclic rhythm into their schedule. The Guild Wars at eight pm represent a typical in-game cyclic rhythm. These events provide in-game materials to the improve the in-game character or acquire a new one. To meet the needs of the in-game character, a player like Herbert would remember the time of an in-game event and incorporate it into their personal schedule.

In summary, this section explains the function of the in-game avatar and considers it as the role of an invisible trainer guiding the player's in-game

dressage. In the mobile game environment, the rhythm associated with the in-game avatar is pre-established. When the player's avatar is created, this character is assigned a series of tasks and goals to accomplish. Through the inheritance relationship between the avatar and the player, the pre-designed rhythms of the mobile game's avatar are translated into the player's in-game rhythms and subsequently migrate into the realm of the player's everyday life.

4.5 Conclusion

This chapter discusses the linear and cyclic rhythm performances, including polyrhythmia, multitasking and automation in mobile games, and the function of in-game avatars in shaping the game rhythms.

The first subsection of this chapter explains how regular in-game behaviours that players repeat develop into game-based rhythms during the daily play. According to Lefebvre's (2013) theory, a simple repeated act, such as clicking the screen within a short period, should be considered a linear rhythm. This includes actions such as repeatedly challenging the same boss or dungeon. Acts performed at specific intervals should be classified as cyclical rhythms, such as daily goals or the battle pass system. This subsection outlines how in-game system mechanisms create linear and cyclical rhythms by rewarding the player for their daily routines. This reward system commodifies the player's leisure time and attention. As players acquire in-game currency, enhancement materials, character experience points and other assets 'for free' through repetitive actions, the invisible commodities being traded are human time and attention. The repetitive action, which has become a linear rhythm, should be viewed as a mediator or price tag: it does not generate value—for the game

company, the number of times a player kills a boss is merely data recorded on the computer—but it serves as a measure for other in-game items. With the introduction of buttons like ‘skip challenges’ or ‘speed up challenge animations’, the function of ‘avoiding repetitive clicking’ becomes a freemium commodity that the game attempts to sell to the player. In this process, mobile game design aims to occupy the player’s leisure time and attention by encouraging them to follow the game-based linear rhythm and then sell this time and attention back to the player.

As mentioned in this subsection, the Monthly Pass or Battle Pass represents the commodification of natural time. The in-game rules demonstrate the value of waiting time—if players do not want to wait, they may pay 6-7 times as much for the same rewards. These reward systems artificially create a game-based rhythm, driving players to return regularly and complete predetermined actions to gain rewards on the Pass systems.

Through cyclical events, mobile games create a scale to measure time. Players use in-game events to shape their understanding of time. They wake up early, even set alarm at midnight, log in during the evening and engage with the game at specific times to meet in-game requirements. For example, the mobile game update time (normally 5 am) for daily tasks becomes a measure of time. This indicates that mobile games reassign meaning to specific periods through their in-game reward distribute mechanisms. Players become accustomed to performing daily goals within the game, checking the progress of the Pass system weekly and participating in in-game events for each version. This can be interpreted as a human adaptation to the rhythm of mobile gaming and as a cross-fertilisation of game timetables with real-life

schedules. Thus, the artificial scale of time created by mobile games blends into the human understanding of ‘everyday time’.

This subsection further discusses how the rhythm of mobile games reshapes and reorganises the player’s everyday life through a three-step process. It explains how the linear and cyclical rhythms produced by mobile games become part of the player’s daily schedule. By imitating and predicting the mechanical logic of the game system, players may achieve a form of self-programming. According to interviewees’ descriptions in this section, players repeatedly perform one or several mechanical actions that could easily be replaced by software such as Clicker. These actions performed by the human players are almost unconscious, unthinking and devoid of any mental engagement. Therefore, this thesis argues that when players perform these highly repetitive actions, they may fall into the ‘symbiotic circuit’ described by Friedman (1999) and internalise the logic of the program into their self-consciousness.

Subsection 4.3 of this chapter discusses polyrhythmia, multitasking and the automation of mobile gaming. In traditional gaming, in-game actions controlled by the player are simultaneous and synchronous with real-world actions. However, some mobile game designs allow in-game actions to be completed without the player’s presence after receiving instructions. This means that mobile gameplay can be pre-programmed and asynchronous, highlighting the possibility of humans applying both physical and digital rhythms simultaneously. This status refers to polyrhythmia within the framework of rhythmanalysis.

Subsection 4.4 primarily examines the relationship between game avatars and human players. By influencing and changing the avatar, the mobile game can indirectly affect the player's psyche. As interviewees showed, the avatar in a mobile game acts as a mediator and the embodiment of pre-set rhythms within the game. It guides the player's daily actions and serves as a vehicle for the player's digital self. Through the complex emotional connection between the player and the in-game avatar, the game system creates the potential for providing online dressage to the player outside of the screen.

Compared with traditional dressage in the physical environment, machine-based dressage is precise and quantifiable. Each in-game event in a mobile game is valued and given feedback by the game system, awarding bonus points or rare items for corresponding behaviour. This should be seen as a constant surveillance and feedback system. The game system indirectly evaluates the player's behaviour as positive or negative by applying immediate effects—rewards or punishments—to the avatar or related non-player characters.

For instance, as discussed previously, the interviewee Herbert used to log into the game at specific times to obtain necessary supplies for his avatar. This avatar-based influence can become internalised as part of his thought process, becoming a form of 'nature' described by Lefebvre (2013) in the context of dressage. Next, this thesis analyses eurhythmia and the ensemble of in-game and out-game daily rhythms.

Chapter 5 Combining Rhythms, Eurhythmia and the Synergy of Multiple Rhythms: How Multiple Rhythms Work Together in a Hybrid World

5.1 Introduction

This chapter discusses how mobile game rhythms combine with and influence daily life rhythms. Specifically, it explores how these games interact with other everyday activities. In general, mobile games offer a free and leisurely form of entertainment or relaxation. During the interviews, some participants, as the following three interviewees (Andrew, Berg and Karin) used words such as ‘simple’, ‘convenient’ and ‘stable’ to describe their mobile gaming experience. These characteristics likely explain why these interviewees prefer mobile games over console or PC games during their leisure time. For example, the interviewees stated,

> ‘[I] thought [I] might need some simple pleasure to spice up my life, a simple release point, and when I first played The King’s Glory, it was a tune-up for the state I was in at the time when I was preparing for exams. At the time, I had to go and study for over six hours on top of work’.
>
> ——Andrew

> ‘The mobile games help to decompress, and the equipment (Smartphone) is more convenient. I play games for fun, most of the time’.
>
> ——Berg

> ‘[the mobile game is]more stable access to leisure and entertainment. I will spend 50% of my entertainment time in daily life in mobile games’.
>
> ——Karin

For Andrew, the attribute of ‘simple’ is an essential factor in choosing a game. He had limited leisure time outside of work. Hence, the ‘simple’ nature of the mobile game experience provided him with quick and effective entertainment to ‘tune-up’ himself. Compared with traditional console or PC games, mobile games are often less challenging and have a smoother learning curve. This simplicity is partly due to the input precision of mobile devices: touchscreen input is more difficult to control accurately than a mouse. Therefore, mobile games are often designed to be more lenient in difficulty than traditional games and more user-friendly for players such as Andrew.

Other interviewees, Berg and Karin, focused on the convenience and accessibility of mobile gaming. Berg highlighted the convenience of entertainment provided by the portability of mobile devices. The mobility of smartphones supports both Berg and Karin’s descriptions of mobile gaming advantages. Digital devices offer instant access to linked entertainment. With the connectivity of digital devices extending beyond social time and space, mobile gaming provides users with a convenient and stable form of engagement in the digital world. Hence, from the interviewees’ viewpoints, the ‘simple’, ‘convenient’ and ‘stable’ characteristics are why they choose mobile games for leisure.

The previous chapter discusses the production and performance of linear and cyclical rhythms in freemium mobile games. A rhythm refers to a series of events or behaviours that occur regularly and repeatedly. Daily life includes multiple series of rhythms that usually work together. In the context of this study, out-of-game daily rhythms refer to a mixed state of multiple rhythms. Studying the combination of the interviewees’ everyday rhythms and gaming

rhythms reveals a state of rhythmic superposition, where different rhythms work simultaneously on players' bodies.

Apperley (2011) used the term 'local rhythm' to explains out-of-game rhythms, which focused on the globalisation of digital games. Apperley (2011) introduced the term 'local rhythms' to describe variations in gaming rhythms shaped by different geographical and material conditions. As previously discussed (particularly in Section 4.2), this concept is extended in this thesis to include the rhythms generated by the interactions between players and their surrounding environment. The performance of mobile game insertion into their lives is strongly influenced by these local rhythms.

The rhythms of mobile games, including game-based cyclical and linear rhythms discussed in previous chapters, negotiate with the local rhythms of the interviewees. The interviewees typically organise their playtime according to their local rhythms. For instance, employee interviewees often play games during predictable daily routines such as wake-up, lunch, dinner and bedtime. In contrast, student interviewees display more irregular gaming patterns. While employees might play games during their commutes, students and freelancers seldom follow this pattern.

Lefebvre's (2013) concept of eurhythmia can be applied to explain the different states of this rhythmic negotiation. For Lefebvre (2013), eurhythmia refers to the gentle and harmonious interplay of rhythms, akin to the rhythmic integration of the organs within the human body. He described eurhythmia as: 'Rhythms unite with one another in the state of health, in normal (which is to say normed) everydayness '(Lefebvre, 2013, p. 16). In this thesis,

manifestations of eurhythmia refer to the mutual negotiation and adaptation between in-game rhythms and out-of-game local rhythms, where mobile games serve as leisure or entertainment for players or fill gaps in their schedules. This chapter explores how the rhythms of mobile games intertwine harmoniously with the external rhythms experienced by players.

Section 5.1 of this chapter discusses how mobile game rhythms integrate into and become part of everyday life rhythms, focusing on the moments where game-based and everyday rhythms combine. Section 5.2 introduces the term ‘switch’ to describe the moment when a player’s attention moves between the physical and digital game worlds. ‘Switch-in’ refers to the player entering a mobile game space and its rhythms, while ‘switch-out’ refers to the player leaving it. Interviewees adopt two strategies to switch between game-based rhythms and local rhythms based on their physical external environment. Some individuals switch when they have completed a pre-determined purpose, while others switch according to the current demands of the external environment or spontaneous thoughts, rather than a pre-plan or purpose.

Section 5.3 examines the performance of eurhythmia between game-based rhythms and everyday life. It categorises the influence of integrating mobile game rhythms with local life rhythms into four aspects: as an entertainment provider, a filler of daily gap time, a tool for linking, coordinating and synchronising with others, and a means for leaving, escaping, or resisting the daily environment. First, mobile gaming serves as an entertainment provider and integrates into the player’s leisure life. Interviewees mentioned they use mobile gaming for relaxation or decompression. Compared with traditional console or personal computer games, as previously mentioned in this thesis,

interviewees perceive mobile gaming as ‘simple’ (according to Andrew), ‘convenient’ (according to Berg) and ‘stable’ (according to Karin).

Second, a mobile game can link two daily events that occur regularly and repeatedly in people’s lives. It can be inserted into gaps between daily activities and become a mediator of life rhythms. Interviewees often referred to this as ‘passing the time’. In this process, a player’s attention, which is not consumed in the gaps of daily events, is re-organised and invested in gaming activities. Third, mobile games create a collective rhythm and common schedule for players of the same game. Players of the same game share a collective rhythm, including in-game events, rewards, the banner of new characters and updates of new maps or functions.

Therefore, players of the same game follow a similar digital schedule while living in different physical spaces and having different local rhythms. The common experience of game-related activities promotes the development of stronger social relationships within the player group.

Finally, mobile gaming can be a strategy for players to leave, escape, or negotiate daily repetition and pressures from the external physical environment. These pressures may originate from work or family, which players cannot leave completely. Mobile games provide an alternative space for players to leave a local life rhythm temporarily. However, this ‘leaving’ typically represents only a pause rather than a disruption of the local life rhythm. After a short gaming period, players generally resume following their local rhythms. Therefore, this short-lived break from daily life should be considered as a form of ‘pseudo-disengagement’. During this time, players

simultaneously inhabit both local life rhythms and digital mobile game rhythms, using mobile game rhythms to construct the ‘rhythm of the self’ (Lefebvre, 2013).

Overall, this chapter explains how the integration of game-based rhythms and local rhythms impacts people’s lives. These functions are often rooted in a complicated environment. When this thesis discusses an interviewee’s case from a eurhythmia view, it does not imply that the role of a mobile game in this case always works in harmonious forms. Individuals who generally experience a harmonious rhythm between mobile gaming and daily life may also encounter periods of arrhythmia at other times, this thesis will return to further discuss arrhythmia in Chapter 6.

5.2 Switches in Mobile Gaming: Translating Between Digital and Physical Worlds

This section focuses on the modes of coordination and switching between game-based rhythms and non-game local rhythms. It lays the groundwork for exploring the effect of mobile game rhythms, eurhythmia and the synergy of multiple rhythms.

To facilitate a better understanding of the subsequent sections of this chapter, this section begins with a case study on how players switch between mobile game rhythms and daily life rhythms. This discussion is greatly informed by the concept of ‘hybrid spaces’ proposed by Adriana de Souza e Silva (2006) and Brigitte Jordan’s (2009) explanations of the blurring boundaries between the ‘real’ and the ‘virtual’. In her article, de Souza e Silva (2006) highlighted the overlap of digital and physical spaces, while Jordan (2009) discussed how

hybrid spaces reshape cultural practices, lifestyles and underlying ideologies as follows:

> Work that formerly was tethered to a defined workplace is now routinely done at home, in the car, or in the kinds of public third spaces described by Churchill and Nelson (this volume), As a matter of fact, for many people work activities and related obligations have proliferated into almost all aspects of daily life. (p. 183)

Similar to work, mobile gaming can also be considered a time appointment. Players log into a game, complete tasks as dictated by its daily goal system and receive promised rewards. However, current research on how people switch between in-screen gaming and out-screen activities tends to be unidirectional. It primarily focuses on individuals' need to switch into the virtual world while neglecting the game's requirement for real-time human participation, such as login at specific period or the Monthly Pass. For this thesis, it is essential to consider both the human demand for the game and the game's demand for human involvement simultaneously. Both of them may lead human attention to switch from physical to digital space and vice versa.

When players log into a game, they respond to demands generated by a set of automated algorithms calculated by computer programs. Carmi (2020) noted that business companies, such as Facebook, understand people's rhythms to create experiences aimed at specific economic goals. By understanding data on people's daily behaviours, including the duration, pauses and frequency of their activity, businesses can monetise user attention for profit.

In the mobile gaming sector, companies not only profit from advertisements but also by selling in-game commodities to players. As one game designer interviewee, Brady, stated, ‘The free-to-play model, itself, requires its players to stay in the game as much as possible...The nature of the requirement of mobile game design is the desire for players to consume in the game’. Players’ in-game behaviour, particularly logins and logouts, can be interpreted as an elaborate rhythm, as previously mentioned in this thesis. For instance, the monthly card and login rewards necessitate that players enter the game within a prescribed interval.

This section revisits the concepts of semi-automation, daily task systems and daily login systems that are discussed in an earlier chapter. The presence of these automated mechanisms and daily task systems in mobile games motivates players to return to the game world periodically. This motivation is not inherent but is stimulated by the design mechanics of mobile games. Chapter 4 explains how players ‘naturally’ consider returning to the game as part of their daily routine.The present chapter discusses the switch between the on-screen and off-screen worlds, which is influenced both by game-designed incentives and players’ spontaneous desire to engage with the game.

This thesis describes ‘switching[33]’ as a mechanism that redirects players’ attention between the in-game and out-of-game environments. The term ‘switch in[34]’ is used to denote the transition from daily life to mobile games

[33] This term was inspired by Atkinson and Willis (2007), as they argued “Multi-user virtual environments also succeed in constructing persistent online communities that cannot be easily switched on or off; they have an emergent quality that partially mirrors the entry and exit of actors in real social settings (Delwiche 2006) (p,825)”

and ‘switch out’ to indicate the return from games to daily activities. The moment of switching in or out can be viewed as indicative of a rhythmic combination.

The reasons for ‘switching in’ to mobile games are often complex and influenced by real-life circumstances, such as periods of free time, as well as by game mechanics. Two in-game mechanics that may affect people’s decision to switch in are the in-game stamina points mechanics and the in-game log-in system (described in chapter 4).

In the in-game stamina points system, stamina points are automatically restored over time until reaching a maximum limit. As discussed in the linear rhythmanalysis, interviewees prefer to time their return to the game to prevent their stamina points from exceeding this maximum limit. Once they run out of in-game stamina points or complete their daily tasks, they typically switch back to their non-game daily life rhythm.

The second mechanics is the in-game log-in system Many mobile games feature timed login mechanisms at midday and evening, rewarding players for logging in at these specific times (as discussed in the cyclical rhythmanylyse in Chapter 4). The desire to receive these rewards can motivate players to switch-in to mobile games.

‘Switch out’ from mobile games can also occur for two primary reasons. The first is that players are disturbed by external environmental factors, such as the end of leisure time or the arrival of another event on their daily schedule. For example, the interviewee Abner stated:

> ‘I will be more focused on playing the game… [it] will be interrupted by tweets and phone calls. I get annoyed when I’m interrupted by other people while I am playing’.
>
> ——Abner

In this case, when Abner answers a phone call, he is compelled to switch out from gaming. Beyond that, the second reason for switching out is the completion of in-game goals. Once players achieve their in-game goals, they tend to leave the mobile game rhythm and return to their non-game daily life rhythm. These in-game goals are quite flexible and can be adjusted at any time. They may involve winning an in-game battle or completing all daily tasks, which might include a dozen challenges. It may take a few seconds to twenty minutes or more.

During the interviews, the interviewees demonstrated two patterns of rhythm combination methods: the quick switches model and the planned coordination model. First, the quick switches between a mobile game rhythm and a daily life rhythm. A part of interviewees prefer to switch between these two rhythms based on their current needs. When something in the game demands their attention, they focus on the digital world: conversely, when tasks in the physical world require their attention, they prioritise the physical external environment. The switching back and forth between the in-game and the out-of-game tasks may occur many times over a period.

The process of switching in and out can be illustrated by the description of the interviewee Berg in the subsection of automation mechanisms (4.3):

> ‘I usually do things like watch videos [at the same time as playing], something that I can stop at any time and don’t have to spend too much attention on…The time [I] spent watching videos will probably depends on [my] playing game. I watch videos I wouldn’t watch a certain kind [slight pause here]and would probably also choose some more random videos that I could pause—so I don’t have a specific time plan. I will watch the video while my phone is over there and [when] it [the mobile game] tells me to click here, I pause the video, click somewhere, and then come back and continue watching’.
>
> —— Berg

According to this description, Berg simultaneously keeps both a mobile game and an online video page open. He interacts with the game when it requires action and, once the action is completed, he switches back to the video. According to his description, he does not follow a specific plan or aim for the process but focuses on the immediate demands of either the game or the video page. When the game captures his attention, he focuses on it; when the video requires interaction, he switches to managing the video page. In Berg’s playing process, there is an overlap and mixture of rhythms: the rhythm of the mobile game does not consume all his attention but persists intermittently during his leisure time. In this switch-in-and-out model, players pay partial attention to intermittent participation, with the mobile game rhythm being constantly interrupted and resumed throughout this period.

Second, the planned coordination model can be illustrated by the conversation between the researcher and the interviewee Elisa:

The Researcher: When you play, will you remember the building time of the game? For example, if the building needs 8 hours?

Elisa: I do. When I'm back at home [the interviewee mentioned she had been on a trip earlier] and I have the tablet with me, and I keep an eye on it almost all the time. And then if there's a new building, I remember when it's going to be fixed and I'll go and click on it in time to make sure it's finished and so on.

In this case, the 'building time' represents a specific period for the pre-designed in-game goal. Before opening the game, Elisa considers the purpose of playing, such as collecting materials or completing daily tasks. Her gaming is staged: once she completes a stage, she puts the phone down and moves on to another event in her daily life.

Like Elisa, some interviewees focus on playing mobile games until they achieve a planned goal. In this model, players tend to remember the purpose, switch in to the game space, achieve the goal and then switch out. Players of simulation mobile games are more likely to follow this pattern more frequently. In such games, in-game resources are generated in fixed-time units, allowing players to know precisely when to log in.

However, behavioural strategies are not fixed. Individuals may change their strategy depending on the game content. For instance, Berg also claims that he has also plans his behaviour for game rewards.

I even just, in a period. I set up an alarm at a specific time to collect. I forget the name of the game, [set alarm] for the game stamina or something

> because many games have similar settings [referring to many games having a mechanism for rewarding players at certain times] to remind myself of that.
>
> —— Berg

The interviews revealed that the interviewees' choice of rhythm model is likely influenced by the game's content. When faced with one-off, attention-demanding, competitive or complex game content, players are less likely to adopt the quick switches behavioural pattern and more likely to devote their full attention to the game. Conversely, as in Berg's case, when the content is straightforward and highly repetitive, they switch more frequently. These differences in strategies also influence how the impact of mobile game rhythm everyday life. In the quick switches model, the game rhythm is constantly interrupted and resumed, while in the planned coordination model, the game rhythm is continuous and occupies a complete segment of daily time.

Overall, this subsection summarises the different patterns of how people switch between in-game and out-of-game rhythms, setting the groundwork for the subsequent discussion.

5.3 The Role and Function of Mobile Game Rhythms in Everyday Life

This section explores three effects of mobile game rhythms related eurhythmia on the players' daily lives. The first subsection explores how mobile gaming filling time 'gaps', which was observed among most interviewees as a common effect. The second subsection focuses on how mobile game rhythms contribute to creating a collective rhythm to describe the

impact of mobile gaming on developing social relationships. The third subsection addresses mobile gaming as a means for leaving, escaping, or negotiating daily repetition and pressure from their environment.

5.3.1 Gap-filling and Re-use of the Daily attention: How Mobile Gaming Rhythms Can Reorganise Time

This subsection explores the feature of fragmentation in mobile gaming. Mobile games typically involve daily tasks that include a series of linear and cyclical rhythms. However, these in-game rhythms are not continuous: a player can complete part of them in a single log-in and finish the rest later. Each gaming session can be independently inserted into different periods of daily life.

The daily task system can be described as a combination of a series of regular linear repetitions: these linear behaviours lack mutual continuity, which allows players to stop gaming after completing any segment. The interviewee Angela illustrates this feature as follows:

> ‘For most mobile games, I play a few minutes or a little bit more, 15 minutes? And then it is over, I can end it. But console games are different. Although it is said that a console game can also be a small game [the interviewee means short playtimes], most console games are time-consuming in terms of plot or the course of combat. Therefore, [console games] need more complete time, not [like mobile games] laziness time after dinner, play for a while or getting up but want more than ten minutes lying. It is not quite the same’.

——Angela

In Angela's example, when she needs to lie 'in bed for a while', mobile gaming fills this period which allows her to continue playing while resting; she can stop playing whenever she wants to move on to other daily activities. Similarly, the time after lunch can serve as a quick opportunity for playing. Angela's interview also highlights the difference between mobile gaming and PC or console gaming times. Although games on different platforms may have similar elements or mechanics, mobile games offer greater flexibility in playing spaces, such as when lying in bed, as in Angela's case.

Like Angela, many interviewees stated they prefer to play mobile games because they can easily insert gaming into any part of their daily lives, anytime and anywhere. Although mobile games borrow mechanics from PC games and PC games also borrow elements from mobile, the mobile game has more advantages in flexibility in the playing space. This flexibility has become a significant advantage of mobile games compared with console games, which typically require a dedicated time slot. Some interviewees mentioned setting aside console gaming for weekends or days 'with more private free time', as noted by the interviewee Peter. During the interviews, interviewees emphasised the 'completeness' and 'long' duration of the console gaming experience, which requires a significant time commitment. Angela mentioned she would avoid going to the toilet to complete her console gaming session without interruption, while Karin described the aim of console playing as a 'longer period of fulfilment'. Calvin also asserted that console gaming 'requires long periods of free time'. PC and console games deliver a continuous gaming experience that necessitates a dedicated time slot, making

them more difficult to integrate into other everyday life rhythms. However, the semi-automated features of mobile games allow players to swiftly switch back and forth between gaming and life activities.

In this subsection, mobile gaming is portrayed as a mediator that fills and inserts into gaps in people's daily rhythms. At the same time, it can also be described as the re-use of people's attention during the intervals of everyday life. Mobile games act as a mediating reconciliation for specific periods of life. Interviewees used the term 'filler' to describe how mobile gaming is inserted into a gap between two specific activities in their lives and connects two regular daily activities, such as during meals, work or commutes.

In 2016, Game study scholar Isbister highlighted the blending of connectivity in networked games and interactions with people in one's 'real world'. She cited Bruckman's (2013) blog post about Words With Friends (WWF)[35] to illustrate how mobile games integrate into personal life. In this blog post, Bruckman (2013) described that she tended to insert mobile gaming into fragments of her daily life:

Consider the following situation. I'm picking my kids up at aftercare at their elementary school. When I arrive, they are somewhere in a large school building (Doing art in the cafeteria? Out on the playground?) and they are paged to come to the lobby. It usually takes about five minutes for them to stop what they're doing, clean up, travel across the building, find their backpacks and coats, and be ready to go. So it's a perfect time to make my WWF move, right? Perfect except that if I'm playing a couple different games,

[35] An online mobile game where players take turns completing the crossword, similar to the multiplayer version of the classic board game Scrabble.

I won't be done when they arrive. So I put away my phone, but part of my brain is still thinking about my move (what words end in 'u'? 'Tofu'? 'Bayou'?) rather than paying full attention to what happened at school today. Until I finish making that move, I won't fully be there. And it's like that through my entire day. The little gaps I have don't match the amount of time it takes to make my WWF moves. The fact that you can play on your phone makes the temptation pervasive (Bruckman, 2013. no page).

During the interview process of this study, several interviewees provided descriptions similar to that of Bruckman. For example, the interviewee Abner mentioned:

> 'When I'm partying with friends and going out for drinks, I'll play mobile games while I waiting for someone. Mobile games are 3-5 minutes and don't require a lot of attention. I'll play a challenge while waiting for the restaurant to serve me food, or while waiting for my friends to arrive. It won't be as engrossing as playing by myself. It's a bit awkward waiting for someone, give yourself something to do'
>
> —— Abner

Similar situations, such as waiting for someone, during daily events (e.g. a lecture or a meal) or on public transportation (bus or subway), are often referred to as 'time fragments' by the interviewees. These 'fragments' are periods without any specific real-world aim or plan; these periods are usually quite short, lasting from three to ten minutes, and their end may not be precisely known. Interviewees described using mobile gaming as a method or

means to fill these time fragments. For example, as interviewee Jessica stated:

‘[I] feel like it is filler…It is an alternative to killing time’.

——Jessica

The interviewees’ description of ‘time fragments’ aligns closely with Chess’s (2018) concept of ‘interstitial time’ in gaming. This concept refers to ‘small spaces of time—gaps of time that are not used for anything else. All of our lives are characterised by interstitial time, which is not used for other purposes’ (Chess. 2018, p. 111). The ‘interstitial time’ was applied to the social network game. It is the small space of time between two activities without a defined purpose, like the ten-minute stop of a lecture, or the time waiting for the city bus. Similar to the social network games, mobile games also have the characteristics of utilizing interstitial time. In this research, the interviewee Calvin illustrated why players prefer these time fragments for gaming:

> ‘The smartphone itself can ignore time and occasion, and it can take up pieces of one’s time, picking it up and putting it down whenever and wherever. For example, I would not say I like the King’s Glory and Knives Out because they take ten minutes to put down, and I cannot abandon my teammates. I do not like mobile games which take up more time [and] I like to access gaming with a few clicks with my head down.’
>
> ——Calvin

In this case, Calvin’s perspective on ‘time fragments’ when incorporating mobile gaming into his daily routine highlights two key features. The first is the

short duration of play, typically less than ten minutes, and the second is the ease of entering and exiting the game. As previously discussed, this represents a quick switch method between the mobile game space and the non-game physical space, with the ‘picking it up and putting it down’ approach illustrating a rhythm that is being intermittently interrupted and resumed during the gaming process.

Many interviewees reported playing mobile games while waiting for public transportation, with the waiting times for buses and subways serving as examples of ‘time fragments’. In a player’s daily schedule, the ‘commute’ event has a fixed duration; however, the actions within this event are not continuous. Commuting can be broken down into multiple moments: walking to the stop, waiting for transport, sitting on the bus seat, observing the stop sign and continuing to wait for arrival. These are a series of independent actions rather than a single, indivisible behaviour. This discontinuity creates opportunities for inserting mobile game rhythms.

The case of Abner further explains the discontinuity of daily events. When Abner was waiting to meet someone for drinks, he used mobile gaming as a tool to pass the time. According to his description, the moments of ‘the arrival at the agreed location’ and ‘the arrival of the awaited person’ is occur consecutively within short time fragments. These fragments are considered part of the same event of ‘ partying with friends and going out for drinks’, although there is an empty and unscheduled period between them. This fragment represents a gap in time and attention that can be filled by mobile gaming.

In addition to Abner's case, the cases of two more interviewees, Bella and Peter, further explain the role of mobile gaming in daily life. In these cases, the time fragments for gaming correspond to waiting for food or waiting for someone. Bella stated:

> 'If I'm in a restaurant and order my food, I would like to play mobile games while waiting for it to come. I mean, if I have friends to eat together, I definitely take care of my friends and have conversations with them. But sometimes when I'm eating by myself and have no one to talk to, I go play mobile games'.
>
> ——Bella

Similar to Abner's case, in Bella's experience, there is a gap between the moment she orders food and when the 'food is ready to eat'. Another interviewee Peter also mentioned that:

> 'I go to the canteen with my roommate and classmate. I eat faster and my classmate doesn't finish. While he is still eating, I spend some time playing mobile games'.
>
> ——Peter

For Peter, the time fragment between finishing his meal and waiting for his classmate to finish is also sufficient for gaming. Although these moments are typically scheduled as part of a complete routine, fragments of time and attention exist in the subtle breaks or pauses within a series of meaningful actions. During these schedules, parts of the time are set aside for waiting,

and attention is not fully occupied. This is the gap that mobile gaming can fill, integrating seamlessly with people's daily life rhythms.

When mobile game rhythms function as a filler, they usually do not completely occupy a person's entire attention. For instance, while interviewees were playing games at the station, they were still waiting for the bus, and while Abner was playing, he was also waiting for his friend to arrive. This case suggests that the game rhythm acts more as a support-complementary relationship to players' local rhythm. Compared with traditional PC games, mobile games offer more advantages in supporting this function, as illustrated by Abner's experience. Mobile game rhythms allow participation in public spaces and as demonstrated by Calvin's case, feature a lower time cost for switching in and out of games. These attributes make it easier for mobile game rhythms to be conveniently inserted into daily schedules.

As this chapters mentioned, Chess's (2018) concept of 'interstitial time' in gaming describes "small spaces of time—gaps of time that are not used for anything else" (p. 111). However, the research interview data suggest that mobile gaming time cannot be fully considered as 'not used for anything else', as illustrated by the cases of interviewees James, Abner and Berg. These examples show that mobile gaming often coincides with other daily activities, filling small gaps in their day while still allowing users to remain engaged with their surroundings.

Similar to Berg and Abner, the interviewee James stated:

> 'You go to take a Didi [a taxi-hailing application similar to Uber] and expect an hour and a half when nothing else can be done. Alternatively, say,

commuting by high-speed rail, you know it may take an hour and a half to get home. So you can expect that there may be a longer piece of time, but you have nothing at hand except your phone.'

——James

During their gaming, James was travelling, Berg was watching a video and Abner was waiting for his friend. They did not dedicate their time exclusively to gaming but also engaged in other activities simultaneously. The gaps are more accurately defined by shifts in attention rather than time, with James's case serving as a pertinent illustration of this concept; taking the Didi is a demand on his personal time rather than his attention: while his flesh must remain in the taxi seat, his attention is free to be used on any digital activities. During his travel time, James experiences an excess of attention. However, under the conditions of mobility, the rhythm of the mobile game is employed to fill attention gaps during transportation. It runs parallel to the activity of the player's transportation, effectively occupying these interstitial moments.

The case of Elisa further supports this argument. Elisa plays games during college classes. When a teacher assigns discussion tasks or covers knowledge, she is already familiar with, she briefly engages with her smartphone. Even when the teacher shifts to topics Elisa is interested in, she may still be engaged with her mobile game. Attendance at the lecture is a fixed event in her daily schedule, but the time used for mobile gaming should be considered not as a personal scheduling choice but rather as a reallocation of personal attention within a predetermined daily event.

Like Elisa, many interviewees reported integrating mobile gaming into group activities. For those adhering to the typical schedules of a company or school, inserting mobile games during lunch and dinner times is common. For these individuals, meal times are fixed events, part of a collective rhythm involving hundreds of people, and are orchestrated by a local company, school or other organisation. These cyclical events recur daily. At the same time, individuals might finish their meals quicker than the allocated standard time, thus leaving a small fragment of time for personal use. This time can be filled with activities such as mobile gaming, effectively using these brief fragments within the structure of their day. This concept can be illustrated through the experience of interviewees Jessica:

> The Researcher: ‘ What do you mean by a 3-hours of time fragment?’
> Jessica: ‘Generally, the longer time is the lunch breaks, then when I catch my breath at work, and then on the way from work to home’
> The Researcher: ‘How long do you take your lunch break at noon?’
> Jessica: ‘One-hour lunch break’.
> The Researcher: ‘Do you play games every lunch break?’
> Jessica: ‘Basically’.

The case of Beatrice also illustrates this concept:

> ‘[I will play] while waiting for a meal, and the waiting time after lunch’.
>
> ——Beatrice.

Both cases demonstrate the concept of a ‘time fragment’ left behind in organised activities. Jessica, a company employee, has a fixed lunch break.

Beatrice, a university student, accesses meals at the canteen at set times. Consequently, their mealtimes are predefined within their daily routines. Jessica and Beatrice repeatedly follow this regular schedule, which is already established in their daily lives. However, they often find themselves with surplus attention during these periods, which can be redirected towards other activities.

As mentioned in the previous chapter, many mobile games distribute stamina points as gifts during lunchtime and dinnertime to encourage players to log in. These extra stamina points are often referred to as ‘lunch’ and ‘dinner’ within the game environment and gamer communities. Given this setup, during the short lunch and dinner breaks, individuals may simultaneously experience two concurrent cyclical rhythms: one from the social organisation of the physical environment and another from the mobile game in the digital environment. The latter rhythm inserted into and fills the gaps left by the former.

In this context, playing in the university canteen can be understood as the cooperative interaction between the ‘rhythm of the self’ and the ‘rhythm of the other’ (Jaulin, 1973, as cited by Lefebvre, 2013, p. 95). According to Lefebvre (2013), the ‘rhythm of the other’ refers to the rhythm of public activities, such as students entering the canteen at its opening time in interviewee Beatrice’s case, while the ‘rhythm of the self’ pertains to an individual’s reorganisation of private life. This is exemplified by Beatrice’s and Jessica’s attempts to play games during the ruled lunch collective rhythms.

It is also reasonable to consider that the interviewees are experiencing two collective rhythms at the same time. As Lefebvre (2013) stated, “Every social,

which is to say, collective, rhythm is determined by the forms of alliances that human groups give themselves" (p. 91). The rhythm of logging in at lunchtime is determined by the game company, while the rhythm of the canteen's opening is set by the university. The simultaneous occurrence of these two rhythms implies that the interviewees are present in both digital and physical spaces at the same time. This hybrid space allows for the overlap of the 'rhythm of the other' and the 'rhythm of the self', leading to their mutual insertion. The inserted rhythms can support and complement each other, allowing the player to utilise surplus attention effectively.

In most cases, interviewees use mobile gaming to fill gaps in their schedules, helping them avoid feeling miserable during unscheduled times. Mobile games provide virtual targets that offer immediate positive feedback. Referring back to the concept of the in-game linear rhythm mentioned in the previous chapter, the physical actions required in mobile games to obtain rewards or positive feedback are simple, often involving regular taps on the screen. Thus, the insertion of mobile games into players' everyday lives follows a two-step process: providing actionable goals and offering rewards upon goal completion. During these gap periods, some interviewees tend to avoid complex content[36]. When these interviewees choose mobile games as an intermediary between two daily events, they are more likely to engage in repetitive game segments rather than reading game stories, interacting with in-game characters or tackling difficult in-game challenges. For example, the interviewees Rex stated:

[36] It is worth noting that not all interviewees exhibited this trait. Some reported not noticing this behavior, while one interviewee stated having the opposite tendency, purposefully selecting high difficulty levels during fragmented time.

> ‘I will probably be farming content [meaning performing the same game action over and over] on content that does not put too much effort into..... preferring the repetitive content’.
>
> ‘Like Arknight or the Onmyoji, gaming is not only for finishing in-game quests. The aim of finishing a quest is to develop the story, if it is time to read, I will put it down until I come back home, then read, and the same is true when playing other games.’
>
> —— Rex

And interviewee Zoe also mentioned:

> ‘I am the kind of person who has to play a whole [storyline] at once to finish an ending. Then the process will be long, if I’m at the office, where I am mostly here to study, so I do not open Eternal City in the office…There is no difference in which environment for Love Nikki[37] ’
>
> —— Zoe

In these cases, the interviewees’ gameplay involves repeating the same in-game content. Whether through linear clicking (described as farming) or the cyclical rhythm of daily goals, the interviewees accept the inherent repetitiveness of game-based rhythms. Another interviewee, Calvin, corroborated this argument by stating:

> ‘The story games need to have an immersive experience’.
>
> —— Calvin.

[37] Love Nikki involves fast daily task system, almost all the content is repetitive clicking. while Eternal City has a relatively long storyline need to read

The term ‘immersive experience’ closely relates to the psychological concept of flow. With an ‘immersive experience’, gaming occupies all the player’s attention. This state means that players do not frequently switch between the virtual and real worlds but remain engaged in the game for extended periods. When players engage with one-off game content—such as in-game character interactions, storylines and activities—they invest all their attention in the mobile game. In this sense, mobile games function similarly to traditional handheld games.

However, this ‘immersive’ state is something players wish to avoid during brief fragments of free time. The descriptions provided by the interviewees Rex, Zoe and Calvin suggest they try to maintain an unstable connection with the game space. When they have other daily goals to accomplish, such as reading or studying, they prefer to switch in and out of the game conveniently and straightforwardly. Their preference for repetitive and simple content reflects their need to switch between in-game and out-of-game activities at any moment.

This subsection examines the interplay between game-based rhythms and out-of-game rhythms during the daily intervals of life. In this gaming process, the connection between the player and the game is unstable and can be interrupted at any moment. During these unstable periods, people may prefer engaging in straightforward, highly repetitive content to fill the time gaps in their daily lives. Compared to traditional console games, repetitive and divisible mobile games better fit into the segments of people’s lives. Mobile game players can complete parts of their daily goals at any time rather than engaging in a relatively longer immersive experience. This preference reflects

the characteristics of the combination of mobile game-based rhythms and everyday rhythms: instability, rapid disconnection and reconnection, and incomplete attention occupation.

In this process, the term ‘interstitial time’ (Chess, 2018)’ also referred to as ‘fragment time’ or ‘free moments’, is frequently mentioned by our interviewees. This term describes small pieces of time that players can freely arrange. It also means that the leftover time or attention can be occupied by mobile games when people are subjected to the rhythms of industrialised social organisation. According to the interviewees, most people’s work and lives are highly organised and structured. Whether they are office workers who need to clock in in the morning or university students who need to attend lectures and social activities, their daily lives follow a collective, cyclical routine. From morning to night, players’ physical bodies are constantly subjected to an imposed industrial rhythm. However, the macroscopic rhythms of industrialised society cannot regulate every aspect of personal lives. During the individual’s adherence to the collective schedule, there may arise a surplus of personal attention and time. This surplus becomes the basis for integrating mobile gaming into the rhythm of daily life.

The high degree of fragmentation in mobile games’ daily routine systems allows discrete fragments of personal time to be organised and utilised within the mobile game system. This fragmentation characterises the rhythm of mobile games in terms of user time, where the game does not demand continuous, large amounts of attention or personal time but rather focuses on integrating the user’s surplus attention. The surplus attention from these daily event fragments can be accumulated and exchanged for in-game items within

the mobile game system. This process can be seen as a form of leisure and a means of commodifying the user's attention.

Additionally, it is important to consider the impact of monetisation mechanics on playing time and attention. As discussed in Chapter 4, game mechanics such as daily quests, monthly passes and battle passes require players to log in daily or at specific times. These demands on players' online time based on game mechanics can be one reason players log in during fragmented time periods.

This subsection argues that mobile games, as a medium beyond social time and limited space, reorganise fragmented personal time and attention, integrating them into the rhythmic time constructed by the systemic environment provided by mobile games. The rhythm of mobile gaming parallels the industrialised societal rhythm imposed on people's physical bodies. This rhythm occurs in both geographical and digital spaces, forming a mutually supportive and complementary relationship.

5.3.2 Game Rhythm for Creating the Collective Rhythm

This subsection explores how a mobile game creates a collective rhythm for its players and links groups of people within this created rhythm. Compared with the former subsection, this subsection focuses more on human relationships and interactions and how mobile gaming shapes an everyday social life schedule. By synchronising different people's life rhythms, mobile gaming fosters deeper relationships between individuals.

The concept of collective rhythm was proposed in Lefebvre's (2013) rhythmanalysis of Mediterranean Cities. He defined collective rhythm as the unfolding of alliance interests within "social time that they contribute to producing (or reproducing) by impressing a rhythm upon it…social, which is to say, collective, rhythm determined by the forms of alliances that human groups give themselves" (p. 94). This collective rhythm is built by the city's architecture, daily ceremonies, religion, politics and culture.

This thesis focuses more on an artificially created social schedule shaped by conditional information communication based on digital media devices. In mobile game environments, game companies often design festivals, events or celebrations to update the new commodities[38] or activities. This update cycle for in-game purchasable commodities can be regarded as an artificial social schedule service for the player's online payments. As discussed in Chapter 4, the timing of these updates is fixed and follows a cyclical pattern.

Conditional information communication refers to a game's conditioning of players based on computer logic. If players perform a pre-designed action, they will receive pre-set feedback from the computer program. Through this, players have spontaneously developed a similar in-game playing rhythm based on the conditional feedback given by the mobile game system. This is evidenced by the interviewee Scott, who has extensive experience in mobile game design. As this thesis mentioned in the chapter 4.2.3, Scott stated:

> 'We have a very clear plan for the numerical growth of each player, what kind of game fun will be given at what time, precise to the minutes, and the

[38]These may include new characters, skins, weapons and equipment,etc.

fun comes from which game mechanism. This is an absolute consensus among mobile gaming companies. In order to guide the new game players, the game process is clearly planned. Players do not necessarily follow the plan strictly, but I have to give this planning for player actions'.

——Scott

This description demonstrates that game designers can craft the experiences, items and opponents a player encounters through a detailed plan. In the context of mobile games, this artificially created social schedule is characterised by flexibility within short time frames and fixity over longer periods. Limited flexibility refers to the player's freedom to decide how long and when to play within a relatively short period (e.g. one day). As discussed in the previous section, players can insert mobile gaming into fragments of their daily lives according to their local rhythms. Fixity over longer periods means that a mobile game producer updates content at regular intervals (e.g., every 40 days), and in-game rewards refresh regularly. Players need to obtain these rewards before they are updated or removed, thus their in-game actions corresponding to the rewards are fixed during this period.

To earn in-game rewards, most players of the same game perform nearly identical in-game actions. An in-game activity or event is a series of tasks designed by the game company, with each task corresponding to specific rewards. As discussed in Chapter 4, these events often coincide with festive periods such as summer holidays, Chinese New Year and Christmas, etc. The content of these events creates similar actionable behaviours for players,

allowing them to experience the same story, collect the same items or defeat the same enemies.

Through this shared schedule, players of the same game spontaneously generate a collective rhythm across geographic boundaries. In the mobile game space, the player is part of a collective, not in a physical sense, but transcending geographical limits. The shared identity of being a game player represents an online alliance. The game space functions as a metaphor for a virtual city, where players walk, chat and participate in ceremonies within the digital realm. Online gaming events can be seen as variations of ceremonies held in city squares.

Among all online game events, the moment of opening a new character banner[39] is typically significant for players. Game companies usually preview characters in advance. The ‘character/weapon banner’ is a cyclical event where a company creates a prize pool filled with different prizes at regular intervals, with the pool being refreshed periodically. Specific prizes (e.g. in-game characters) are available for a limited time. Following the pattern of prize pool updates, players experience the same rhythm: completing daily tasks to accumulate Gacha resources, waiting for the prize pool to update and entering the pool to draw prizes. This process is quite similar for all players of the same mobile game.

A typical daily phenomenon is that mobile games often become hot topics on social media on the day or the day after the in-game content is updated. This

[39] This involves making available characters accessible to players through Gacha.

indicates that, during these periods, players are almost spontaneously interested in the new in-game content and eager to discuss it publicly.

The interviewees Eunice and Harold exemplify moments of connecting with the other players of the same game. Eunice stated that:

> '[When my friend and I] drew a beautiful character, we would talk together, like two seals[40]'.
>
> ——Eunice

And Harold also described:

> 'I had a classmate with [whom I had] a normal relationship in the high school, but after we graduated college, I suddenly found that we both played as the Fate/Grand Order [a mobile game]. I saw it on his social media and saw him sending posters about his new card[41] [in-game characters].
>
> ——Harold

In the cases of Eunice and Harold, they are simultaneously engaged in the game schedule with their friends. The opening of a character banner can be understood as an online ceremony in the mobile game space. By participating in the same series of ceremonies, game players achieve a collective rhythm with others. This participation in a collective rhythm should be regarded as a

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40 In the context of the game, 'seal' refers to 'sunbathing', which means 'to put something you have in the public area', implying showing off.

41 The term 'cards' refers to rare items that users obtain probabilistically in the game. Due to the capabilities of early mobile devices, popular mobile games in China used cards to represent characters and items. Consequently, players began using 'cards' to describe any rare characters or items in the game, regardless of whether they were actually represented as cards.

negotiation between mobile game rhythms and daily life rhythms in a hybrid space.

Mobile games have the unique advantage of building a collective rhythm. First, mobile gaming participation is convenient, fast and requires less attention. Attendance at online ceremonies can occur at any time or place in daily life, such as on buses, subways or during any gap time of the day. Second, mobile games are more persistent than most other cultural products (e.g. books and movies). While consuming a book or movie typically takes only a few hours, some people play mobile games for several months or even longer. Given these premises, the daily task system and cyclical updates of in-game events guide players to use the game regularly and take similar actions in the game. This similar and regular in-game behaviour among players builds a collective rhythm.

Online avatar creates a virtual presence for players to participate in public events organised in digital space. In the earliest stage of online gaming, all players shared the same digital space, challenging the same group of monsters, chatting with the same non-player characters and having to line up to do so. This model soon proved to have significant drawbacks, as the game content could not accommodate a large number of players simultaneously. As a result, game companies invented the design of ‘instances’. This term refers to the game system producing an available copy of a space for each group of players who decide to challenge a specific area. Each instance is an exact replica of the original area, allowing players to interact independently.

This complex spatial division means that each player is in their own (or their group's) digital space, but these copied spaces originate from the same area. In mobile gaming, the collective rhythm experienced by players is an extension of the 'instance' concept. Players encounter the same content distributed by the game system, chat with the same non-player characters and exist in nearly identical digital environments, even if they may do not see each other.

Based on the above discussion, the following paragraphs explain how mobile games create connections between players. Mobile gaming can act as a coordinator between people with different life situations. For example, the interviewees Marko described:

> 'My high school classmate and I now have a good relationship. We just started talking again because both of us play Fate/Grand Order [a mobile game], and [my high school classmate] posted a screenshot of getting a new character. Then we re-chat again'.
>
> ——Marko

Harold shared a similar story after discovering that his old friend was playing the same game as him:

> 'From here, we chatted about more topics, from Fate/Grand Order to talk about our daily lives after graduation'.
>
> ——Harold.

For players of the same game, their daily routines within the mobile game are almost identical. The shared daily goal system leads to similar in-game activities. The actions players make in a game are consistent and repetitive, creating a common in-game rhythm. This shared rhythm implies a common communication context or the collective rhythm. The schedule of mobile game updates, including new characters and events, establishes a game-based rhythm. Hence, in the cases of Marko and Harold, when they ‘saw their old friends showing off newly acquired in-game characters on social media’, it indicates that they are experiencing a similar rhythm through mobile gaming.

Nevertheless, when players live in and negotiate different out-of-game social environments, they may construct unique local rhythms. The interviewee cases in this thesis show that mobile game players from diverse backgrounds try to adapt to the pre-designed rhythms offered by mobile games within their unique social contexts. For instance, during game guild wars occurring at specific times, employees might hide in the restroom to go online with other members. Students might log on to collect stamina points, distributed in the middle of the day and evening, during meal times in the cafeteria.

The rhythms of mobile gaming are interspersed with other daily routines in the office, classroom and laboratory. While their out-of-game daily routines may differ significantly, players of the same mobile game share a relatively consistent set of online schedules. This consistency exists even though they may be located in different parts of the country, with varying occupations and age backgrounds.

The interviewees Max and Darlene were both players of a mobile game called Onmyoji. This game holds online guild activities on certain nights, requiring players in the same guild to work together to defeat in-game bosses. Max, a university student at the time, stated:

> 'I'm a guild main member[42], if the night does not happen some special event, I'm in it every time'.
>
> ——Max

He has a considerable amount of leisure time and often consistently plays for five hours from 6 pm to 11 pm. In contrast, Darlene, who has been working for many years, often uses his commute time to play but still participates in guild wars. Darlene described his participation as follows:

> 'As long as there's a reward, I'm in it, and there's a guild event in Onmyoji every day around 6 pm-7 pm. It is the time I have dinner, so I use that time to do those two things together. On weekends, if I have dinner with friends, the schedules will collide, and I will find a way to participate in the guild activities. I do it before dinner or play a game while talking with a friend'.
>
> ——Darlene

Max and Darlene have quite different out-of-game daily lives, but their in-game schedules are consistent. They log in during dinner time and fight bosses with other guild members. This consistent game-based rhythm is also part of their private daily routines. As Darlene mentioned, he has a non-game

[42] it refers to a player who can deal significant damage to the boss

daily rhythm of ‘eating dinner during guild activity time’ or ‘meeting friends on weekends’. When he attempts to follow both the game events and his out-of-game daily rhythm, he integrates the two—the rhythms of physical space and digital space, the pre-designed collective rhythm and his personal local rhythm—trying to make them work together.

These interviewee cases also show that mobile games offer the possibility to construct the same rhythm across time and space. The content related to the game-based rhythm is entirely artificial, implying a set of schedules for marking time and understanding timing. Max and Darlene shared the same understanding of nighttime because they participated in the same Guild event. although they might never have contacted or known each other. Similarly, the interviewees Marko and Harold, after leaving campus, built different local schedules dictated by careers, families and companies. However, the mobile game still provided an opportunity to synchronise their rhythms with friends living in different environments.

To return to the beginning of this subsection, mobile games create a collective rhythm that refers to a series of artificial social schedules. Based on the collective rhythm of mobile game mechanisms, players of the same game develop similar rhythms in their out-of-game social groups, whether large or small. This process can be illustrated through the interview cases of Elisa and Werner, Elisa described:

> ‘I would want my best friends around me to play [the same] mobile game with me... It seems to happen in all the games I have played. So I would love for the person I am best connected with to play with me and then we

can talk about it every day, probably for social purposes as well, one more thing in common'.

——Elisa

Similarly, Werner stated, 'My colleague and I are playing the Azur Lane[i], but I cannot say that we are playing together. It is more like we are together. We are playing a game simultaneously'.

The expression 'together' implies that Werner and his colleagues share the same collective game rhythms and develop similar game-based personal life rhythms within their smaller alliances. They acquire new cards simultaneously, complete daily in-game tasks simultaneously and participate in in-game activities at the same time. This overlap of game-based virtual rhythms creates a communal experience. The non-game local rhythm is the result of geospatial and social organisation practices, while the rhythm of mobile games is built on the replicated digital space for each individual or group player. The former implies a simultaneous presence in the physical geospatial space, while the latter points to a shared collective rhythm experience, akin to the parallel universes of science fiction.

The interviewee Elisa's experience also supports this argument. When she returned to her hometown during the Chinese Spring New Year, she needed to socialise with people she did not know well, some of whom were much younger than her. She downloaded a mobile game to play together with these 'kids'. In this case, the personal life of the older Elisa, who lives in another city, is markedly different from that of the younger kids living in her hometown.

However, the collective rhythm provided by the mobile game quickly facilitated familiarity and connection between Elisa and the younger children.

In general, this chapter discusses how an artificially created schedule by a mobile game facilitates players in developing a collective rhythm with each other. Mobile games play a role in creating a collective social life schedule, enabling people to share similar experiences beyond geographical boundaries. This shared experience can generate a group rhythm, which is particularly beneficial for developing weak ties.

5.3.3 Leaving, Escape, or Negotiation: The mobile game Rhythm Against Daily Repetition

This section explores how players' switching between mobile gaming and everyday life activities serves as a way to leave their current living environments. It considers mobile games as a tool for switching between digital and physical spaces that helps players negotiate the rhythms of their physical external environment.

Previous research has demonstrated that digital gaming can act as a means for players to negotiate with their external environment (Young, 2009). A typical example is gaming as a coping mechanism for real life. As Young (2009) discussed that:

> Gamers immerse themselves into captivating virtual worlds that seem more exciting and interesting than their real lives. This often reinforces addictive behaviour and can be used as a coping mechanism to address missing or

> unfulfilled needs. In this way, gaming can allow the gamer to forget his or her problems (p. 367).

For players, the game world contrasts with the real world and provides a safe and relaxed zone, even if this safety and relaxation are generally considered temporary and unsustainable.

Some interviewees in this research also illustrate how they adopt mobile games as a coping mechanism for the pressure or stress of daily life events. They used phrases such as ‘changes my identity’, ‘empty’ and ‘go relax’ to describe the effect of mobile gaming. For example, Bella stated the following:

> ‘It changes my identity and environment. I go inside the game, pretend I am another person, and then live again in this game. It alleviates some of the negative emotions I encountered in real life. It gives me a chance to escape reality’.
>
> —— Bella

Additionally, Elisa described that playing a mobile game ‘is a time to empty myself’. Beatrice also mentioned her experience of playing mobile game outside the conference room, as following:

> ‘When I stand in front of those conference rooms, I play inside the building with a self-evident purpose. It is to relax, and it still reminds me that I am about to do something that makes me nervous’.
>
> ——Beatrice.

Bella is a freelancer, and Elisa and Beatrice are college students. They have quite different daily lives. However, their descriptions—‘alleviate some of the negative emotion’ and ‘a time to empty myself’—illustrate that mobile gaming helps users change their perception of the environment. By using the digital environment perceived through their avatars, players can partly or wholly replace their perception of the physical external environment.

Beatrice’s case can further explain this phenomenon. For Beatrice, the motivation for opening the game seemed to be ‘to leave the environment that was stressing her out’. Even though she still felt stressed within the game, the virtual environment created a barrier between her and the natural source of her pressure (the conference room and the university building). This shows that playing the mobile game creates a hybrid space that overlaps her original environment, allowing her to take a brief respite. Similarly, Elisa’s ‘time for empties me’ helps her protect herself from the external environment. Mobile games work as a barrier to create a digital world where the player’s spirit can reside. As mentioned in the previous subsection, mobile game rhythms can fill gaps in attention. In Elisa and Beatrice’s cases, their ‘emptying’ and ‘relaxing’ should be viewed as autonomous allocations of attention.

Further, shifting attention from the physical world to the digital world can be regarded as a way to rebuild one’s self rhythm. As mentioned in the previous subsection, Jaulin (1973, as cited by Lefebvre, 2013) differentiates between the ‘rhythm of the other’ and the ‘rhythm of the self’. The former is defined as “the rhythms of activities turned outward” (Lefebvre, 2013, p. 95), while the latter is “organizing a time turned more towards private life” (Lefebvre, 2013, p. 95).

When interviewees use mobile gaming to adapt their self-perception, they negotiate with outward-oriented activities to rebuild their self-organised, private schedules. Before and after Beatrice turns on the mobile game, she must prepare her speeches, walk into the classroom and present her work in front of her lecturer and classmates. This series of actions corresponds to the ‘rhythm of the other’, built by a specific, regulated schedule. In contrast, the action of opening a mobile game and playing it outside the lecture room is an attempt to reshape the rhythm of the self.

Hence, the player’s desire for mobile gaming can be explained as a wish to control or organise personal time and schedules. It is a motivation to rearrange personal time in response to the expectations of social roles or public relationships, a desire to shift from open, collective, prescribed public time to spontaneous, private, casual time. The mobile game serves as a medium or symbol of time for self-control, reflecting a personal inclination toward ‘self’ rather than ‘others’ at specific times.

With this argument, mobile gaming is not only a form of entertainment but also a negotiation or ‘coping mechanism’ (Young, 2009, p. 367) for dealing with a pressurised external environment. The reason for switching from a real-life environment to a virtual digital environment is more complex than merely pursuing entertainment and fun; it also involves negotiating between the rhythms of others and the rhythms of the self.

A rhythm involves repetition. Due to this feature of repetition, a rhythm is predictable by individuals. When a person is in a daily routine, it is reasonable to consider them as having the ability to foresee a series of actions or events

that will occur in chronological order. The series of events that repeatedly occur within a temporal cycle, and the environment or space in which this rhythm occurs, can be regarded as a rhythm-related system. Human subjects can be considered to choose, develop or switch between and negotiate with, various rhythm systems.

At a given point in time, players encounter a series of recurring events within a system by selecting it according to their own foresight. The events of everyday life are subordinated to the schedule of the player's local space, while the events of games are subordinated to the digital schedule. People's choice between virtual and real worlds stems from which set of schedules they prefer to work with at that moment.

Many interviewees mentioned that quickly switching between virtual and real life was one of the essential features of mobile games for them. Even though they describe it as 'escaping' or 'leaving', they are not leaving their original schedules but rather creating parallel rhythms of mobile gaming and everyday life. By creating this parallel rhythm, players can exist simultaneously on two rhythmic tracks. They can pause their perception of the physical environment by entering the track of mobile gaming while still remaining in the rhythm of everyday life. They exist both in the physical, realistic space of everyday life and in the digital space of mobile gaming, with their consciousness (or attention) able to switch between the two exceptionally quickly and interchangeably.

In other words, engaging with mobile games does not mean disengaging from the rhythm established by public social organisations (such as universities,

companies or city spaces) or family bonds. Instead, it creates a hybrid space that allows players to log in and organise their personal time within the gaps of already scheduled time. The development of self-rhythm in this overlapping hybrid space makes the presence of parallel, switchable rhythms possible, or even a common daily state for game players. As mentioned in Chapter 4.3, the automation mechanisms of mobile games significantly facilitate achieving this state.

If the switch from the out-game world to the in-game world can be regarded as a spatial transition, this switch can also be considered a ‘pseudo-disengagement’ from the original rhythm. Unlike physical disengagement from geographical space, this ‘pseudo-disengagement’ involves freezing or suspending the original out-game rhythm or scheduled events. After gaming, a player can return to the original rhythm and continue following it. This ‘pseudo-disengagement’ shows the consultation and negotiation between the ‘rhythm of the self’ and the ‘rhythm of the other’, between the perception of the physical environment and the digital environment. As the interviewee Bella described, it also involves the identity of the self and the identity of ‘another person’ who lives in the game. These intersecting perceptions and experiences occur each time the player allocates part of their attention to gaming.

The process of ‘pseudo-disengagement’ reflects the human desire to break away from prescribed timetables, to experience time that is unplanned and unmeasured, outside the rhythm of cycles and linear progression. Lefebvre (2013) offered a romanticised interpretation of time beyond cyclic and linear rhythms, describing it as ‘a time forget time’, which is: “self-creation or of a gift

rather than of an obligation or an imposition come from without" (p. 76). The 'pseudo-disengagement' represents a departure from daily obligations, a rebellion against clock time and involuntary repetitive behaviour, a pseudo-escape from old rhythms achieved by switching spaces through digital media. It can be described as a spiritual detachment achieved through digital media while the physical body remains within the constraints of a social schedule.

Amy's case illustrates why players choose pseudo-disengagement to negotiate with their daily life rhythm. As described in the introduction chapter of this thesis, Chinese employers, especially in the Internet industry, face a problematic overtime situation. During the interview, Amy described her life as follows:

> My working hours are divided into the low season and the peak season. The peak season is recently, and it lasts for about two months. During the peak season, I wake up around 7:15 a.m., leave home at 7:45 a.m., go to work at 8:30 a.m., and finish the morning work at 11:30 a.m. During this period, I usually do not touch the game. Lunch break is from 11:30 to 1:30, and I may open the mobile game and clear the daily tasks for half an hour after eating. Afternoon working hours are from 1:30 to 5:00, then overtime until 8:00 or 11:00. During the evening break, I may check my smartphone after dinner, but not as often as at noon, and not every time I have free time after dinner. After I get home, before I go to bed, from 12:30 to 1:30, I might play a game, or if I am too tired, I will just lie in bed and watch [something] for an hour or ten minutes. When not working overtime, I will get off work before 6–7 pm, arrive home at 8:00 pm, and play mobile games from 9:00 pm to 10:00 pm or 11:00 pm.'

——Amy

Amy has only one rest day per week during her ‘peak season’. She considers herself to be following the ‘996 working hour system’, which refers to working from 9:00 am to 9:00 pm, six days a week). Within this working system, ‘free times’ is severely restricted in both time and space and often overlaps with other daily tasks. During Amy’s lunchtime, she has only one hour of free time, and her free space is limited to a reasonably close distance from her company. This leads her to prefer leisure activities that are not constrained by time and space. Furthermore, to ensure she meets the requirements of her daily working hours, it is almost impossible for Amy to engage in energy-consuming leisure activities. Given these limitations, building a self-rhythm in a non-virtual way is challenging, making the parallel rhythm between physical and virtual spaces a necessity. In this parallel form of working and gaming, Amy can achieve more than four hours of ‘free time’ per day. She explained her motivation for building this parallel ‘physical-digital’ rhythm as follows:

> The reason for playing the mobile game is that I do not want to fill myself up with work...Just makes me feel better if I do not feel like I am 100% occupied with work. This self-feeling feedback gives me a positive impact.

——Amy

For Amy, playing mobile games allows her attention to leave the work environment for short periods. Although the time spent playing mobile games differs from an idealised, unscheduled time, it still provides a break during her working hours. As discussed in Chapter 4, the cyclical or linear rhythm of mobile games is prevalent in daily gaming time. In-game actions such as

completing daily goals or collecting materials for characters are almost entirely repetitive. However, the ability to switch freely between the virtual and real worlds offers a selective ‘freedom’, reflecting the desire for time outside the imposed rhythm and control over one’s own time.

The four hours of ‘pseudo-disengagement’ playing time allow Amy to feel ‘not fully occupied with work’ even when her physical body remains in the office. The parallel game-based rhythm provides players with the possibility to choose between the physical and digital worlds. This ‘choice’ represents a limited freedom, allowing for a self-selected life that temporarily transcends the physical body.

Similar to Amy, when many interviewees were asked about their reasons for continuing mobile gaming, their descriptions often reflected a coping mechanism for their out-of-game environments. When this thesis mentions ‘playing’ a mobile game, it refers to the interviewee opening the mobile game application and running it for a certain period. In other words, the act of ‘playing’ is not necessarily for associated with happiness but is a neutral and specific action. Compared to deriving fun from playing, the actual effect of the mobile game is immediate, instant access to the digital world, allowing players to engage in each moment they want.

In many cases, interviewees left their phones under their office or university desks, letting the game run using its auto-mechanism. Thus, mobile gaming is more akin to a symbolic or conceptual presence superimposed on everyday life rather than serving as a genuine source of leisure and relaxation. The method of playing is characterised by ‘you can enter and play at any time’, not

‘you log in and play’. In this context, mobile games must be able to run independently in a simple linear model or near-automatic form to minimise the attention resources needed to enter or leave the game space.

Switching between the parallel rhythms of in-game and out-of-game life appears to be an auxiliary method for people to maintain balance in their lives. However, this balance can be fragile and easily disrupted. When players leave the external environment that drives their mobile gaming habits, their daily gaming rhythm may change to adapt to a new daily status. The interviewee case of Barton illustrates how everyday gaming rhythm can change quickly.

Barton is a university student who spent much of his time playing games during his military education[43]in high school. During this period, he used all his free time for mobile gaming. However, after completing his training, Barton almost immediately reduced his gaming time.

Military education involves group training activities requiring students to complete physical training courses in groups, representing a combination of cyclical and linear rhythms, or a complete and strict set of schedules for social life. In this environment, Barton showed a stronger passion for mobile games during his fragments of free time, as he explained:

> ‘[During the period of military education] except for the time that must be spent completing training, [the rest of the time] is spent on playing games…

[43] Military education in a China involves educational training for middle school, high school and college students, typically spanning several weeks. It includes activities such as standing, marching, formation drills ,etc.

> What kind of person would play [this mobile game] when they have other things to do? [If] I am not in a closed environment; it is hard for me to play it'.
>
> ——Barton

In Barton's case, playing mobile games was a response to his daily life, which passively consisted of much cyclical and linear repetition. In his view, 'mobile gaming' and 'closed military environments' go hand in hand, and he preferred to play mobile games, spending all his free time on them. However, when Barton left his military training location, he immediately stopped playing mobile games. This indicates that the game content or its entertainment value did not interest him. Thus, mobile gaming was more of a means for Barton to actively negotiate with the part of life he had to face.

This case suggests that the stressful rhythm of the external environment may motivate participants to use mobile gaming to compete for control of their private time. Even if the participant is not particularly attracted to the game, mobile gaming can still be used to build a self-rhythm due to its convenience and accessibility.

In this context, players exhibit a paradoxical tension by adopting a series of digital repetition rhythms to negotiate with the repetitive rhythms of the physical world. Chapter 4 of this thesis argues that the rhythms of mobile gaming, characterised by high repetition and constant cycling, are cyclical or linear. This chapter shows that players also tend to use mobile gaming rhythms as a means of leaving the non-gaming environment.

With the information provided by the interviewees, it seems possible to infer that their experience with non-gaming routines—constantly cycling non-gaming rhythms—leads to their tendency to choose mobile gaming as a filler for free leisure time. As mentioned, the interviewee Amy's work occupies almost the vast majority of her daily time. Within this strictly operating set of cyclical rhythms based on her company's work timetable, her unoccupied free time also flows in the same cycle as her work rhythms. In this context, the player's private time exists as the residue of the occupied work rhythm and cannot be considered a daily schedule organised and fully controlled by the player.

Another case is that of Morton, who changed his gaming method after becoming a father. When his daughter was born, to manage the menial tasks of childcare and family responsibilities, Morton shifted the majority of his gaming time from console gaming to mobile gaming. On the one hand, this shift demonstrates the flexibility of the gaming rhythm compared to non-gaming daily life. On the other hand, it also suggests that although the mobile game rhythm is highly repetitive, it is likely the player's last option for remaining engaged in the game or digital world.

Game studies scholars Crawford and Gosling's (2005) work on the location and use of digital gaming in everyday life may indirectly support this argument. Their data showed that mobile games are more popular with women than men, possibly because women often have more continuous domestic responsibilities and mobile games require less time commitment. This difference in daily responsibilities may lead to different preferences for digital play. The cases of interviewees Barton and Morton demonstrate that their

preference for mobile gaming tends to adapt to the rhythm of the external environment and attempt to create a eurhythmia between the mobile game and the non-game environment.

As the interviewees show, the time they have to cope with stressful environments is often fragmented. For example, Beatrice stands outside the lecture room, Amy plays during her lunch break, and Barton uses his free time outside of training. After their personal lives have been ruled, occupied, and dominated by the rhythm of the other, mobile games fill in the time fragments between external events. These moments allow them to construct their time according to personal preferences, even though game time also involves cyclical and linear repetition.

This subsection analyses mobile gaming as a means for players to negotiate with the rhythm of their external environment. When people open a mobile game during fragmented moments of their day, the digital rhythm represented by the game merges with the rhythm of the physical environment, allowing quick transitions between the two systems. By engaging with the digital rhythms created by mobile games, players can facilitate or foster their self-rhythm by switching between the ‘digital-physical’ parallel rhythms in a hybrid space.

Participation in the mobile gaming rhythm can be regarded as a ‘pseudo-disengagement’ from the behavioural standards imposed by the external environment. This pseudo-disengagement provides an opportunity to leave, escape, or negotiate with the current daily rhythm. When a player’s physical body is present within the rhythm constructed by a company, university, or

public organisation, the pseudo-disengagement achieved through the game avatar demonstrates a spiritual presence in the digital space created by mobile gaming. From this perspective, daily mobile gaming behaviour may conceal a desire for self-control over one's time, especially when the participant's daily time is intensely occupied by repetitive routines.

5.4 Conclusion

This chapter focuses on the eurhythmia performance between the rhythm of mobile games and the rhythm of daily life. Mobile games provide a portable playing space, allowing players to access the game anytime, anywhere. This leads to the integration of physical and digital rhythms, as described in the above subsections. The hybrid game-reality space allows players to reorganise their daily lives and establish their self-rhythms within the game environment.

The three subsections of this chapter explain different influential aspects of how mobile game rhythms combine with daily life rhythms. In the subsection on mobile game rhythms as gap fillers, it is noted that people's daily rhythms experience attention surpluses. For instance, when interviewee James travels by taxi between his workplace and home, his physical activity is constrained by the limited space, but his attention is almost completely unspent. In cases like James's, mobile games can be inserted into everyday life during such moments. The rhythms of social life in the traditional sense (e.g. meals and commuting) are imposed only on the human biological body and do not occupy one's full attention, which can be reallocated to the mobile game system.

Due to the flexibility of mobile game time, game time can be inserted, connected, and run parallel to other events in people's daily schedules. In this context, the rhythm of mobile games constitutes a support and complement to daily life.

Therefore, mobile games can reorganise the fragments of daily time and attention. These fragments refer to the unused parts of time and attention during the player's adoption of the local non-game rhythm. A player can complete a series of actions in different intervals of daily life and combine them into an in-game goal, organising fragmented time and attention to the rhythms based on the game system.

The second subsection of this chapter mainly discusses the ability of mobile gaming to create a collective artificial social schedule. The mobile game's periodically updated content can be seen as an artificially created social calendar. By following this common calendar, people in different environments can achieve a collective rhythm. The interview cases of Eunice, Harold and Marko show that people may develop closer social relationships through synchronised playing rhythms. The experience of playing together allows them to mark the passage of time in their daily lives in the same way. They talk about new characters, activities, or events in the game simultaneously, and the overlap of game-based rhythms creates a hypothetical simultaneous presence. This imagined sense of commonality prompts players to develop a collective rhythm and positive relationships.

Compared to previous research, this thesis' interviewees reported experiences similar to those described in Apperley's (2017) study on the free-

to-play game GunBound[44]. In Apperley's study, Nadia, who lives in Melbourne, shared her experience of playing with friends in Malaysia, while another participant, Burgundy, mentioned playing with her brother in Adelaide. Apperley's (2017) work emphasises the globalised nature of video game rhythms, which allow people from different countries to play together. Building on Apperley's contributions, this thesis proposes two key developments: First, while this thesis focuses on interviewees who live in the same country and share the same cultural background, they also exhibit trends of building collective cross-geographic rhythms. Second, and more importantly, this thesis emphasises how mobile game mechanics influence players' collective rhythms. For example, interviewees Eunice and Harold described the significance of card-drawing moments, while Max and Darlene highlighted the importance of guild hours.

Whereas Apperley's (2017) rhythmanalysis of global game rhythms tends to position players as the primary agents constructing these rhythms, this thesis views the player-game ensemble as a mutually negotiated relationship. Gameplay mechanics, such as daily log-ins, daily tasks, and the production of in-game resources, play a significant role in shaping how players organise their daily gaming time. These shared online game rhythms, influenced by deliberate design choices, replace individual social relationships within a limited context and become the foundation for the collective rhythm among players. These players, though geographically dispersed and diverse in occupation, education, and experience, share a common rhythm shaped by the game's mechanics.

[44] GunBound is a free multiplayer, turn-based artillery game in which players are divided into two teams and take turns shooting at each other.

The subsection on mobile game rhythm as a means of leaving, escaping, or negotiating discusses how people use mobile games to engage with a digital rhythm that parallels their local rhythm. It argues that the desire for free time beyond the daily routine rhythm may motivate people to play mobile games. The section describes the player's negotiation between the rhythm of the physical environment and the mobile game rhythm as a 'pseudo-detachment'. In this situation, the player does not actually leave their original rhythm of life in a geospatial context but rather suspends their participation in the local rhythm.

As illustrated in the cases of Elisa, Beatrice and Amy, the interviewees used the game to create small periods of time where they could freely choose between 'game' and 'reality'. This 'pseudo-detachment' time provides a positive mental effect for the player. This phenomenon was particularly evident in the case of Amy, for whom playing mobile games provided a sense of freedom from time constraints, meaning she was not 'occupied with work'. That feeling about herself was more important than the content of the game itself.

In this section, the rhythm of mobile gaming is seen as a method of negotiating with the non-game rhythm. The interviewee's action of placing their phones under the table can be regarded as an attempt to build a self-rhythm. In this action, they are not actually engaging with the game—the psychological feeling of being able to play the game replaces the content itself as the main reason for turning it on. By keeping the game open, people use the rhythm of mobile gaming to reshape and re-dominate their local life rhythms.

When people's lives lack a source of positive feedback, they may rely more on the positive feedback generated by mobile gaming. As many studies on game addiction have demonstrated, people are more likely to develop game addiction when they experience frustration and discouragement in real life. When mobile gaming is seen as a channel of negotiation and escape, it also means that people counteract the pressures of the natural world by switching to the virtual world, where positive feelings are readily available. This is precisely what happened in Amy's case, where she needed to use mobile gaming as a medium to briefly escape and counteract her highly regimented and stereotypical real life.

In conclusion, although this chapter examines the combination of mobile game rhythm and daily rhythm, mobile games do not always integrate seamlessly with other parts of daily life. Sometimes, interviewees also face rhythmic disorders. For instance, in one of our cases mentioned earlier, Andrew said that while engrossed in his mobile game, he did not realise that the food on his plate had gone cold. Hence, when Andrew focused entirely on completing the game and pulled his attention away, he ended up with a plate of cold noodles. This illustrates how mobile gaming can disrupt the rhythm of everyday life. However, when people struggle to control the negotiation process between mobile gaming and the rhythm of daily life, they are vulnerable to arrhythmias. The next chapter will discuss how arrhythmias affect people's everyday lives and examine the conflicts these rhythm disruptions create in the player's daily routine.

Chapter 6 Arrhythmia, Discipline and Industrial Structural Conflicts in Muti-Rhythms of Mobile Gaming and Everyday Lives

6.1 Introduction

The previous chapter analyses how gaming and everyday rhythms combine and interact. The present chapter concentrates on how conflicts can arise between these rhythms. In addition to this introductory section and a concluding section, the main section (Section 6.2) of this chapter explores the categories of rhythm conflicts derived from interviews with 48 participants. Based on the interviews, I found that rhythm conflicts often occur in subtle nuances of everyday life. I divided the conflicts among rhythms into three categories: conflicts with biological and psychological rhythms, conflicts with social relationships and social organisational structures and conflicts with geographical space rhythms. These categories were derived from interviewees' descriptions of gaming time as 'unpleasant', 'stressful', 'tense' and associated with 'negative emotions' in their daily lives. I have coded these instances according to the nature of the rhythmic conflict and classified them according to the rhythmic subject that conflicts with mobile gaming.

Subsection 6.2.1 discusses the first category of rhythm conflicts which addresses conflicts between the rhythms of mobile gaming and the biological and psychological rhythms of the players' bodies. Humans naturally adhere to biological rhythms that their bodies produce, including activities such as eating, sleeping and periods of physical fatigue. When players are fully engaged in a game, they may neglect these natural off-screen biological

rhythms. Interviewees reported instances where they ignored their biological needs, such as sleeping less or skipping meals, to continue playing.

This subsection also explores conflicts arising from interviewees' psychological perceptions. As detailed in Chapter 4, daily in-game tasks are updated every 24 hours. Failing to complete them within their limited time means missing rewards, which some interviewees described as a strongly negative experience. Thus, some players developed diverse methods to cope with forgetting, such as setting alarms or developing the habit of checking their in-game task lists before going to sleep. For these interviewees, the perception of getting 'all things had done' in a mobile game can create a cyclical rhythm. When this rhythm is disrupted by other daily routines, it can lead to a rhythm conflict.

Subsection 6.2.2 discusses how the embodiment of immaterial and invisible norms, requirements, or rhythms in mobile games affects the player's physical body. Following Keogh's (2018) argument, this subsection analyses the player and game as an assemblage, where each constructs and influences the other and forms a 'player-game' relationship. This relationship is affected by a series of complicating factors, such as connections with NPCs, social norms within player organisations and interpersonal relationships among players. This subtle and complex relationship reflects various types of arrhythmia, which may be traced to the player's dual presence in both digital and physical worlds. Players must navigate and negotiate multiple rhythms (polyrhythmia), simultaneously managing their physical and digital existences. This negotiation often leads to polyrhythmic conflicts, with mobile games acting as a window through which these conflicts become apparent.

Subsection 6.2.3 investigates conflicts between geographical space rhythms and rhythms of mobile games. This subsection explores spatial contexts in which interviewees engage with mobile games. It mainly describes scenarios where players use mobile games in public spatial environments, such as buses, cafeterias and offices, that contain specific rhythms. These public spaces have their own inherent rhythms that match the characteristics of the location and the facility. For instance, bus stops experience a regular flow of buses, and traffic lights follow a set pattern of colour changes. Conflicts arise when the rhythm of a mobile game does not align with that of a physical location. For example, players absorbed in their game rhythms, may miss a bus, overlook subway announcements, or miss meal service in a canteen.

To some extent, this subsection parallels the previous discussion on mobile gaming in the ‘gaps’ of everyday life in Chapter 5. In Subsection 6.2.3, I continue to examine how people play games during moments such as subway commutes, breaks between lectures and mealtimes, with a particular focus on instances of arrhythmia.

Through these three categories, this chapter aims to explain the rhythmic conflicts between mobile gaming and out-of-game daily life.

6.2 The Performance and the Reason for Rhythm Conflict

This section explores how interviewees experience different forms of rhythm conflict, categorised into three categories: (1) conflicts with biological and psychological rhythms, (2) conflicts with social relationships and organisational structures and (3) conflicts with geographical space rhythms. In

the following paragraphs, I analyse the performance and reasons for these rhythm conflicts through the experiences described by interviewees.

Some interviewees were aware of these conflicts and attempted to minimise or avoid them, such as quitting the game or describing it as torturous. However, most interviewees used more subtle language to describe their experiences. It is necessary to consider how the interviewees negotiate the sense of these conflicts through their choice of vocabulary during the interviews, as illustrated in the case of Zoe who stated,

> ‘There are times I remember before I go to bed that I do not seem to have the game on today, and then I will insist and turn it on……. Nevertheless, it does not matter’.
>
> —— Zoe

When Zoe used the word ‘insist,’, she implied a sense of conflict, resistance and a mixture of two rhythms. Her body needs rest; however, her decision was to play the game. Similar descriptions are common among interviewees whose gaming rhythms conflict with other aspects of their lives. They feel to be caught in a dilemma, even as they try to reassure themselves with phrases such as ‘it does not matter’. In the cases of Zoe and other interviewees describing rhythm conflicts, it became clear that, as a researcher, I needed to be attentive and precise in identifying the nuanced and sophisticated lexical choices that reflect the context of conflict. Sometimes, these conflicts were also evident in subtle cues such as sudden pauses in the conversation, quiet laughter, or changes in tone of voice.

Demonstrating the implicit meanings in communication, especially when translating between languages, is challenging. Nevertheless, I sought to accurately convey subtle conflicts within the context of Chinese popular culture where mobile gaming is often viewed as a form of leisure. As a result, individuals might unconsciously downplay or avoid expressing conflicts between leisure activities and work or bodily rhythms.

When asked about their daily gaming routines, interviewees typically mentioned periods that did not coincide with work hours. However, their responses often included the workplace as a location for gaming when specifically asked where they played as they frequently mentioned words such as ‘company’ or ‘office’. This discrepancy highlights a subtle contrast between responses to different questions, as illustrated by the following responses of the interviewees Max and Morton:

The Researcher : [A question about daily mobile gaming time]

Max: ‘If I am busy, I play for an hour, and if I am not, I can play two to three hours before bedtime’.

Morton: ‘On the way to work and on the way home, I will play for almost an hour, and another almost half an hour in the rest of the time’.

The Researcher: [A question about the space of playing mobile gameS]

Max: ‘At home, at the company and occasionally on the subway’.

Morton: ‘Occasionally, I log into the game at my office, when I am about to finish work or when I am already finished, but I do not play it’.

In Max’s second response, the mention of ‘company’ alongside ‘home’ and before ‘subway’ suggests that he might have played games at his workplace

but might have overlooked or subconsciously ignored this scenario in his answer to the first question. Similarly, Morton's use of 'the rest of the time' in his first response subtly avoided specifying office hours, while in his second response, he emphasised three times ('occasionally', 'when I am already finished [with work]' and 'I do not play it') to assert that he did not play games during work hours. The responses of Max and Morton indicate a possible reluctance to acknowledge the rhythmic conflict between mobile gaming and their non-gaming schedules. This suggests that, as a researcher, I need to closely analyse and compare interviewee answers to track and understand these possible rhythm conflicts in detail.

6.2.1 Digital Feeding, Bodily Discipline and Disruptions

This subsection examines situations where the bodily rhythms of interviewees conflict with their gaming rhythms. A common theme in the interview data involves interviewees experiencing physiological needs such as eating and sleeping, while the game requires their attention simultaneously. The in-game demands can sometimes overwhelm the needs of the player's physical body. This phenomenon aligns with Apperley's (2011) argument of the body at the screen: "A body that may be ignored during play, as the linear time of gaming subsumes the cyclical demands of the body, causing pain, sleep, food, and bodily functions to be sidelined or even ignored entirely" (p. 37).

As Apperley (2011) described, the cyclical demands of the body off-screen can conflict with on-screen cyclical or linear demands within a game. Typically, the human body follows natural rhythms based on biological needs, where people feel tired at night, hungry or thirsty at certain times of the day, needing

rest after prolonged and repetitive activities. However, gaming rhythms often require players to log in at these exact times, leading to conflicts as illustrated by the experiences of the interviewees James and Sabina. As James stated:

> ‘That is a moment when you really need a break, but you still turn the game on and think about getting the task done and going to bed’.
>
> ——James

In this instance, James experiences a contradiction in his desires. On the one hand, he acknowledged that he ‘really needs a break’. On the other hand, he described that he still ‘turns the game on and thinks about getting the task done’. This deviation between his verbal expression and his behaviours suggests a conflict between his body’s natural biological rhythms and the demands of the game-based rhythm.

Similarly, interviewee Sabina provided a more specific description of her personal life:

> ‘[I will] get up at 3 am or 4 am. I clear my stamina points before going to bed, then put on the alarm. [After the alarm rings] I clear my stamina points [again] and then go back to sleep’.
>
> —— Sabina.

In response to another question, Sabina shared another example of rhythm conflict. She had planned a weekend trip to another city with a friend. Despite arriving at their local hotel at 1 a.m after flight, Sabina realised she had not completed her in-game tasks.

Sabina: ‘I was still playing the mobile game at 1 a.m. because I was in a hurry to catch a flight, and it was after 1 a.m. when I arrived at the hotel.’

The Researcher: ‘Can you give me a detailed description?’

Sabina: ‘I went out with a friend on Saturday, took a flight, arrived at the hotel at 1 a.m., and then I played [a mobile game] for two hours.’

The researcher: ‘how did your friend feel about that? Did she think it is strange?’

Sabina: ‘Two people are clearing their daily tasks together.’[The Researcher’s note: this means Sabina’s friend was also playing a mobile game.]

In these situations, the interviewees’ physiological rhythms conflicted with games’ rhythms. James was tired, and his biological clock required rest, yet the game’s rhythm did not align with this need and compelled him to continue playing. Similarly, Sabina disrupts her sleep to accommodate the game’s schedule. Sabina explained that the game’s stamina refills in the early hours of the morning. Thus, she sets an alarm for 3-4 am to maximise her in-game resources without wasting them. When the alarm woke her up, she completed the task and went back to sleep. This behaviour clearly illustrates how the game’s rhythm dictates her actions, which is against the body’s natural physiological rhythm.

In computer games, players are typically seated in front of a screen. Chesher (2004) presented a nearly cybernetic view of the relationship between video games and players, referring to the connection between the player’s eyes and

the game screen as the ‘glaze’. The glaze should remain balanced; if it is too tight, the player will be pushed away from the game, and if it is too loose, the player will lose interest. This concept is similar to the challenge difficulty curve in games, where players overcome challenges to achieve satisfaction. Chesher’s (2004) argument suggests that video games can control or influence players’ behaviour through their engagement with the screen.

Traditional games primarily focus on engaging players during a continuous period of play. In contrast, mobile games are designed to establish a pattern of time commitment. If the relationship between a ‘game’ and a ‘player’ in traditional games can be described as a one-way attraction, mobile games resemble a structured schedule that dictates when players engage and disengage. First, the automation of mobile games means that the player-game connection no longer solely depends on eye contact or even constant physical interaction with gaming devices. Second, the mechanics of mobile games are designed not merely to keep players continuously in front of the screen. Instead, these games often create situations of stamina exhaustion and resource depletion to prevent players from playing continuously. This dynamic mechanism encourages players to stimulate players’ motivation, attention and engagement with the game and establishes a long-term habit of regular return.

In Sabina’s case, after clearing her in-game stamina points, she typically sleeps for several hours until an alarm awakens her. She then logs into the game to complete her tasks. She may not constantly be looking at the screen or continuously clicking, but this routine has likely been repeated dozens of times. At this point, the in-game demands may begin to override her physical

body's needs, replacing an established sleep rhythm with a rhythm dictated by in-game mechanics.

In many instances, the connection between a player and a game system is maintained through in-game cyclical or linear rhythms. These rhythms operate independently of the player's physical body and individual environment, establishing a separate set of schedules. For the digital avatar or identity, players must complete specific actions within a set time frame or face penalties, such as losing in-game rewards. This task system for digital avatars mirrors the feeding process for the human body; players must log in at designated times to 'feed' their avatar or character by completing tasks to strengthen them. In this context, the repetitive nature of a player logging into the game and clicking the mouse is similar to a parent regularly preparing meals for a child.

In my research, I introduce the concept of 'digital feeding' to describe the regular and repetitive actions players perform to sustain or enhance their digital avatars. Unlike physical bodies, digital avatars do not perish if not 'fed', but their status within the game community may decline. This concept may be challenging for readers unfamiliar with online gaming. Specifically, if a player neglects to 'feed' their digital avatar, the avatar's data remains unchanged. However, as other players continue to 'feed' their avatars, the player's relative position of the neglected avatar deteriorates[45]. Consequently, players who do not engage in 'feeding' may permanently lose in-game rewards or content.

[45] This deterioration can take a variety of forms. One common scenario is that the mobile game designer publish new content based on the current active players ability. For the players who don't feed their characters for a long period, they may not be able to responding to the new content.

In the material world, ‘feeding’ involves providing food to living beings to sustain their life functions. By contrast, in the digital world, ‘feeding’ refers to players supplying data generated by human activity to their avatars to maintain or enhance their character’s activity levels. This term was derived from the natural language players use on mobile gaming forums, where they often describe the act of an in-game character consuming materials as ‘eating’ and the action of strengthening characters by providing materials as ‘feeding’. During interviews, my interviewees unconsciously used similar terminology to describe their interactions with in-game characters, despite acknowledging that these characters are inanimate objects.

For example, when James felt the need to relax physically, his digital avatar also needed to be fed. Similarly, while Sabina’s physical body needed rest, her digital avatar required feeding at 3 a.m. in real time. Regardless of Sabina’s activities in the physical world—whether adhering to her usual routine or travelling with friends—her avatar needs be fed at least once a day according to the game’s mechanics. As previously mentioned, mobile games update in-game rewards daily. Therefore, failing to ‘feed’ the avatar on any given day results in lost opportunities for character growth. This requirement creates a rhythm for the digital avatar that runs parallel to human biological body rhythms. For James and Sabina, this has led to arrhythmia due to the conflict between their natural bodily rhythms and in-game rhythms.

This phenomenon also connects to Lefebvre’s (2013) concept of ‘automatism or spontaneity’. He argued,

> ‘We attribute what results from external constraints to an essential need. He who rises at six in the morning because he is rhythmed in this way by his work is perhaps still sleepy and in need of sleep. Doesn’t this interaction of the repetitive and the rhythmic sooner or later give rise to the dispossession of the body?’ (p. 75).

Human activities, shaped through repetitive execution, from rhythmic habits, but these habits often give the illusion of spontaneity. In the cases of James and Sabina, their actions against their body’s natural rhythms were influenced by the needs of their digital avatars. However, these game-driven demands were almost invisible in their descriptions. As shown in the previous paragraph, players position themselves as the agents performing game-related actions—James states, ‘You still turn the game on’, while Sabina says, ‘I clear my stamina points’. Players subconsciously internalise their voluntary participation. Their adherence to the game’s rhythm, shaped by the constraints of its mechanics and coordinated with their personal schedules, is mistaken for spontaneous willingness to engage. This suggests a potential dispossession of the body in players’ daily routines and highlights the risk of arrhythmia in the negotiated balance between gaming and life.

Additionally, psychological factors can also contribute to rhythm conflicts, as evident in the case of Valentina mentioned in Chapter 4. Valentina set 3 alarms—for 8 am., 4 p.m, and midnight—to align with her in-game earnings, which are billed every eight hours. She planned her login activities around this strict cycle, aiming for optimal resource collection. However, she was unable to consistently adhere to this schedule and could not log in every day. This inconsistency led to a shortfall in the in-game resources she expected to

collect, causing her negative emotions. This conflict intensified Valentina;s Valentina's experience of arrhythmia.

Valentina eventually moved on to a different phase of her gaming experience, as she said:

> 'I am almost done with town-building, I am getting to full level, I have four towns and [each town has] pretty much everything laid out, and then [I know] rarely have the energy to care about its [in this case, the in-game town] placement or production'.
>
> ——Valentina

At this stage, Valentina's negative feelings towards the game had largely subsided, mainly because she no longer felt a strong need for in-game items and thus did not strictly plan her in-game and out-of-game behaviours. Gamers' negative emotions often stem from losing access to attributes, items or game characters, either now or in the future, due to failing to achieve their planned behavioural goals.

Players often plan their gaming activities over extended periods since games typically set long-term objectives. For example, in Genshin impact, acquiring a newly released character might cost about 16,000 in-game currency. Without bonuses from in-game activities, players earn approximately 60 in-game currency per day by completing daily tasks. With a monthly pass, this increases to 150. Therefore, if players desire a new character but do not want to pay more, they need plan their gaming behaviours for at least a month, if not longer. These long-term goals motivate players to organise their daily in-

game behaviours meticulously. The daily planning process can be considered as a cyclical rhythm of psychological experience. As in Valentina's case, expecting to receive in-game income every eight hours becomes a regular, cyclical and repetitive experience.

In the context of the freemium model, the overwhelming rhythm of the human body may be linked to the monetisation of player performance. The cases of James, Valentina, Sabina and others discussed in Chapter 4 illustrate that daily mobile gaming often resembles economic behaviour involving the exchange of symbolic currency (Paul, 2018). This observation aligns with Voorhees' (2015) analysis of Homo Economicus, which suggests that players tend to train their bodies to "navigate the possibilities enabled by the material and cultural milieu in search of the most advantageous probabilities" (p. 68). He suggested that players weigh the costs and benefits of each potential in-game action, seeking to maximise in-game revenue. For instance, James' desire not to miss his daily tasks and Sabina's wish to use stamina points efficiently may lead them to ignore or temporarily sideline their body's natural rhythms.

This concept also connects with Brock's (2021) argument about the affective power in video games, inspired by Beer's (2016) notion of 'metric power'. Beer (2016) proposed that measurement and calculation influence people's lives by ranking, comparing and evaluating daily behaviours. Brock (2021) extended this idea to video games, arguing that such measurement metrics align players' behaviours with the game's value systems. In the context of mobile gaming, the process whereby players engage daily to exchange their actions for game bonuses can be viewed as a method for mobile games to

link the number system with players' emotions. Gaining reward points through a disciplined, accurate and regular routine (such as logging into the game every eight hours) is perceived as a gain while missing a daily task is perceived as a loss. This system of rewards and penalties enables the degree of compliance with in-game schedules to be reflected in the player's account promptly and clearly through the in-game currency system. It also links the player's physical, out-of-game actions to their game account. Essentially, mobile gaming uses in-game currency to reward or punish players for their out-of-game behaviours, which can be understood as a form of monetising players' everyday physical activities.

Furthermore, the interviewees in this thesis described their reactions to missed daily tasks or events in terms that were more affective than material. According to the interview data, players are particularly more sensitive to the rewards they miss or are at risk of losing, often using phrases such as 'avoid loss', 'not want to lose' or 'deficit' to describe their motivation to maintain the in-game cyclical rhythm. These negative emotions and sensitivity might be attributed to loss aversion (Kahneman and Tversky, 2013), which suggests that people are generally more affected by losses than by equivalent gains. This can be illustrated by respondses from two interviewees, Paddy and Jessica:

'Seems like losing something. It feels like that'

——Paddy

> ‘It would be a waste if the daily tasks were not done, and I have not received the rewards. That is a typical mentality for me. I need to finish my stamina. I am losing out if I don’t’.
>
> ——Jessica.

According to Kahneman and Tversky (1979), loss aversion means that people are more likely to be affected by a given loss than they are by an equivalent gain. In gaming, missing out on a reward often feels more like a loss than an opportunity for profit to players. Hamari and Järvinen (2011) found in their research on popular social games such as FarmVille that losing crops that had been planted feels significantly worse than the pleasure of gaining an equivalent amount of crops. Players view the effort put into planting and the value of seeds as sunk costs, motivating them to return to the game to avoid losses. The interviewees’ descriptions, such as Paddy’s ‘losing something’ and Jessica’s ‘losing out if I don’t’, reflect a similar motivation.

However, these descriptions often present the negative experience of loss as a vague and ambiguous feeling. This ambiguity may arise because rewards in mobile gaming are digital items without a clear physical entity or explicit monetary value. Interviewees frequently used terms such as ‘as if’, ‘seemingly’ and ‘possibly’ to qualify their feelings about missing daily tasks, despite not actually losing anything tangible in a mobile game but merely failing to gain a reward for completing a task. In other words, the opportunity to complete daily tasks in exchange for rewards is perceived as a positive resource by the interviewees, a perception possibly influenced by the interaction dynamics between players and mobile games.

Mobile games often provide in-game rewards for players' actions in a more concise, straightforward and quantifiable manner than what is typically found in everyday life. The daily task system presents a list of possible rewards and the actions required to obtain them, which are generally straightforward. These actions may involve tapping on a specific area of the screen or allowing the game to run automatically for a specific time. As discussed in Chapter 4, the daily task system is a collection of repetitive behaviours. Players may perceive these repetitive behaviours as an easy way to earn in-game rewards, viewing them as a guaranteed benefit.

However, the cost in terms of time and attention that players invest in these daily tasks is often less apparent. Unlike the repetitive in-game actions, these less visible costs—such as the time commitment and mental attention required—are closer to what mobile games fundamentally demand from their players. Players may equate the simplicity of completing tasks with the ease of obtaining rewards, overlooking the implicit cost of organising their daily schedules around these tasks. Additionally, mobile gamers often have the option to use out-of-game currency to reduce the time commitment required for gameplay. This involves a conversion mechanism between in-game and out-of-game currencies. Players can earn in-game currencies or virtual items by completing daily in-game goals (a combination of cyclical and linear rhythms, as mentioned in Chapter 4). These in-game currencies and items can be purchased with real-world currencies.

In order to encourage players to make purchases, mobile games often increase the labour and time required to obtain desired items. For interviewees such as Jessica and Sabina, logging into the game is primarily

about acquiring virtual items at specific times rather than ‘playing’ the game in the traditional sense. These virtual goods act as mediators between the players’ actual demands and their repetitive behaviours, serving as a metric to measure the cost of the players’ efforts. The perceived value of these items is strongly related to the interviewees’ subjective judgments. This means that when they place a higher value on certain game items, the time they invest is more likely to conflict with their real-life rhythms.

Gal’s (2006) explanation of psychological inertia offers another perspective on the interviewees’ behaviours. Gal viewed loss aversion as merely an auxiliary principle in everyday life. He proposed the ‘psychological law of inertia’ to explain decision-making behaviours, which he described as: “A person will tend to maintain the status quo unless impelled to alter the status quo by a psychological motive to do so” (p. 25). When people’s preferences are not clear, they are more likely to opt for maintaining the status quo.

In the context of mobile gaming, the daily cost of playing is relatively minor—it is not a choice between large blocks of personal time or significant amounts of in-game currency, but rather a series of decisions involving small amounts of time or minor in-game resources. Initially, the time players invest in mobile gaming could be exchanged for substantial amounts of in-game currency. However, as time progresses, the efficiency of this time-to-currency exchange diminishes, eventually stabilising at a relatively low rate. Moreover, because mobile games can be played in short time fragments, the cost of playing time is relatively low for each session. This miniaturisation of decision-making might make the players’ preferences less distinct, while the daily gaming habit facilitates the maintenance of this state of mental inertia.

Hence, game players may adapt their daily lives to the rhythms inherent in games to achieve a game-life rhythmic fusion and co-play. Once this fusion occurs, players are likely to maintain this rhythm. Typically, the first week of mobile gaming—often referred to as a 'seven-day event' in many games—serves as an introduction for new players. This period helps them become familiar with the gameplay and teaches them to log in at intervals expected by the game. This introductory phase of playing, teaching or training can be regarded as establishing the in-game rhythm or the norms of the game. Through the provision of relatively abundant in-game rewards, including rare characters or materials, the mobile game sets standards and models for 'how to play' and 'when to play'.

Moreover, the in-game rhythms built during this initial period also lead to the formation of out-of-game daily rhythms that include regular gaming. Furthermore, much of the subsequent daily playtime[46] tends to repeat and extend the content introduced during the initial seven days. Players continue to engage with familiar game content, reinforcing and internalising these behaviours through constant repetition. This process can lead players to become habituated to the rhythm and develop a tendency to maintain it.

The concept of constant rhythm inertia in mobile gaming refers to the phenomenon where players repeatedly perform the same series of in-game actions daily, which can be viewed as a trait of rhythmic self-maintenance or inertia. This suggests that players may prefer to maintain the continuity of this rhythm once it has been established. Several interviewees indicated that they

[46] In this context, 'daily play time' refers to the repeat daily or weekly tasks, which update regularly, excluding new events, maps or content.

tended to abandon mobile games when external factors prevented them from completing an in-game task. For instance, the interviewee Werner described his intense negative emotions upon failing to complete a daily task as ‘very serious’, leading him to say, ‘I generally choose just to go ahead and remove that [in my life] at times like this’.

In Werner’s case, he discarded the mobile game when his daily gaming rhythm was disrupted by other daily events. As mentioned earlier, the gaming rhythm refers to a set of guidelines for ‘how to play’ and ‘when to play’. When this norm, established by the mobile game’s mechanics or design, is disrupted by other factors such as urgent work or social events, some interviewees, like Werner, reported uninstalling the game after missing daily tasks. For example, another interviewee James stated:

> ‘There is a kind of consequence to disconnection. It could be that it is over when it has disconnected. As I mentioned, inertia wears off, and then you may slowly give up and you are not so hooked’.
>
> ——James

James described his ‘failure to complete the in-game tasks’ as a ‘disconnection.’ According to James, this disconnection signifies a break not only in his connection with the mobile game but also between his current and past actions. Furthermore, this disconnection represents a psychological shift from being ‘hooked’ to deciding to ‘give up.’

This notion of connection and the ‘inertia’ mentioned earlier collectively suggest a system of self-constructed rhythms by the game player. The

‘disconnection’ described by James relates to Lefebvre’s (2013) argument about the fragile construction of everyday time, which he described as follows:

In everyday life, what is relative to social relations thus appears to every ‘subject’ as necessary and absolute, as essential and authentic. Were we to introduce a new element into everyday time, this construction might totter and threaten to collapse, so showing that it was neither necessary nor authentic. (p. 75)

Based on this perspective, this thesis examines how interviewees arrange their time around mobile games. For instance, Valentina logs into the game every ‘eight-hours’, while Werner and James aim to complete the refreshed daily tasks every 24 hours. These patterns, characterised by the regular repetition of specific behaviours within a particular period. form a daily rhythm constructed by the players, which they may perceive as “necessary absolute, essential and authentic” (Lefebvre, 2013, p. 75)

The misperception of the necessity and authenticity regarding mobile gaming daily rhythms may cause dispossession of the bodily and biological rhythms. As players adhere to the time-consuming rhythms established by mobile games’ daily tasks, they may internalise these externally constructed needs as regular psychological experiences. Evidently, mobile games do not impose any strict or punitive measures on their players; anyone can uninstall the game from their smartphones at any time. As Lefebvre (2013) mentioned, the collapse of established daily rhythms often occurs when ‘a new element [is introduced] into everyday time’. As my interviewee showed, some unexpected daily events can disrupt their habitual gaming routines. This disruption can

lead to the realisation that the original daily gaming rhythm was ‘neither necessary nor authentic’ (Lefebvre, 2013, p. 75), resulting in a ‘disconnection’ from the old routine. However, this process often involves strong negative experiences, as described by Werner, who felt it was ‘very serious’, or by Jessica, who experienced a sense of ‘losing out’. These reactions imply a rupture in the cyclical psychological experience, a break in rhythmic continuity and potentially the cost of reconstructing a new daily rhythm.

From this discussion, mobile games may develop a system of measuring and evaluating player participation based on symbolic currency, and the number system turn serves as a motivation for players to maintain the linear and cyclical rhythms associated with the game, whereby players’ management of in-game data and performance extends to managing their bodily behaviours outside the game. No matter the desire to ‘maintain the status’ or an expectation of avoiding loss, a series of rewards and penalties—often in the form of in-game currencies—can play a role in sustaining the player’s daily gaming behaviour. At the same time, this pattern of maintaining participation in daily in-game rhythms may lead players to ignore or suppress their own biological rhythms temporarily.

In summary, this section describes the conflict between the biological and psychological rhythms of the human body and the digital rhythms of avatars in the game. The next section explores the conflict between the human in-game and out-game social relationships and the rhythms of the mobile gaming community.

6.2.2 Player-Game Assemblage and Dual Presence in Digital-physical Worlds

In this research, social rhythms refer to interviewees' regular rhythms of social activities in daily life, such as going to work and meeting with friends. According to Margraf et al. (2016), a social rhythm "refers to the regularity with which one engages in social activities throughout the week" (p. 1).This subsection explores the dual roles individuals play in both in-game and out-of-game contexts, and both of them produce social rhythms. At the beginning, the data from interviewees' responses indicate that taking an in-game role does not necessarily require them to log into the game. For players, the psychological crossover between their roles can occur at any point in their lives. The out-of-game and in-game roles can coexist in a player's life. The evocation of a role may be triggered by a symbol with a particular meaning or any sentence with an associative meaning. This can be illustrated by the experiences of the interviewees Harold and Gloria:

Harold, an international student, was walking along the Thames River when he saw the Queen moored in the harbour. This sight reminded him of a ship he owned in his mobile game, despite no physical similarity between the two ships. He described it as a 'conceptual resemblance' rather than a 'figurative resemblance,' where the virtual and the real objects intersect in one's perception of the same concept. For a moment, Harold was both a tourist strolling along the Thames and a commander with a considerable fleet group in a mobile game.

Gloria is a player in a love simulation game. Her favourite in-game character is named Li Zeyan. On the birthday of this character, she went to a restaurant, ordered a pudding[47], and placed a picture of the character beside the pudding before taking a photo. In this case, as Gloria sat in her seat at the restaurant, she was both following her out-of-game social role for interacting with the restaurant staff and also playing her role within the game.

These interview cases align with Keogh's (2018) argument on player embodiment: "I am in this collection seems to flicker between bodies and between worlds. I am both Iota and myself; I am both here and there" (p. 2). This statement highlights a complex and dynamic player-game relationship, where players are shaped, even when they are not physically engaged in mobile gaming. It also reveals the player's simultaneous dual existence in both the physical and digital worlds.

In these overlapping and complex relationships, players may need to play dual roles that correspond to different environmental demands. For instance, in the case of Gloria, she exists both as a lover of Li Zeyan and as a customer in a restaurant. In this perceived overlay of reality, the in-game and out-of-game roles may simultaneously impact a person's behaviour. From the perspective of this thesis, these expectations, demands and inertia from the surrounding environment can be explained as rhythms emanating from both digital and physical worlds. This subsection focuses more on the conflicts arising from the player's dual existence, which can also be understood

[47] Li Zeyan used to make pudding for the player's avatar in the storyline of this romance simulation game.

through Lefebvre's (2013) concept of arrhythmia as a "discordance between rhythms, being 'out of step'" (Lyon, 2019, p. 25).

A common example of arrhythmia, or rhythm conflict between the in-game role and the out-of-game role, occurs during players' lunch or dinner times. This is often because mobile game mechanics, such as timed logins and event schedules, overlap with players' daily routines outside the game. For example, the interviewee Werner described that:

> 'That is a set time for players to free up their time. It [mobile gaming event] might be from 6:00 to 8:00 in the evening, and at 8:00, I might have to work late or have dinner, and there is no way I can actively free up that time for it... I do not like the game design anyway, but I will try to participate if I can because there will be a big reward or more something enticing, although I cannot remember what those rewards were'.
>
> —— Werner

In instances like this, Werner needs to navigate the conflicting rhythms of his mobile gaming and real life simultaneously. For example, from 6:00 to 8:00, his social role as a company employee requires him to stay at work, while his in-game avatar requires him to log in to the game. These two rhythms collide at specific points in his daily life.

Like the beat of a drum, a rhythm usually involves several cyclical moments and sets the expectation that a person will behave in a certain way at a particular time. As previously discussed, mobile games often require players to log in at certain times and perform routine behaviours. This concept can be

linked to Goffman's (1949) dramaturgy theory, which suggests that people adopt different roles on the 'front stage' of everyday life based on the expectations of their audience.

In this analogy, everyday life scenes can be likened to a theatrical front stage. where individuals perform roles according to societal expectations. Similarly, mobile games impose their own set of requirements on the player's avatar. Most mobile games assign specific titles to players, such as Traveller, Master or Captain, each suggesting a distinct code of conduct and behavioural rhythm distinct from real life. At any given time, the different roles of in-game and out-of-game personas may demand different actions from the individual.

Players are likely to experience arrhythmias when the rhythms required for their mobile game avatars conflict with those of their real-life roles. For example, Werner's negative emotions arise when his desire to engage in gaming activities conflicts with the constraints imposed by his out-of-game responsibilities. This dissonance between his dual rhythms motivates his negative emotional responses. Some interviewees chose to prioritise the rhythms of their out-of-game roles over a game's rhythms, as demonstrated by interviewees Alexia and Rex:

> 'If I cannot get home until eleven o'clock that day, I will probably take a shower and go to bed'.
>
> —— Alexia
>
> 'I will never give up any event in reality life for playing games, although there is something I will miss in the game, such as I need to take an exam,

and I will uninstall the game. Of course, this may lead me to miss the new in-game characters'.

—— Rex

According to Alexia, she typically completes in-game tasks unless work or fatigue intervenes, which happens about once or twice a month. Similarly, Rex opts out of gaming during exam periods. These interviewees prefer to adhere to their primary out-of-game roles as workers or students, especially when these roles conflict with their in-game activities.

In addition to those who focus on out-of-game rhythms, some interviewees attempt to achieve a rhythmic accommodation or negotiation; they negotiate and seek a balance between their digital and non-digital identities. For instance, Jessica plays tabletop games with her friends on weekends. While engaging in table games, she also keeps her phone open to participate in activities within the mobile game. She described how she manages this dual engagement as follows:

Jessica: 'There is a situation where it is easier to disturb each other. I sometimes play mah-jong (a traditional Chinese table game) while I open my mobile phone, but this can interfere with my mah-jong. However, there is no choice but to manage both simultaneously, sometimes I might make a mistake or miss something in mah-jong'.

The Researcher: 'Okay, but why do you want to do that?'

Jessica: 'There may be an in-game event that takes me 6-8 hours to get involved that day, or the in-game event may be ending today'.

Jessica tries to accommodate both her social activities with friends and her digital gaming commitments, although this dual engagement may lead to errors or distractions in either activity. In Jessica's case, her engagement with mobile gaming significantly impacted her participation in real-life activities. While playing Mahjong—a game where players wagered a small amount of money as a reward for the winner—Jessica began making mistakes and losing money. Eventually, she decided to invite another friend to take her place at the table so she could focus on completing her tasks within the mobile game.

During the game, Jessica found herself attempting to fulfil two roles simultaneously: her physical, out-of-game role as a friend participating in a table game, and her digital, in-game, and her in-game role as a 'Master (avatar)' leading her 'Servants(no-player characters)' to complete an in-game challenge. While she physically participated in table games with her friends, her digital avatar was on a separate schedule, requiring her attention to complete an in-game event.

Similarly, Harold described his experience in managing dual roles during work hours:

> Harold: 'So when I open my smartphone at work, I usually tilt my phone down against my side to keep people from seeing my screen. Furthermore, I am afraid the leader will suddenly spring up behind me'.
>
> The Researcher: 'So you look at your phone, and then play for a few minutes and then look around to see if the leader is looking at you?'

Harold: ‘Well. Be ready to quit the game at any time’.

At this point, Harold faces two distinct rhythms: his professional responsibilities at the office, where colleagues expect him to focus on his tasks, and the rhythm of his mobile game, which requires him to log in and complete in-game tasks.

The in-game rhythms and out-of-game rhythms are equally important when analysing a player’s daily performance. In the cases of Jessica and Harold, the out-of-game rhythms—such as the turns at the Mahjong table or the watchful eyes of a supervisor—establish expectations based on social roles, while in-game rhythms dictate the expectations of digital roles. This duality corresponds to Lefebvre’s (2013) notions of external and internal rhythms. These multi-rhythms—both external and internal, personal (secret) and public—occur simultaneously within the same individual and shape the ‘present’ experience of the player. This current and present rhythm suggests a series of invisible orders that may include social friendship norms, workplace rules, and the expectations of a ‘good player’. These multiple, implied life orders collide at the moment when the digital and physical worlds intersect through mobile gaming.

Returning to the argument in Section 5.3.3 about mobile games and gaming rhythms as a form of resistance to other daily routines, the conflict between in-game and out-of-game rhythms also represents an implied conflict between dual orders or social roles. A player’s desire to escape the rhythm of their current physical environment also indicates a reluctance to conform to a persistent social order that extends beyond the constraints of time and space.

The out-of-game rhythm, as a symbol and representation of daily order, becomes a specific rule of action or performance that can be challenged. The collision of in-game and out-of-game rhythms allows for the identification and recognition of the player's desires and motivations.

In this thesis, arrhythmias are considered a result of the conflicting roles that players are expected to perform within dynamic and complex player-game relationships. These involve the development and negotiation of a player's identity and norms within a complex and varied hybrid space. Keogh (2018) presented the idea of a symbiotic relationship between the player and the game, which defines a dynamic and ongoing 'player-game' relationship. This relationship shapes and produces the presence of the player. In the context of mobile gaming, this 'dynamic and ongoing' relationship involves not only interactions between digital mechanisms and the physical body but also encompasses a broader external world, including the player's occupation, social relationships and social status.

First, this symbiotic relationship includes the player's connection to in-game characters, which may be their avatar or other characters depicted as having specific relationships with them. Southerton and Tomlinson's (2005) analysis of interview data from the Health and Lifestyle Survey in the UK suggests that their interviewees experience time disorganisation due to a sense of obligation to others. Their research focused solely on people-to-people and people-to-social-organisations interactions. In other words, this sense of obligation is only relevant to real, living individuals. However, interview data showed that players may also feel an obligation to in-game, inanimate characters. For example, as previously described, an interviewee chose to sit

in a restaurant to celebrate a game character's birthday. Further, some interviewees displayed emotional connections to these game characters or attached some degree of affection to their in-game characters. This emotional connection transforms expectations from in-game characters into significant factors that influence player behaviour.

Many interviewees perceived their characters as existing somewhere between computer programs and living organisms. As characters upgrade and grow, they may learn new skills and undergo changes in appearance, or the towns within the game may evolve over time in response to player behaviour. The game's interactive elements can provide output responses based on the player's input, which can lead players to perceive these characters as more than just non-living entities. This interaction can foster a process of emotional connection, as described by the interviewee Rowena:

> 'At first, I saw the character, and I just thought his experience was more twisted, bumpy or whatever. And I didn't think much of it, but maybe after a dozen chapters of the plot, there's a sudden breaking, that makes you feel too abusive, too high or too shocked. Then, suddenly, you could not realise where you are anymore: there's no way to realise all of this is just a game'.
>
> —— Rowena

The feeling that 'no way to realise all of the this is just a game' may lead players to confuse reality with the game and feel a sense of obligation towards in-game characters. Southerton and Tomlinson (2005) introduced a participant named Ashley to analyse how a sense of obligation is developed. Ashley felt compelled to adjust his schedule to keep an appointment with his

brother. This sense of obligation might stem from two sources: the belief that his brother may be less helpful if he does not show up, and the concern that his actions may hurt his brother's feelings. A similar process for producing a sense of obligation can develop in mobile gaming. For example, players may feel compelled to log in on time to complete tasks to avoid missing in-game rewards. Moreover, some characters might express feelings of longing for the player if they have been offline for a long time. While these game characters and objects are non-human in terms of their compositional material, they are designed to exhibit near-human reactions, which may further fostering this sense of obligation.

In Murdoch's (1997) description of the actor-network theory (ANT), he notes that science and technology are rapidly incorporating non-human objects into relational networks. From the ANT perspective, both humans and non-human objects create a symmetrical network of relationships. This network allows for the establishment of relationships between people and objects that were traditionally considered exclusive to humans. Fuchs (2014) introduced the concept of fictional empathy which is characterised by an 'as-if-consciousness'. The 'as-if-consciousness' emphasises an existential awareness that maintains the boundaries between the real and virtual worlds while maintaining an emotional connection. In this thesis, the 'as-if-consciousness' is evident in the playing process of most interviewees, indicating that players may develop a sense of obligation to the non-human entities of game characters and systems, although they are aware that these are virtual.

For players, game characters and the game world provide predictable interactions. These interactions inherently form a web-like network within the game, involving character upgrades, item acquisitions, story development and other elements. These elements are interconnected with the player to varying degrees within this network of interactions. This network provides a conceptualised simulation of the physical world and establishes the basis for player empathy towards virtual characters.

The interviewed players described how the game system translates its demands into personified expectations conveyed by game characters. One interviewee, Jessica, briefly explained this expectation from the system:

> ‘It [the game character] presumes to make me a tool within the game too’.
>
> ——Jessica

This statement reveals that Jessica, as a player, is aware of the expectations the game character sets for her behaviour and understands how to respond to them. However, she feels that complying with the in-game character’s wishes makes her feel like a tool of that character. Responding to these expectations may lead the player to change their intended course of action during gameplay, potentially consuming more time than initially planned. Such changes can, under certain conditions, lead to arrhythmias in one’s life.

Based on the mechanics of mobile gaming discussed earlier, it can be inferred that mobile game players may perform repetitive actions driven by their emotional connection or empathy towards game characters or in-game relationships. This emotional connection motivates players to meet the

expectations of non-player characters, typically through a series of repetitive in-game actions, which correspond to the linear or cyclical rhythms explored in previous chapters. However, these emotions are often rooted in virtual contexts and conditions. The essence of arrhythmia experienced by players may stem from dissonance in their feelings towards game characters in the dual virtual-physical world. This conflict might arise between perceptual and rational perceptions, or between the player's imagination and the mechanical nature of the game character.

Second, the 'player-game' relationship may also be influenced or shaped by pre-existing community norms among players. Mobile game mechanisms, such as guild wars or team tasks, often lead players to self-organise and establish common standards or norms for cooperation. These norms then create a rhythm that is imposed on the player. Taylor (2006) observed this phenomenon in her study of mods (player-made programs) in World of Warcraft. She described a damage meter used to measure players' performance within the game. Taylor (2006) viewed this measure as a form of 'participatory surveillance' tool. This tool, initiated and adopted by game participants, helps to quantify human in-game behaviour. By measuring and quantifying human behaviour using various tools, a set of criteria for what constitutes a 'reasonable' and 'good player' is established within the game space. In the context of mobile games, the criteria for being a 'good player' extend beyond just the amount of damage dealt or the accuracy of skill deployment. They also include whether players can log in at the right time and participate in battles or other cooperative activities according to the organisational schedule set by player self-organisation management.

According to the interview data, a common method for establishing in-game norms is through game guilds, self-organised groups created by players, usually comprising dozens of members. In many mobile games, certain gameplay elements are directly linked to participation in a guild. Players who do not participate in a guild on these games may miss out on significant game rewards. While a mobile game guild may not influence all players, it can affect the in-game rhythm and potentially lead to arrhythmia for those who choose to join it. Many interviewees expressed reluctance about joining guilds, with some citing reasons such as ‘social phobia.’ However, they felt compelled to join these player organisations to obtain in-game rewards. To facilitate communication within these guilds, social media chat groups are essential. The in-game communication systems are often inconvenient. Players frequently rely on external gaming communication software to stay connected. In China, this is typically Tencent QQ or WeChat.

Internal rhythms within guilds and the relationships among guild members do not always involve surveillance or oppression. Most interviewees reported that relationships within guilds tend to be superficial. While some guild members occasionally post non-game-related messages—such as complaints about exams or concerns about work—only a few participants share their personal life details with their guild members. The most common situation reported by interviewees involved joining a game guild and its chat room but remaining silent, while still partake in guild activities within the mobile game. Nevertheless, some interviewees reported developing deep relationships with their guild members.

Among the interviewees of this thesis, Clyde is a guild president in a mobile game. The guild he manages ranks in the top 10 in the game. Generally, he communicates with his guild members through social media platforms outside of the game. He mentioned that his main mobile game. Princess Connect, heavily depends on the guilds, specifically on the interplay between different groups of players. The game typically holds guild wars at regularly date, usually starting on the 23rd of each month. At the end of these guild wars, guilds are ranked based on their performance, with the game system awarding substantial rewards to the guilds based on how well they performed. Clyde noted that if a player does not participate in guild wars, there is little else to engage with in the game.

The cooperative model in mobile games differs from that in traditional PC games. For example, in World of Warcraft, the player-to-player combat system operates in real-time, with all players engaging simultaneously. In contrast, multiplayer online cooperation in mobile games is often asynchronous due to device limitations. In the guild wars of ‘Princess Connect’, the member attack sequence in challenges is crucial. If guild members aim for a high ranking, they must challenge bosses in a specific sequence which had been arranged in advance based on each participant’s characters ability. The guild’s management is responsible for setting a detailed schedule specifying which member challenges which game boss and at what time.

Clyde mentioned that his guild does not strictly manage membership. This guild typically only controls the last person who kills the boss for win the reward time of the next challenge. However, they still find it necessary to send

reminders messages via social media to ensure members log in and participate in the attacks. The following paragraphs show the talking text between the researcher and Clyde:

> The Researcher: ‘Have you ever been called to fight with the boss at a time which is inconvenient for you?’
>
> Clyde: ‘Me? No...as you know, I am the president of this Guild...sometimes the president has a small privilege’.

Clyde’s use of the term ‘privilege’ suggests an awareness of how the guild system can impact a member’s daily life. This is further illustrated in another part of the interview where he described a common issue faced by guild members:

> ‘I remember that sometimes I asked some members in the Guild to attack [the in-game boss], and they told me, no, they had used their chance to go to the bathroom in the morning, and they would only have another chance in the afternoon. The attack for each person to the BOSS takes about one or two minutes, but it requires [the players] to be very serious, so that meant they can not be relaxed. It just means they need to find a way to go to the toilet from the company seat, then attack [in the game] in the toilet, and then come back [to the company seat] ’.
>
> ——Clyde

The rhythm of asking members to log in and participate in the game boss challenge is created by the player organisation itself. It is a self-organised rhythm established from the expectation of being a good player or a dedicated

guild member, as perceived by other members. The act of ‘calling players into the game’ is typically initiated by Clyde (the president) or other administrative members of the guild, rather than by the mechanisms within the mobile game itself. However, the motivation for guild managers to regularly remind their members to play is rooted in the inherent mechanics of mobile games. Additionally, the desire for better in-game rewards has led to the development of more rigorous membership management strategies.

With this guild management, the rhythm set by player organisations can sometimes conflict with individual members’ daily lives at particular times. The guild’s rhythm requires members to log in and seriously attack the in-game boss at specific time. Conversely, a member’s real-life work role may not permit them to use their phones for one or two minutes of concentrated gameplay. Players often use the excuse of ‘going to the bathroom’ to manage this role conflict, allowing them to switch between their in-game and out-of-game roles.

The in-game and out-of-game rhythms can be demanding for the individuals. Guild members sometimes refuse Clyde’s requests for assistance by claiming they do not have time even for a quick break, citing ‘not having time to go to the toilet’. This indicates that they cannot further take more breaks from their out-of-game roles. At the same time, if a specific guild member does not attack the boss, the guild may not pass the turn to the next player. In the game context, this means losing potential damage output and achieving a lower guild ranking—an outcome some guilds find unacceptable. This situation can also put pressure on the player’s online relationships with other guild members.

Despite the potential for conflict and arrhythmia, the relationships between guild members may generally relaxed. My interview with Clyde was conducted outside of the game context. Yet, when mobile games or related elements were discussed, Clyde's interactions with his guild members seemed quite natural. He also noted that when he needed to replace his personal computer, several programmers from the guild offered guidance. This suggests that there may be a close in-group relationship among guild members, which may support their commitment to the spontaneous rhythm of play established within the Guild.

Additionally, online forums can influence players' understanding of in-game repetitive rhythmic behaviours. These forums serve as a virtual space for players of the same game to interact, separate from the game environment. Most of the interviewees in this research were recruited from such gaming forums. Unlike game guilds, these forums are more loosely organised and typically feature recent game topics, tips, articles and player-generated fan art.

These game forums serve not only as an informative resource but also as an potentially emotional support network, where players share a common digital identity receive social recognition and social support. In Apperley's (2017) research, the knowledge, information, life, and culture surrounding video games are referred to as 'game capital'. He builds on Consalvo's (2007) concept of 'paratexts', which refers to artefacts related to gaming, including hardware, software, websites, and more, that contribute to the formation of social relations through digital gaming. Apperley (2017) extended this concept to encompass lived culture and situated practices, further developing the idea of 'game capital'. He also noted that relationships based on game capital exist

independently of the specific times, spaces, and acts of play (p. 73). On this thesis context, the online game forum is a typical place for displaying and conmunation related to the game capital. As Karin, one of the interviewees, explained:

> ‘Both mobile games and forum take their role in my life, and I spend more time on the forums than gaming. It is not just about the game; it includes some insights into life. Someone will share with others when they experience something really sad things in their life’.— Karin

Online gaming forums act as a hub where a wide range of mobile gamers exchange information and inadvertently shape a ‘standard rhythm.’ In the context of mobile gaming, this term refers to the expected behavioural patterns of a ‘normal’ player during an action cycle, such as an event or an version. To some extent, mobile game forums establish a standard for what constitutes a good player, establishing social norms among groups.

Further descriptions were provided by the interviewees Diana and Karin:

> ‘[My] references [from the game forum] include daily quests, how to get resources to draw cards, how each stage should be played, and some posts based on probability calculations. People will slowly develop some sort of method to make themselves play more efficiently in the game. The aim is to get the in-game resource without paying for it.’
>
> ——Diana

> ‘All the players inside the forum think this is an activity that cannot be missed. They must devote stamina points for that period to this thing to get

in-game resources during this activity. At that time, they would be very strict in calculating, setting a table, and calculating rigorous earnings formulas... I invest much time to look at the forum [to see] how do others do, I subconsciously think I need to do the same. At that time, I thought, I have the time, I want to do so'.

——Karin

During her time adhering to the forum's rhythm, Karin experienced arrhythmias. As a university student, she needed to balance her studies with gaming. Influenced by the best strategies from the game forum, she spent eight hours per day gaming, which left her feeling tired and exhausted. Reflecting on this, she questioned, 'Why did I have to make myself so tired?', and then added, 'I am starting to think it is a weird thing now'. Karin described her former self as a 'good player', a standard she adopted based on her observations of other players. She commented:

'A good player is someone who does the best they can with the resources they can devote to it…What other people do, I do too'

——Karin.

Karin adopted the most effective strategies she observed from other players and repeated these methods to achieve favourable in-game results. Her stress primarily stemmed from competition and comparison with other players. She developed a normative perception of her gaming behaviour and rhythm by imitating the in-game behaviour of other players. Gaming forums, or any discussion platforms where gamers converge and share information, create a

common rhythm or a ‘standard rhythm’ within the community. These standard rhythms, in turn, are usually created by those members of the forum who are most willing to invest time in mobile gaming in order to gain maximum advantage or obtain the most in-game resources.

This situation implies that if a player tries to adapt to the ‘standard rhythm’ set by the game guild or forum, there is a high risk of conflict with their local life rhythm. In Karin’s case, the rhythm of a ‘good player’ as defined by the game forum conflicted with her out-of-game rhythm as a university student. This conflict arose from comparing herself with others, highlighting the conflict between personal needs and social norms.

Third, relationships with others can significantly influence a player’s motivation for engaging in gaming. Several interviewees, such as Steward, reported that their mobile gaming experience was closely connected to their social circles. However, in the interviews, only friendships and romantic relationships were highlighted, while intergenerational relationships were not found. Steward explained:

> ‘[I] never played handheld games [The researcher note: the handheld games are typically single-player] because I play games for other people, like King’s Glory, which I play now, and Genshin Impact because my friends played a lot at that time, and then I also joined to play together… I do not think it should be described as more friends playing, and it is everyone playing.… During the UK epidemic, I had to stay in my dorm, and then I could not do anything. I did not want to face my dissertation, but I could not find any other way to entertain myself. I just watched too many films and I

did not want to watch films at that time. Then I had to find games. Because I was using an Apple computer, I could not play many computer games, so I had to play mobile games and could still play with my friends in my hometown. It was quite good to talk every day'.

——Steward

In this case, the mobile game acts as a medium for integration and synchronisation. It serves as a tool to connect the interviewee, Steward, with his friends through virtual avatars that create a sense of presence in cyberspace. While Steward's friends followed the social rhythms of the Chinese time zone, Steward himself followed the social rhythms of British society during the COVID-19 pandemic. With the mobile game as a medium, Steward's life rhythms merged and synchronised with those of his friends back home.

In Steward's case, there are no significant rhythm arrhythmias, but it highlights that 'playing with friends' can be an important intrinsic motivation for some players. In today's technological environment, video games provide a universal way of creating co-presence with people in different locations. For example, during the COVID-19 pandemic in 2020, the School of Animation and Digital Arts at the Communication University of China used game materials to recreate university buildings within the video game Minecraft for a digital graduation ceremony for students. Sun Guoyu, an associate professor at the School of Animation and Digital Arts, expressed how she felt warmed by the scene in the game where she stood side by side with her students: 'It

does not matter where I am in person, and at least I am together [with my students] at that moment in the game' (Sohu News, 2020).

This shows that people can experience a sense of being present together through digital gaming environments. The interviewee Diana mentioned that one of the reasons she plays a certain mobile game is because 'it is a social topic at the time'. Another interviewee, Abner, explained that one reason for playing is to 'interact with friends in the virtual world'. He added, 'some of whom are classmates and some of whom I met online. I also talk to my classmates about in-game content in real life'. In Chapter 5, the thesis describes this as common and collective rhythm. In this Chapter, it is explored as a potential cause of arrhythmia. Unsatisfactory rhythmic synchronisation can lead to conflict, as demonstrated by the interviewee Lance, whose in-game rhythm could not synchronise with his girlfriend's. He tried to gain a shared experience with his girlfriend through gaming, then he expressd his frustration:

> 'It was not that I wanted to play. It was that I was being dragged around by other people... I could not take it anymore. I was doing the daily quests and getting certain rewards, which allowed me to enhance some of my character's attributes, and then enhancing the attributes did not bring me any joy. It just felt like I was trying to complete homework for the chance to complete homework every day. Doing homework for completing homework.'
>
> ——Lance

After six months, Lance decided to uninstall the game, stating he could no longer endure the torture caused by the highly repetitive task challenges. In

this case, Lance's arrhythmias primarily stemmed from his attempts to synchronise with his girlfriend's life rhythm. He personally lacked interest in mobile gaming, yet the motivation driving him to engage in repetitive experiences daily was his social relationships with others.

As mentioned in Chapter 5, mobile games can serve as a medium for rhythmic coordination, but this does not always prove effective. Lance's game titled 'The Onmyoji', primarily offers single-player challenges. Therefore, Lance and his girlfriend's rhythmic interplay was based on sharing information and experiences. The mobile game creates a replicable information environment that enables player-to-player rhythmic fusion through shared enjoyment of the content. Driven by a desire to align with his girlfriend's rhythm, Lance tried to adapt to the rhythm of life that comes with mobile gaming, but he ultimately failed.

Using games as a medium, players may experience arrhythmia when they cannot reconcile their personal rhythms with those others expect them to maintain. Mobile gaming, therefore, may be a more likely cause of arrhythmia compared with other popular culture products. Unlike other cultural offerings, mobile games are not standalone, one-time engagements. They make periodic and prolonged demands on the user's schedule, often requiring continuous interaction.

In this interviewee's case, it is evident that the relationship between the human player and the digital mobile game is not confined to the moments of player-game interaction. Elements such as guild wars, online forum standards, social relationships and the norms of being a good player arise from mobile

gaming mechanisms and are shaped by the complex interplay between the external world and the game. In 2018, Keogh described video game embodiment as follows: “the player is incorporated into, becomes part of, and is ultimately made by the system of videogame play they instantiate” (p. 22). This thesis extends these cases to demonstrate that the ‘system of videogame’ is not confined to the virtual world constructed by computer graphics, programs, music and storylines on the screen, but also includes the culture, standards, identities and discussions about what it means to be a gamer. Players exist as an assemblage of two worlds and may experience arrhythmia due to this dual presence, as shown in Clyde’s case, where guild members prioritise gaming over the rhythms of their local company employment.

This argument suggests that the feelings associated with mobile gaming are integrated into the body’s senses. Players live within the rhythms established by mobile games just as they live within rhythms established by other social organisations. For example, Karin performed ‘natural’ calculations to make her game characters conform to norms, and the anxiety, regret and other negative feelings discussed earlier are systematically constructed within this framework. These become part of the perceptions of the assemblage between players and games. Mobile games serve as instruments to embody a series of immaterial and invisible norms, requirements or rhythms on the player’s body—whether it is company management in Clyde’s case, interpersonal relationships in Lance’s case, or connections between players and virtual characters. The mechanisms of mobile gaming allow these delicate

arrhythmias to simultaneously occur in the virtual and real worlds, making them visible.

6.2.3 City Rhythm and Migration of Spatial Rhythms on the Human Body

According to scholars of rhythmanalysis, urban places also have their intrinsic rhythms. Crang (2003) described the rhythm of urban space as a combination of particular times and places, arguing that: “the urban place or site is composed and characterised through patterns of these multiple beats” (p. 6). The production of this rhythm in individual urban places depends on both their local and imported rhythms, Mulíček et al. (2016) summarised the rhythm study described by Schwanen et al. (2012) as follows: “A particular urban place as a locus of entertainment processes shaping, modulating, and synchronizing rhythms coming from particular sources. The place-based entrainment emerges as an interplay between local settings and incoming rhythms” (p. 116).

Furthermore, this thesis adopts the concept of ‘pacemaker’ as developed by Mulíček et al. (2016) to analyse city rhythms. This concept originated from “ temporal and spatial points serving as sources of reality timing” (Mulíček, et al. 2016. p. 116), described by Parkes and Thrift (1975) and further developed by Hägerstrand (1982). It illustrates how entities such as foundries, schools, railways and churches influence the daily schedules of local residents. In Mulíček et al.’s (2016) research, the term refers to intra-city entities, such as the organisation of public transport or the opening hours of retail shops, which transmit their internal rhythms to other entities within the city. The pacemaker

plays a role similar to that of a metronome, which organises and coordinates the rhythmic development of the city.

The transmission of beats or rhythms between urban places occurs through the movement of the human body. When an individual enters an urban place that generates internal beats, their physical body is also influenced by the rhythms of that space. This interaction highlights the potential for rhythmic conflicts between the rhythms generated in urban spaces, which are imposed on the physical body, and those generated in the mobile gaming space, which are imposed on the digital avatar.

Conflicts often arise when two rhythmic events simultaneously demand the player's attention. For instance, a mobile game may require the players to concentrate for a period; at the same time, the real-world environment may also demand attention. A common scenario is public transport: when mobile game players are on a subway or bus, they are subject to the rhythm of the vehicle's movement. Announcements of stops every few minutes and the movement of passengers around these stops are part of the daily life rhythms of geographic space. However, when players try to synchronise these with the rhythms of a mobile game, they find themselves rapidly switching between the digital environment and the physical space, trying to adapt to the demands of both physical and digital space.

The case of interviewee Tim illustrates this process of rhythm negotiation:

> 'I missed a bus two days ago because I took a bus I had not taken before, and I forgot that [the bus] was different than usual'.

——Tim

At the time Tim missed his bus, he was playing a mobile game. He had become accustomed to the interplay between the rhythm of his usual bus route (geospatially), the environment around the bus stop and the rhythm of his mobile game. When his regular bus was replaced by a new one, Tim continued to operate under the old rhythm, focused on the mobile game, and did not notice the changes in the bus movements around him.

The rhythm of the bus stop had been imposed on Tim's body through the repetitive nature of the bus ride; he had internalised the artificially set schedule of the bus as a rhythm to follow. This familiarity allowed Tim to pay attention to his mobile game because he knew the usual rhythm of the bus stop well. However, when required to take a new bus route, his body was still operating according to the old rhythm model. At the moment when the mobile game demanded his attention, Tim failed to notice that the rhythm model of the city bus had changed.

In addition to public transport, other public spaces have their intrinsic rhythms, which can be disrupted by mobile gaming. An example is provided by interviewee Beatrice, a university student who often plays games on her phone while waiting for her lunch in the university canteen. This habit once led to an unintended consequence:

> The Researcher: 'Have you ever forgotten anything while playing a mobile game?'

Beatrice: ‘yes, yes, I have been playing in the canteen before getting my spicy dish, which is a pretty boring jump game, anyway, and I had to play it again and again. After that, when my classmates noticed my spicy dish was half cold’.

The Researcher: ‘How long have you been playing?’

Beatrice: ‘Maybe 20 or 30 minutes. I do not know how long I have been playing’.

The cafeteria, along with its pedestrians, staff serving meals, tables, chairs and the changing temperature of the food, forms a kind of external rhythm system. When individuals enter a space with a specific function, they often unconsciously adhere to the framing structure that the space imposes. There continue to use Beatrice’s answer as the case:

Beatrice referred to her classmate’s awareness of her gaming as ‘noticing’, which in the original Chinese is ‘发现’, a word that can also mean ‘find’ or ‘discover’. In this context, the term suggests that her classmates reminded her or stopped her from doing something. She used the word ‘already’ to describe her cold dish, indicating that this was an unwanted but unchangeable fact for her. These expressions imply that Beatrice had tacitly agreed to conform to the appropriate rhythm of eating in the canteen, suggesting that upon entering, she subconsciously accepted the space’s rhythm. Ordinarily, Beatrice would collect her lunch, sit at a table and begin eating while the meal was still warm. However, by engaging with her mobile game simultaneously, she inadvertently performed these actions while distracted, losing track of time.

Immersed in the game's rhythm (enter the challenge, succeed or fail, try again), her awareness of both time and place was diminished.

Both Tim at the bus stop and Beatrice in the canteen experienced similar situations where the physical space—whether a bus stop or a canteen—imposed a specific rhythm associated with that location. Concurrently, they engaged with the rhythm of the digital space through their avatars, which navigated different in-game events according to the game's rules. In these instances, they operated within a hybrid space, adhering to two sets of rhythmic patterns: one from their geographical location and another from the digital space. The resulting conflict between the geographical rhythm and the mobile game rhythm often led to arrhythmias.

6.3 Conclusion

The analyses in the previous section reviewed potential manifestations of arrhythmias in everyday life: the conflicts between mobile game rhythms and biological, social and geographical rhythms

Subsection 6.2.1 on biological rhythms examines how the bodily needs of individuals are ignored or suppressed during gaming. Cases involving interviewees James and Sabina illustrate how they disregard their natural bodily needs to continue gaming. Mobile gaming systems, through their inherent cyclical rhythms, encourage players to return to the game regularly. This frequent return often conflicts with players' biological needs for rest, eating or sleeping.

Additionally, the concept of ‘digital feeding’ is introduced. This term refers to the regular and repetitive actions players perform to maintain the existence or growth of their digital characters. As discussed in Section 4.4 of this thesis, the player avatar and other in-game characters represent a materialised embodiment of pre-designed cyclical and linear rhythms within the game. The game translates its demands into the needs of in-game characters that require regular attentions, this dynamic is similar to the human behaviours involved in caring for a baby or a pet.

Compared to previous research on game rhythmanalysis, such as that of Apperley (2017), which was mentioned in the literature review, significant contributions have been made in this area. Apperley focused on how video game rhythms influence physical body performance, highlighting issues such as blisters on the fingers, pain, and retinal health. In his analysis, Apperley (2017) examined the physical discomfort experienced by players and introduced Lefebvre’s concept of ‘dressage’ in the context of gaming. He also brought in the idea of ‘compulsions’ to describe how computer technology drives player behaviour, stating that players are compelled to “act, as in-action on their part will lead to the games cessation” (p. 45). He described this compulsion as throwing “the player in medias res and compelling them to act or be destroyed” (p. 45). Apperley (2017) further characterised game rhythm as a state in which the “player becomes familiar with sitting in front of the screen for hours on end” (p. 48). However, when examining the context of mobile games, the interviewee responses in this thesis indicate a shift compared to Apperley’s (2017) findings.

On the one hand, the motivation of interviewees in this research to keep engaging with game rhythms—such as ‘avoiding losing rewards’—is similar to Apperley’s (2017) concept of ‘act or be destroyed’. On the other hand, the interviewees also reveal that prolonged contact between the player and the game world is not the only manifestation of arrhythmia. As Ruffino (2021) argued, the game can continue running without the player’s real-time participation; even when the player closes the game, it may still operate in the background. In the context of mobile games, daily gameplay is tied to social time. As discussed in Chapter 4, features such as the Monthly Pass or daily goals are updated based on real-time progression. In the examples presented in this section, the duration of direct contact with mobile games is not the primary cause of arrhythmia. For instance, James spends less than half an hour on daily tasks, while Valentina’s ‘resource collection’ involves only a few clicks. In these cases, the cause of arrhythmia is the game’s impact on, and interruption of, the player’s daily schedule and routine—such as eating and sleeping. Players respond to the game’s demands by performing corresponding actions, which may conflict with their natural biorhythms.

At the same time, due to technological limitations at the time, Apperley’s (2017) analysis of gaming spaces was focused on computer rooms and cybercafés. Compared to Apperley’s (2017) era, rhythmanalysis in the context of mobile games is more closely connected to the player’s daily life outside the game. The physical space in which players engage with games has shifted from bedrooms or cybercafés to nearly all social spaces. Apperley’s description of the ‘congruence’ between digital games and everyday rhythms, particularly regarding the location of play, has become more complex with

mobile games, as seen in examples like James playing in a taxi or Sabina in a hotel room. In Apperley's (2017) analysis, daily arrhythmias could be triggered by environmental factors such as 'a broken toilet or a lack of Coca-Cola' (p. 39). However, these disruptions are less likely to cause the same effect in mobile gaming contexts. Players now negotiate between gameplay and everyday life more flexibly, typically engaging with mobile games in intermittent, discontinuous, and regular bursts, rather than being continuously immersed for extended periods. As a result, mobile game arrhythmias often occur when players fail to engage with the repetitive daily game content or become anxious about doing so. This break in mental inertia, described by James as a feeling of 'disconnect', is a common symptom. Compared to arrhythmias in traditional PC games, which often stem from disruptions in the gaming environment, mobile game arrhythmias are more closely linked to disruptions in the player's daily schedule.

Subsections 6.2.2 and 6.2.3 explore arrhythmia arising from the player's dual existence in both the digital and geographical spaces. Mobile games facilitate a mode of interaction rooted in digital space that does not require the physical presence of either party. According to interviews conducted for this thesis, people engage with interactive objects in digital spaces through symbolic, simulated behaviours represented by computer programs and graphics. This interaction is often described using the same vocabulary as 'human-to-human' interactions in physical space.

In some mobile games, symbolic human beings represented by computer graphics replace actual human functions related to the emotional engagement of game participants. While this phenomenon has been present in traditional

single-player games, in the realm of mobile gaming, it signifies that non-human characters can offer new, long-term interactive content. On the one hand, these non-human characters increasingly resemble living humans; on the other hand, they provide long-term companionship that real humans may not be able to offer.

Consequently, this thesis considers the essence of digital mobile game space as a symbolic, conceptualised social space where physical contact is substituted by digital activity and social identity is represented by gaming terms and data. In the context of mobile gaming, this research prefers to describe it as the simultaneous presence of consciousness in two spaces, where the process of entering and exiting a mobile game equates to a redistribution of attention. The ‘game’ and ‘non-game’ environments each occupy a portion of the human subject’s consciousness.

In terms of intimacy, some interviewees mentioned that they felt compelled to follow the game’s rhythm to maintain relationships. It is important to note that the ‘others’ in this context could refer to real-life intimate relationships, group identities formed through social networking platforms or non-player characters within the game environment.

In these cases, players must navigate social relationships that span both in-game and out-of-game contexts. For example, Jessica’s situation illustrates this dynamic: the cyclical rhythm imposed by the mobile game system required her to complete a series of in-game actions within a specific time frame. This obligation forced her to juggle her digital role of adventuring with in-game characters and her non-game role of playing mahjong with friends.

The rhythm conflict can also stem from the relationship between the player and the in-game character. Several interviewees described developing strong emotional ties with their characters. These emotional attachments motivated them to meet the needs of their in-game characters, despite the exhaustion it caused.

Conflicts can also arise from the relationships between players. This is evident in the case of guild wars, as mentioned by interviewee Clyde. In these wars, individual players are required to log in and complete actions at specific times for the benefit of the guild, often conflicting with their local rhythms. For example, some of Clyde's guild members resort to using their toilet breaks to fulfil guild requirements. Another example is interviewee Lance, who attempted to play the same game to find common ground with his girlfriend. To maintain this social relationship outside the game, Lance almost forces himself to adapt to the game's rhythm, leading to a strongly negative experience.

The final subsection of this chapter discusses the conflict between rhythms produced by geographical spaces and mobile games. According to Mulíček (2016), urban spaces shape, modulate and synchronise rhythms based on geographic space. Previous chapters have noted that players often use mobile games to fill gaps in their schedules, inserting playtime into intervals between daily events, typically in public spaces such as restaurants, undergrounds stations or cafeterias. Interviewee Tim's case mentioned earlier serves as an example: he stands at a bus stop trying to follow both the rhythm of the local bus and the game's demands, necessitating a rapid switch in attention between geospatial space and digital spaces. Tim missing his bus

highlights the potential for conflict between the local rhythm based on geospatial space and the game rhythm in the digital space.

For the interviewees, and likely for many mobile game players, turning on a smartphone is not a whim but a steady and regular habit. In line with Lefebvre's theoretical framework, it raise the question of the playing a mobile game constitutes 'automatism' or 'spontaneity'. For mobile game players, the distinction between 'internal need' and 'results from external constraints (game reward system)' is ambiguous in today's context. The former refers to their need for entertainment, while the latter suggests the game's push to engage the player.

The arrhythmia between mobile gaming and everyday life does not represent a conflict between freedom and paradigm; rather, it resembles a clash of one imposed structure against another, one norm against another. In this context, mobile games symbolise an abstraction of social organisation based on the digital environment, overlaying a collective life rhythm with the realities of daily life. Groups with similar occupations share similar life rhythms, and mobile games create virtual communities based on identities in the virtual world, introducing an additional life rhythm superimposed on the local rhythm.

The interview data in this research largely supports Apperley's (2011) analysis of game rhythm, where he suggests that digital games allegorically reflect the power dynamics between individuals and machines. This situation bears resemblance to the reverse side of Alan Turing's (1950) famous thought experiments. In this experiment, when humans and robots communicate through telepresence devices rather than face-to-face, a successful artificial

intelligence could make it impossible for humans to recognise it as a robot. Conversely, if a person is confined within a system that only permits the expression of machine logic, it may also be challenging for others to identify them as a human being.

While Turing's test of artificial intelligence explores the humanisation of machines, the allegory of mobile gaming suggests the opposite: the standardisation, mechanisation and measurability of human leisure and entertainment behaviours. In this research, interviewees have used machine programs to mimic human behaviour and deceive the mobile game's programming to gain rewards. This cycle involves game designers (humans) creating in-game machine logic to monitor player (human) behaviour and players (humans) using machine programs to simulate human behaviour to outwit the mechanical logic.

Discussing the rhythms of everyday gaming in this thesis also involves examining the interactions between on-screen avatars and off-screen bodies, in-game inhuman relationships and off-screen human connections, as well as in-game social standards versus off-screen social norms. The aim of this thesis is not to distinguish between good and bad, or to define what constitutes the real world, but rather to highlight how the world within the screen has become an integral part of everyday life in every sense of the word.

Chapter 7 Conclusion

This thesis focuses on the linear or cyclical rhythms related to mobile games. These rhythms not only train players to navigate the virtual world, but more importantly, enable them to establish patterns of order, regularity, and action based on their own daily lives. These structured in-game rhythms influence players' time management, spatial awareness, and social relationships. Mobile games create a digital life within a virtual space that overlaps with the real-world daily routine, producing a new, hybrid daily rhythm. As De Souza e Silva (2023) suggested, this rhythm develops in the 'hybrid space' where digital and physical realms intersect. In this context, individuals naturally shift between digital and physical rhythms, and this fluid movement becomes an integral part of their daily routine.

Based on the rhythmanalysis theory, this thesis aims to explore the concept of game embodiment in the mobile gaming sector. Within the field of game embodiment research, Keogh (2018) used the term 'literacy' to describe players' ability to engage in gaming activities by manipulating hardware devices. This forms a system of grammar that trains players to understand and interpret in-game events. Building on this idea, the grammar of mobile gaming extends beyond simply interacting with the screen. It also includes how players manage their gaming schedules, maintain long-term relationships with in-game characters, re-shaping their life space, and integrate mobile gaming into their daily routines.

The concept of 'literacy' in mobile gaming thus focuses not only on hardware interaction but also on organizing, coordinating, and shaping time—whether through playtime, long-term engagement with non-player characters, or negotiating game mechanics in relation to non-game activities. These

interactions take place outside the game world while being deeply interconnected with the virtual, in-game environment.

Keogh (2014, 2018) argued for the dual existence of the player and the assemblage state of ‘player-game’, suggesting that video games and gamers should be viewed as a whole which simultaneously contains ‘flesh, hardware, and virtual objects’ (2018, p. 15). In the present research, the interviewees’ experiences illustrate their frequent and repetitive switching between gaming and non-gaming activities such as eating, entertainment, and work. In other words, players exist simultaneously in both the digital and physical worlds, as well as in the routines of game and non-game life. Players’ bodies serve as both carriers of mobile games and other tasks during gameplay. For instance, when a player engages with a mobile game during lunch, their fingers, hand, torso, and arm are occupied with gaming, while they simultaneously use cutlery to eat. This scenario exemplifies what is referred to in this thesis as the polyrhythmia of game and non-game rhythms in daily life. Keogh (2018) emphasises this phenomenon in his book, noting that while players consciously command game characters to perform actions such as running or jumping, they rightly focus their attention on the world within the screen, while the movements of their thumbs and fingers occur with relative unconsciousness. The interviewees in this study expressed similar perceptions of their bodies, noting how mobile gaming intersected with their other daily routines. The rhythms of mobile gaming not only train players to control their characters within the game but also train them to alternate between virtual and real-world bodily actions. This polyrhythmic state is an

acquired skill, much like learning to manipulate a game character in the virtual world, and it is developed and refined through the mobile gaming experience.

Based on this argument, the ‘player-game’ assemblage in the context of mobile gaming no longer exists within a distinct, separate space, as suggested by the concept of the magic circle. This assemblage must consider not only the interaction between the player and the game but also the influence of non-game daily routines. Mobile gamers exist in a complex hybrid state where in-game elements such as text, gameplay, and music capture the player’s attention and shape their digital environment perception. Importantly, the degree and occurrence of this perception depend on the player’s physical surroundings. As a result, the experience of mobile gaming becomes intertwined with the player’s perception of their daily life. Keogh (2018) introduces the concept of ‘everyday synesthesia’ to describe players’ composite perception during gameplay. This refers to the player’s sensory experience of in-game elements—such as crashes, weight, or the flow of water—through interactions with the digital interface. This argument is based on the interplay between everyday perception and the game, where the player is exposed to more complex sensory experiences within the screen through sight, sound, and touch.

However, in this thesis, the interviewees’ bodily perceptions of their physical environment and their gameplay perceptions are simultaneous and intertwined. The former includes sensations such as the taste of food, the feel of a bed, or the acoustic environment of an office or classroom, while the latter involves gameplay elements such as scenarios and character movements. These bodily senses interact inseparably, such that the

experience of mobile gaming and the player's perception of other real-world events form a holistic whole. As many interviewees noted, they chose mobile gaming because it fits seamlessly into their daily routines. The necessity of daily gaming, along with its compatibility with everyday life, is a key motivation for players. In this context, the 'player-game' assemblage includes not only the player's body, game hardware, and in-game objects, but also the player's everyday sensory perceptions, which are closely integrated with the gaming experience.

This idea can be linked to the concept of game perception described by Sudnow (1983). Sudnow (1983) detailed how he sat in a family room and immersed himself in a game on a miniature screen to save the digital world, illustrating how human bodily perception converges and transfers into the electronic screen. Contemporary game studies, particularly in the area of mobile gaming, should also explore how player awareness is distributed between the digital screen and the physical environment. Mobile gaming redefines a set of identities, images, and behavioural logic for each player. Individual lives are reshaped and re-organised by the interweaving of multiple rhythms, and the effects of these interweaving rhythms may create either eurhythmia or arrhythmia in the player's personal life.

Chapter 4 explains the process of rhythm production in mobile gaming. This process can be summarised as a three-step transformation from the designer's intentions to the player's out-of-game body behaviour. The first step involves translating the mobile game's demands into in-game materials. These demands include metrics such as player engagement rates, daily or monthly activity percentages, time spent online, and willingness to make in-

game purchases—all of which reflect the gaming company's potential for profit. The in-game materials, such as rare equipment, characters, or rare items are designed to encourage players to meet the game company's expectations. The second step involves transforming these in-game materials into the player's in-game behaviours. This transformation is guided by rules, standards, or action instructions, as discussed in the sections on linear and cyclical rhythms within the thesis. For example, players may repeatedly undertake hundreds of challenges with the same actions or log in daily to earn rewards. This step links the player's rhythmic in-game behaviours to the acquisition of rare in-game materials. The third step involves the transformation of in-game behaviours to out-of-game behaviours, as mentioned at the end of Chapter 4,. The rhythms generated in the digital space through the game's systems are carried over into the player's daily routine, influencing their real-world actions and habits.

Most in-game actions that players can perform are limited and repetitive: the daily gameplay involves the same rhythm repeated over and over again. The rhythm of mobile games is both rewarding and encouraging, yet it also serves as guidance and regulation, and even monitoring and surveillance. The gaming system operates by evaluating and assigning value to player behaviour in the digital space, motivating players to repeat in-game actions through rewards. Unlike abstract language, computer programs use precise numbers and logical processes to assess player behaviour through pre-designed algorithms. The system restricts players to actions that can be simulated within its framework; in other words, all in-game behaviours are predetermined by the designer and are only performed to the extent that the

program allows. As described by Lefebvre (2013), rhythm constitutes the trinity of ‘activity-repose-entertainment’ (p. 41).

As a vehicle for the player in the digital environment, in-game ‘avatars’ are often viewed as extensions of the player’s self. However, they can also serve as trainers of rhythm imposed on the human body. As discussed in Chapter 4, the avatar operates within a narrowly predefined set of actions aligned with daily goal systems. This logic imposes a predetermined standard rhythm, and the player’s agency is reduced to deciding whether to ‘do’ or ‘not do’ certain actions in a range of list.

This thesis seeks to extend Lefebvre’s (2013) concept of ‘breeders, builders and trainers’ of rhythm from concrete individuals or social organisations in physical reality to a designed industrial digital program. Although this program is ultimately created by mobile game developers, it can function independently of its human creators to a considerable extent. To aid understanding, an in-game term and case study are introduced: At the start of each day, a player’s in-game avatar receives a set of instructions from the daily task system. If players complete most of these tasks, they receive a reward from the system.

The avatar acts as a mediator between the system’s instructions and the player’s actions, with the player controlling the avatar to complete repetitive tasks. These actions, guided by the system, create a linear or cyclical rhythm that influences the player’s body behaviour. In Chapter 6, I introduce the concept of ‘digital feeding’ to describe the relationship between the player’s physical body and the digital avatar, which exists within the game.

In Lefebvre's era, rhythms that regulated and trained individuals typically occurred through human-to-human interaction. In today's digital age, this concept of a 'rhythm trainer' has evolved into digital avatars and system-driven guidance. Player behaviour is monitored and measured by rubrics built into the game system, with rewards and punishments delivered through the in-game narrative or objects. On the one hand, players 'feed' the digital body to strengthen it; on the other hand, the digital body trains the player, aligning their daily behaviour with the pre-designed rhythm model embedded in the game system.

Lefebvre's (2013) classic rhythmanalysis describes a 'dressage' process where linear, regular, repetitive behaviours train (or teach) humans to adapt to social life. Similarly, the rhythm of mobile games follows a similar process, essentially re-socialising players within digital spaces. Through pre-planned interaction modes, players may internalise the logic of mobile gaming into their personal consciousness, leading to a 'computerisation' of human self-awareness. The logic of reward delivery in games is straightforward and predictable, primarily involving repeated detection of specific in-game actions or sequences. Consequently, the player's behaviour in acquiring rewards involves the repetitive execution of these actions, suggesting a machine-like logic that is internalised and repeated by the players themselves—a process that this thesis refers to as the players' self-programming.

The player's daily life in the digital world is shaped by this repetitive self-programming. As noted at the end of Chapter 4, players often use the term 'daily routine' to describe the process of following the cyclical and linear rhythms of mobile games. From the initial sense of novelty to feelings of

boredom or habituation, players gradually internalise the rules, guidelines, and events of the mobile game as part of their everyday lives. In this way, the digital routine of the Internet-based world and the routine of the physical world merge, shaping the player's overall day-to-day experience.

Chapters 5 and 6 explore the combination and conflicts between the rhythms of mobile games and everyday non-game activities. This discussion can be linked to the concept of 'hybrid space' (De Souza e Silva, 2006), which refers to the interplay and integration of physical and digital space. This hybrid digital-physical space that emerges from the intersection of virtual and real environments carries the rhythms of multiple spaces simultaneously. According to the interviewees in this study, they often played mobile games while performing other daily tasks, with both activities occurring simultaneously. In these moments, people occupy multiple roles across different spaces. They may be office workers, students in a classroom, passengers at a bus stop, or customers in a restaurant, while also acting as travellers, summoners, commanders, or prefectural magistrates within a mobile game. When people engage with mobile games, they inhabit both physical and digital spaces—moving around with a physical body of flesh and blood and a digital body made of code and programs.

As discussed in Chapter 5, following the rhythms of everyday life in a physical, non-gaming environment often does not consume a person's full attention. This unconsumed attention can be redirected and reorganised by the rules of mobile games, allowing individuals to enter the linear or cyclical rhythms of mobile games while remaining present in the physical world. However, when players are required to fulfil roles in everyday life—such as being a worker (as

required by social organisation), a partner (as required by relationships), or a passenger or customer (as required by geographical space)—the behavioural norms of mobile gaming, such as logging in regularly or spending time on daily tasks, may conflict with these other daily obligations. It is important to clarify that the player's role here is not the same as their in-game avatar. Instead, the player acts as the 'feeder' of the in-game avatar, a concept easily confused with the avatar itself. The mobile gaming system requires the player to assume a hybrid identity—one that exists between the in-game and out-of-game worlds—where their real-world actions support and sustain the in-game character.

Chapter 5 also highlights that players may adopt the rhythm of mobile gaming to regain control over their daily lives and pursue selective freedom. The rhythm of mobile play becomes a tool to counter the rhythms of out-of-game daily life, reflecting a desire to escape from routine and everyday events. Jordan (2009) described an individual living in a hybrid space as having 'a shared consciousness between the online virtual self and the offline physical self'. However, in the context of mobile games, this relationship requires careful explanation. As discussed earlier, the in-game avatar in mobile games cannot be regarded as a complete embodiment of the player's self. Instead, it serves as an imaginary bearer for experiencing structured, rule-based adventures. For example, 'completing a task in a game that has been repeated hundreds of times' cannot be equated with a fully realised virtual self, especially in case of some interviewees stated that they completed these tasks unconsciously. However, the act of 'entering the game' itself is an

expression of self-will. In this context, the ‘online virtual self’ is a deliberately constructed entity by the player, distinct from the ‘offline physical self’.

As discussed in Chapter 5, this act of engaging with the virtual self may reflect the player’s attempt to regain autonomy in a life dominated by the rhythms of the out-of-game physical world. It represents one form of linear or cyclical repetition being used to break free from another, but it still reflects the player’s desire for freedom of choice in their everyday life. In this context, I introduce the concept of ‘pseudo-disengagement’, which refers to the process by which mobile game players invest their consciousness in digital space without disrupting the rhythms of life in physical space. In this process, the interviewees’ physical presence remains within the rhythm of their lives in physical space, but their consciousness is simultaneously engaged with the rhythm of play in the digital space. This concept aids in describing the state of players who are trying to adapt to both the rhythms of digital and physical spaces, as previously mentioned. Referring back to the ‘attention gap’ described in Chapter 5, ‘pseudo-disengagement’ fundamentally involves the reallocation of attention while maintaining physical activity. It also points to a human desire to disengage from the physical body and escape from routine.

Both Chapters 5 and 6, whether discussing the combination or conflict between game and non-game rhythms, acknowledge that the rhythms of mobile games and other human activities in modern society are industrial products. They do not originate from human spontaneity but result from a mutual compromise with external social organisations or internal game management systems. The rhythms of digital space, the player’s self, and physical space form a tripartite relationship of mutual influence. In this context,

a player's 'voluntary' engagement with the digital rhythm at any given moment can be regarded as resistance to or a means of distancing oneself from the rhythm of physical space. Digital rhythms allow for transient conscious detachment and subjective selectivity, and the individual's choice among multiple industrialised rhythms may foster a perception of subjective freedom.

The rhythms originating in digital space are shaped by the social structure that governs the relationship between game producers and players. This structure is organised through digital, rather than physical space, and is imposed on the player under the guise of being 'voluntary to download' and 'free to play'. As discussed at the beginning of Chapter 6, the digital rhythm often overpowers the physiological rhythm of the human body, disrupting its natural physiological cycles. Through prolonged repetition, training, and external influences, the rhythms of digital space, along with the organisational structures of society, become internalised into one's daily routine, merging with the rhythms of everyday life. While 'playing a role in the digital space' requires corresponding physical actions—such as taking out a phone, tapping the screen, or keeping it within reach—the rhythm of the game demands regular or repetitive behaviours and intermittent attention. This series of actions or attention shifts often conflicts with the roles the player is expected to fulfil in the physical space, as shown by the experiences of many interviewees discussed in Chapter 6.

The discussions in Chapters 4 and 6 highlight how mobile games simultaneously involve computerisation of human behaviour and the personification of electronic objects. The computerisation of human behaviour is illustrated in the examples from Chapter 4, where game players use

automated clickers to simulate their actions and deceive the game system. In such cases, human behaviour becomes indistinguishable from behaviour simulated by a computer program, as the repetitive execution of a linear rhythm by a human can be fully replaced by simulation of computer software. The personification of electronic objects is explored in Chapter 6 through the analysis of intimacy, where interviewees reported forming real emotional connections with in-game characters. These two aspects—point to a common trend towards equating human and non-human entities in virtual spaces. Due to the limited range of behaviours humans can exhibit in a game environment, interactions between players and other entities are confined to the range of actions that the program permits. Under these conditions, there is little difference between the in-game actions performed by human players and those simulated by computers. Moreover, human players can only engage in behaviours dictated by the game's login system, which is controlled by the computer. The interviewees in this thesis perceive themselves as travellers, captains, and prefectural magistrates within their digital lives, yet this perception of 'life' is fundamentally rooted in the simulation of the logic of reality by digital programs. It can be argued that digital games simulate a living environment using computer logic, and players internalise this logic in order to adapt to life within the game.

The discussions in Chapters 4 and 5 lead to the conclusion that mobile games create a structured and rationed system of leisure. Stamina points are limited, the number of daily challenges is capped, and resources are assigned by the mobile game system, all pre-designed by developers in advance. This creates a regulated, quantitative form of leisure, where the number of actions

a player can perform is predetermined. According to players, the daily task system ensures they perform no more and no less today than they did yesterday—a ‘daily task’ or ‘daily goal system’ that makes leisure feel repetitive, with linear and cyclical rhythms guiding their actions. This planned digital routine is seamlessly inserted into another set of planned actions based on the physical environment, reflecting the essence of rhythmic combination. As the interview data showed, players lack sufficient leisure time for extended, physically located leisure activities. The time and space of mobile games are intertwined with the time and space of work and study, creating a dual reality where players simultaneously work and relax in their daily time, living in a dual game-reality time and space, where the two are fragments of each other.

As described by the concept of ‘pseudo-disengagement’, players live in both in-game and out-of-game rhythms simultaneously. Their adaptation to mobile gaming rhythms cannot be seen purely as an expression of freedom or leisure but rather as a form of resistance to everyday life, which is already dominated by the rhythms of industrialisation. However, this resistance itself remains a standard form of domination by industrial society. The rhythm imposed on the player’s body—whether through their physical flesh or digital avatar—represents a fusion of external guidance and the player’s personal desires.

This argument raises concerns about player agency. On the one hand, the complex symbiotic relationship between players and games suggests an underlying power structure, with the rationed system of mobile gaming influencing the subjectivity of human players. However, this influence does not equate to direct control over the player. Aarseth (2017) introduced the concept of the ‘implied reader’ (Iser, 1974) into game studies. The ‘implied

player' refers to the set of expectations and roles designed for the player in advance. Aarseth (2017) also highlighted the potential for 'transgressive play,' where players creatively subvert the game's rules, such as accessing unintended areas or killing unintended characters by exploiting bugs. These moments of transgression demonstrate that players can reclaim control over the gaming process, going beyond pre-designed content and rules. For example, as discussed in Chapter 4, mobile gamers use clickers to simulate human fingers and complete tasks. Although the in-game character strictly follows the pre-designed game content, the use of clickers in the out-of-game world allows the player's physical engagement to deviate from the designer's intended patterns. This phenomenon can be regarded as a form of out-of-screen transgression, representing the player's deviation from and rebellion against the highly repetitive nature of the game's content. This highlights the autonomy players have in how they engage with games, indicating that they do not fully adhere to the designed methods of balancing mobile gaming with their daily lives. Furthermore, interview data show that players of the same game make subtle distinctions in their playing time and engagement strategies. Although designers may create a model of the 'implied player' with specific expectations for how the game should be played during development, these findings demonstrate the agency players exert in shaping their own engagement processes.

In addition, as Anderson (2018) has shown, the existence of mobile gaming reinforces players' agency over their bodies, space, and time. The smartphone's touch controls offer more physical freedom than a joystick or mouse, as participants in this study reported playing in various settings—on a

bed, at a dining table, in a cafeteria, classroom, or bus stop—while adapting their body positions to these environments. Mobile gaming input methods allow for greater control over posture, including the position of fingers, wrists, and the body, offering more flexibility. This flexibility enhances players' options in terms of both time and space. Compared to traditional devices, this should be seen as a dual reinforcement: it increases players' agency over how they arrange their time and space, while also encouraging engagement with mobile games during fragmented moments of personal time.

Furthermore, the connection between mobile players and games can be fragile. As discussed in Chapter 6, many participants frequently mentioned moments of quitting and uninstalling games, a common experience in their gaming journeys. These moments of disconnection suggest a complex power dynamic between player subjectivity and game structures. On-screen, players follow linear or cyclical rhythms to engage with pre-determined content, but off-screen, their agency is expressed when they disengage at any moment, abandoning their accounts when they grow bored with the game. The video game market, much like a virtual theme park, offers a range of experiences, many of which involve implicitly repetitive content. Players navigate different games in much the same way as they explore various attractions. In this sense, players' negotiations are not just with a specific mobile game but with the broader design logic of mobile gaming and how video games on smartphones interact with their everyday lives. This dimension of player-game interaction has not been adequately addressed in current game studies, a gap this thesis aims to explore.

At the end of this thesis, I am obliged to clarify the limitations of my research. First, from the time I began work on this thesis (2020) to the present (2024), the Chinese mobile gaming market has undergone significant changes. One prominent trend is the increasing connectivity between console, computer, and mobile gaming devices. Beginning with Genshin Impact in 2020, many Chinese game companies now support cross-platform play. A gamer might play on a smartphone during their commute and continue on a personal computer at home. This phenomenon blurs the line between 'mobile games' and 'computer games,' with many mobile games adopting the graphical and gameplay characteristics of computer games. This trend of platform connectivity, which I did not consider during the early stages of my research, may have significant implications for future developments in game studies.

Second, in my research, 'mobile game' refers to any game that can run on a smartphone. The analysis chapters were structured around the general characteristics of the mobile gaming experience, which may have overlooked the specific dynamics of certain genres. For example, location-based games like Pokémon GO[48] may encourage players to explore new physical locations, while dating simulation games may influence players' perceptions of real-life relationships. Although These elements were mentioned by interviewees, they were not included in a structured or thematic analysis. This omission could limit the scope of my findings with respect to the diverse range of mobile game genres.

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[48] Due to limitations associated with Google's mapping service, Pokémon Go is not available in China. However, the Chinese market offers several games with similar mechanics.

Finally, the recruitment and interviews were conducted during the COVID-19 pandemic, which likely influenced participants' gaming experiences within the context of altered daily routines. After the UK government lifted restrictions on social gatherings, I personally noticed that I had invested more time and emotion in mobile gaming during that period. This subtle shift is a characteristic I did not fully capture during the interview process. In this specific social context, the player-game relationship may vary depending on participants' real-life situations, and their understanding of 'everyday life' is likely shaped by the pandemic and its related social policies. However, relevant questions about the impact of COVID-19 and its social effects were not posed to participants, and this influence was not explored in the analysis.

Additionally, as mentioned in the methodology chapter, I am embedded within the online gaming community, making it difficult to adopt the perspective of an 'outsider.' This pre-existing internal viewpoint may have influenced my research analysis. Furthermore, the intercultural context of this study presents the possibility that some interview information may have been lost in translation, both linguistically and socially.

This thesis offers insights for three key groups of readers. First, for sociologists, it serves as a qualitative study on the relationship between mobile gaming and everyday life, providing valuable information for scholars interested in this area. Second, it is written for mobile game players without an academic background, aiming to help them better understand how games influence their daily lives and decision-making, sometimes in ways they may not be fully aware of. Third, this study seeks to provide a reference for mobile game designers working in the industry. As mentioned in the introductory

chapter, some interviewees included game industry practitioners who noted the lack of ethical standards in current mobile game design processes. Understanding the impact of mobile games on players' lives is crucial knowledge for designers, yet detailed material on this topic is often lacking. This thesis aims to address that gap.

Furthermore, during the later stages of this thesis, artificial intelligence language models such as ChatGPT have been integrated into mobile gaming, enabling free interaction and dialogue between players and non-player characters. The ability to generate personalised, dynamic dialogue may significantly alter the in-game relationships between players and their characters. This thesis explores the potential arrhythmias caused by the evolving relationships between players and non-human characters. The emergence of AI-based interactive systems may profoundly influence the dynamics of these relationships in the near future.

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