

Exploring Rotterdam with Pokémon GO:

An ethnographic study of locative media

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University: Erasmus University Rotterdam

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Supervisor: Dr. Christian Ritter

Student: Haoshan Dong

Student number: 565482

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Preface

I am a veteran Pokémon GO player. I had been enthusiastic about the game since back in 2016 when the game was released. However, I was forced to stop playing the game because of the special reasons of the Chinese market. Five years later, the decision to study abroad gave me the opportunity to play Pokémon GO once again. Pokémon GO has made a huge difference in my study life in Rotterdam. It not only enriched my life after school but also promoted socialization with other members of my community. This is a change that no other locative can bring for me. Therefore, I am curious about how Pokémon GO affects the urban life of players. In addition, after playing Pokémon GO, my anxiety and loneliness in daily life have improved. I am curious about such a phenomenon. Finally, the version of Pokémon GO has seen several iterations over the past five years. I also wanted to understand what kind of strategy the developers used to make these decisions.

In addition, I must mention that I would like to thank my supervisor, Dr. Christian Ritter, who gave me a lot of space to do what I wanted to do in my research. At the same time, he also recommended many highly relevant literature and gave me effective research advice. I would also like to thank my five interviewees for providing me with valuable research data. I would also like to thank my other graduate students, teachers, and my family for their help and advice during my research.

Abstract

This study explains how Pokémon GO, as a locative media, reconfigures users' urban life patterns from three perspectives: developers' engagement strategies, gameplay and mental health, and players' urban life. For understanding the role played by Pokémon GO as an actor in the urban life of players, I applied digital ethnography to research and analyze it. The reason for following the tradition of digital ethnography in my research is that it allows me to examine the research question in an inductive way from an exploratory perspective. My research takes three perspectives and revolves around players' urban life patterns. First, by conducting documentary research on developer diaries, I found that the developer team adopts three main strategies to engage the players: strategies of routine maintenance, strategies of collecting gameplay, and strategies of creating cultural recognition. Second, I engage with five interviewees which helps me find out there are improving effects of playing Pokémon GO on players' mental health. Finally, I examine the role played by Pokémon GO in players' urban lives in the tradition of the walk through method. I concluded that Pokémon GO reconfigure the way users experience their urban life in Rotterdam by providing digital inscription, setting digital lure, and maintaining the safety of the player.

Keywords: Locative Media; Media Production; Smart City; Rotterdam; Mental Health

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1. Introduction

Pokémon GO is one of the most successful locative media nowadays, and it has been widely sought at the beginning of its launch on the app store in 2016. This phenomenon can be explained by the reasons coming from the nostalgia for the Pokémon game (Foreman, 2016 November), however, the success of Pokémon GO does not only stop there. According to statistics, Pokémon GO still exists 166 million active users worldwide in 2020 (Iqbal, 2021 November). Specifically, showed by Figure 1., in November 2021, Sensortower's data shows four million (one million in the Appstore and three million on the Google Play) downloads of Pokémon GO worldwide that month. This shows that Pokémon GO wins the loyalty and attention of users.

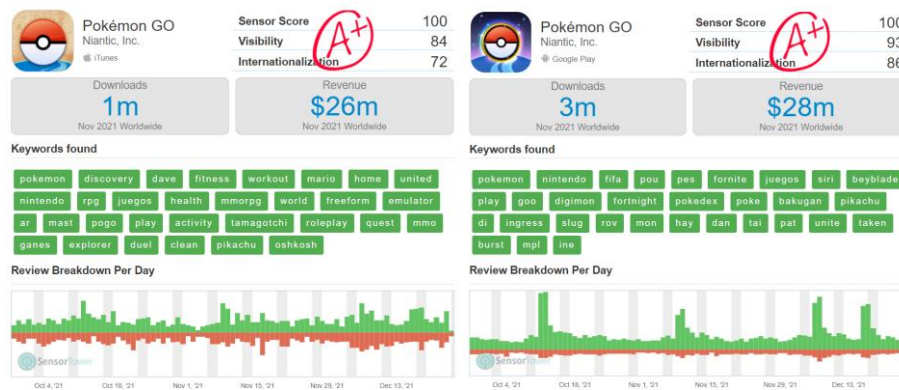


Figure 1. The downloads and score from sensortower.com

1.1. The relevance of Pokémon GO

At the beginning of its launch in 2016, Pokémon GO exploded with 232 million users which catches the attention of media scholars. Those scholars look into several perspectives, such as locative media, user engagement, mental health, hybrid-reality game and new business model, etc., in relation to the Pokémon GO context. However, due to server overload and the immature game format, the number of users saw a precipitous decline two months after the launch, and the study based on Pokémon GO is getting less. However, with the successful update on both the hardware and the

software, Pokémon GO is continuously getting users back. Finally, the user's number returns to 166million in 2020 (Iqbal, 2021 November). As we can see in Table 1.1., Pokémon GO now provides us with a more stable and complete sample for studying locative media.

Pokémon Go users

| Year | Users |
|------|-------------|
| 2016 | 232 million |
| 2017 | 65 million |
| 2018 | 147 million |
| 2019 | 153 million |
| 2020 | 166 million |

Table 1.1. Pokémon Go users from Pokémon Go Revenue and Usage Statistics (2022) - Business of Apps

Niantic.inc, the company which develops and operates Pokémon GO, has often been complained about ignoring social voices and user opinions (Iqbal, 2021 November), which means that they lack a systematic user-centered framework for understanding user needs. Table I shows that in 2016, when Pokémon GO was just released, it also had the best data performance so far, however, the total number of active users immediately saw a precipitous drop in 2017 due to the frequent failure of servers that were not enough to carry such a large number of users and the official negative operating attitude. In recent years, however, Pokémon GO is making a comeback with the constant updating of hardware technology and software technology. In the digital age, such a performance based on active user data is a rarity for any media.

1.2. Research question

From an academic point of view, hybrid-reality game (HRG)-based studies used to lack

a generalized sample to understand user engagement in a locative media context (De Souza e Silva, 2017). On the other hand, the role of locative media in the process of urban regeneration has been discussed (Saker & Evans, 2020), however, this discussion lacks a micro-level perspective -- how users reshape urban perceptions in their daily practice. Finally, some scholars have studied Pokémon GO from a mental health perspective (Tateno et al., 2016; Ku, Shang, & Li, 2021 June), and most of these studies draw on the findings of other games and mental health-related studies from the tradition of quantitative research; however, they ignore the differences between Pokémon GO and other digital games. To address these issues, this study poses the following research questions:

RQ 01: How does Pokémon GO reconfigure the way users experience their urban life in Rotterdam?

RQ 02: How do users enhance their mental health through playing Pokémon GO?

RQ 03: What do the developer diaries reveal about the design elements used to motivate user engagement?

1.3. Social and academic relevance

Although there has been some research on Pokémon GO, however, both Pokémon GO and the locative media industry are evolving at a high rate. On the other hand, the studies that have been conducted tend to examine the effects of Pokémon GO on other actors from an isolated perspective; for example, some scholars have argued that Pokémon GO improves employees' work concentration and have conducted quantitative studies on this way (Ku et al., 2021). In my opinion, these studies ignore the relationship between Pokémon GO, as an actor, and other actors. In my study, I treat Pokémon GO as an independent actor. Based on empirical research, I delve into the relationship between Pokémon GO and players' lives. In summary, I believe my study has research implications.

Several scholars have conducted research on the impact of locative media on users' urban lifestyles. I argue that Pokémon GO, as a locative data-based game media, has theoretical relevance to these studies. Thielemann (2010) argues that locative media can re-territorialize cities through virtual spaces. He mentions that these mix-reality spaces have spatial-temporal properties as well as cultural properties.

On the other hand, the field of mental health is an important area for the study of the urban life of locative media users. There is a theoretical correlation between playing Pokémon GO and players' mental health. Bhatt (2022) found in his study that through negotiation, players derive pleasure from playing the game. valentine and Jensen (2021) argued that players escape from real-life stress and anxiety by playing Pokémon GO. This suggests that players can gain mental comfort by playing Pokémon GO. research by Tateno et al. (2016) suggests that playing Pokémon GO can help children who have severe social disorders. All of these studies show a correlation between Pokémon GO and players' mental health.

Further, as an actor, Pokémon GO has different characteristics within the aforementioned domains. The characteristics of Pokémon GO as an actor correlate with the developer's engagement management strategies. The developer's strategy determines the features that the actor has, and the content that the actor carries. Content and function together shape the characteristics of media as actors. Therefore, understanding developers' strategies is also an important factor in studying the impact of Pokémon GO on players' urban lives.

1.4. Overview of research design

For the general design of this study, the walkthrough method is combined with ethnographic fieldwork to study how players engage with Pokémon GO in Rotterdam and how Pokémon GO reshapes users' urban perceptions. In addition, I will collect in-depth interviews to gather information on Pokémon GO usage from the view of mental health. Besides, I will look into the developers' strategy of Pokémon GO to explore how

the characters of Pokémon GO are shaped.

[Word count section 1: 1060]

2. Theoretical Framework

Existing research into Pokémon GO has studied the online engagement patterns of users from an HRG perspective (De Souza e Silva, 2017; Zwicker et al., 2017), the relationship between Pokémon GO and local stores from a marketing partnership perspective (Frith, 2016), and the positive impact Pokémon GO used can have on employee mental health from a productivity perspective (Woods, 2020; Saker & Evans, 2021). However, these studies often lack a perspective of user engagement and view Pokémon GO as a technology that cuts off from society. In order to better understand user engagement in Pokémon GO, I will critically follow the following theoretical traditions and perspectives to aid my research. In section 2.1, I will use observation to explore the strategy of developers which is contributing to motivating player engagement. In section 2.2, I will combine existing study as references and interview to discuss how users improve their mental health during Pokémon GO use. In section 2.3, I will use the concept of the smart city, as a theoretical framework to describe the role Pokémon GO plays in users' urban life. The entirety theoretical framework is shown in Figure 2. Below:

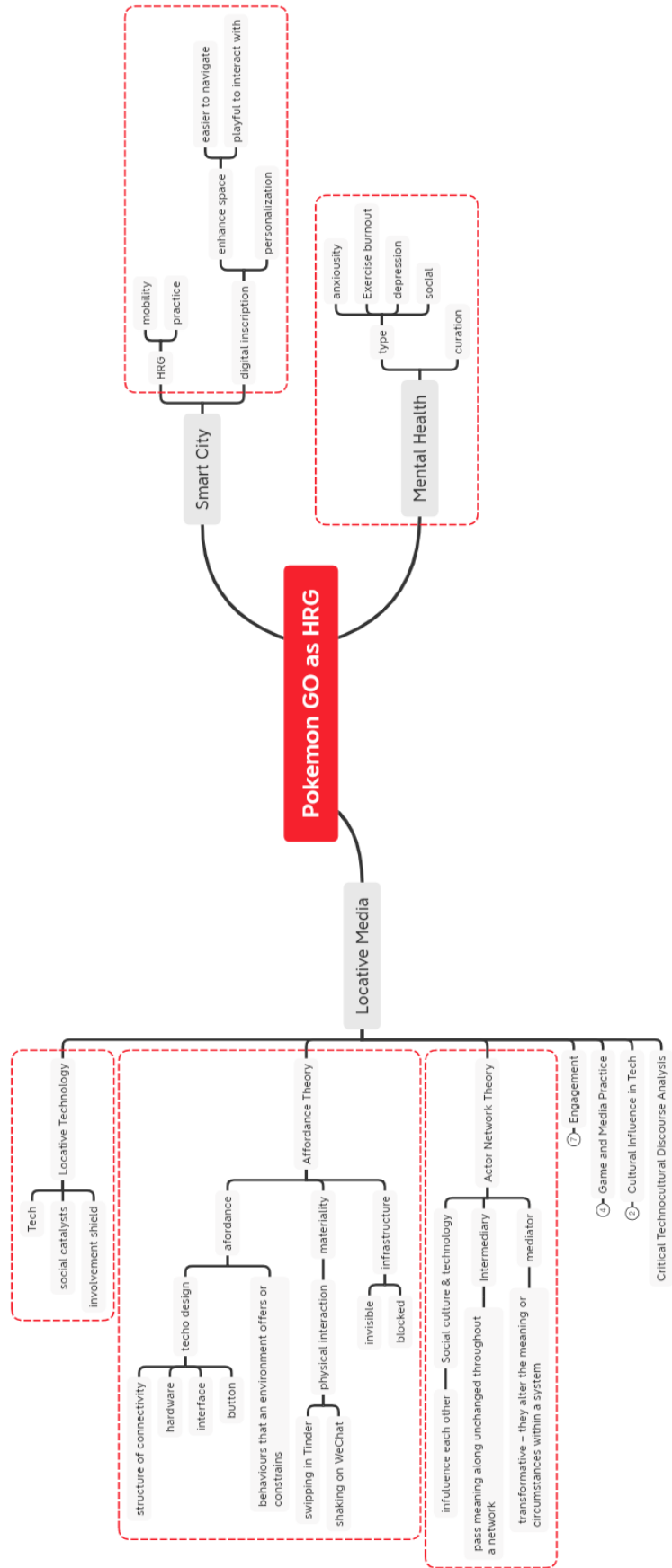


Figure 2. Theoretical framework

2.1. Locative media and user engagement

Locative media is a general term for media that provides content or services based on real locations (Thielmann, 2010). At a technical level, locative media consists of two components: media content stored on the cloud or local servers, and software for content loading based on location information installed in digital devices (Thielmann, 2010). This technical composition can effectively ensure the relevance of the user's experience to the context of use (Frith, 2016), thus creating an illusion of realism.

Further scholars argue that locative media plays a special role in the social life of users (Speed, 2010; Humphreys, 2017; Pieber, & Quan-Haase, 2021). On the one hand, some scholars argue that locative media plays the role of social catalysts in users' social lives (Speed, 2010; Humphreys, 2017). Similar to Tinder, Pokémon Go, etc., those locative media encourage and even organize offline group activities among users, helping them to break the boundaries between "virtual relationships" and realistic relationships (Pieber, & Quan-Haase, 2021). On the other hand, locative media is also considered to play the role of an involvement shield in social life (Humphreys, 2017), providing a "social mask" to avoid awkward encounters with other users in the real world.

2.1.1. Media characteristics and player engagement

As I mentioned earlier, whether it is a "virtual relationship" or "social mask," they are both concrete manifestations of media characteristics. Media characteristic is a reasonable high-level description of media possibilities (Choi and Baek, 2011). Further, media characteristic points out what happens when people exploit the potential of media. Javornik (2017) argues that media that apply augmented reality are location specific. Location specificity allows for geolocation and personalization, enabling developers to provide more accurate and tailored information to users, leading to more active user engagement. Jensen et al. (2019) in a study on Pokémon GO also mention that due to its location specificity, developers can provide players with a virtual world

based on the real world. They argue that this brings a constant player base to the game.

Some scholars believe that Pokémon GO, as an HRG can be successful also because it is mobile (De Souza e Silva, 2017). Players are more inclined to engage with games that are mobile because mobility can serve the user at the exact time and place when needed. However, the acceptance and effectiveness of mobility services face barriers related to privacy issues. In their study, Aal and Hauptmeier (2019) state that Pokémon GO has a very limited social element, as players "feel uncomfortable if social interaction occurs with unfamiliar players in a true location interaction." Thus, the developers of Pokémon GO only opened up limited sociality to players, "even though they could have done more. "

2.1.2. Engagement strategy and media design

Developer engagement strategies and design have a direct relationship to media characteristics. As Aal and Hauptmeier (2019) state: 'the potential of the media comes from the design of the developer.' In order to have a well-spread HRG, developers also need a successful, tactical set of player engagement strategies (Legner et al., 2019). A common engagement strategy is a game's daily operations strategy (Legner et al., 2019). Developers often consider interactivity, periodicity, and sustainability when developing their daily operation strategies; League of Legends' success as one of the most successful games in the world has been attributed to excellent global matchmaking mechanisms, rank advancement system, and season system (Kho et al., 2020).

The developer's engagement strategy can be reflected in the technology applied by HRG (De Souza e Silva, 2017). Pokémon GO applies GPS location technology as the core technology of the game, and Pokémon GO provides virtual entertainment to players through real location information provided to them. Studies have shown that this mixed reality gameplay that combines present and virtual elements, provides an immersive and engaging environment for players and promotes player engagement

(Jensen et al., 2019). At the same time, mixed reality play brings cultural consensus rooted in the virtual world into players' real lives, which in turn promotes authentic socialization among player groups (Jensen et al., 2019).

2.1.3. Actor-network theory

On the other hand, we can also see the media as actors in the user's usage process, which gives us a holistic and dynamic perspective to understand the media. Actor-network theory (ANT) places humans, technologies, and ideas all on a map of relationships for discussion (Light, Burgess, & Duguay, 2018). ANT effectively avoids the fallacy of overstating the impact of technology on human society or the decisive role of social culture on technology in media studies (Crawford, 2020). Based on the characteristic of relational ontology, ANT defines the object of study as a network of relationships and actors (Light, Burgess, & Duguay, 2018), and there are no other factors beyond that. This means that, in the ANT tradition, all factors within a particular relationship are based on the same level and there are no influences from the term above or below this particular relationship (Light, Burgess, & Duguay, 2018). Some of the studies that have been done on locative media are following the ANT tradition of considering relationships as ontologies and describing all factors within them: some scholars have discussed the relationship between Pokémon GO and user behavior, which in turn focuses on describing Pokémon GO's virtual world, the real world, and the users (De Souza e Silva, 2017; Hjorth & Richardson, 2017); and other scholars discuss the relationship between Pokémon GO and local commerce, thus describing the collective activities (gym battle), user group behavior, and commercial sponsorship in Pokémon GO (Firth, 2017; Luna et al., 2020; Woods, 2020). Overall, ANT provides a more descriptive research tradition for locative media research (Light, Burgess, & Duguay, 2018).

In the tradition of ANT theory, understanding the concept of the actor is important. The actor refers to the full range of in-relationship network factors, including humans,

technologies, ideas, processes, and practices (Light, Burgess, & Duguay, 2018). In short, in the ANT tradition, actors can be both human and non-human. The non-human actor can be described from a materiality perspective. The non-human actors in Pokémon GO are pokémons, non-player characters (including the Pokémon professor and the rocket team members), pokéstore, gym, Pokémon eggs, etc. (Frith, 2017; Light, Burgess, & Duguay, 2018; Woods 2020). Based on understanding nonhuman actors, the ANT tradition places more emphasis on understanding the relationship between nonhuman actors and human actors (Light, Burgess, & Duguay, 2018). Woods (2020) introduces the concept of digital assets in a study based on Pokémon GO, describing the "gym" used to undertake group activities in the game and further analyzing its relationship with users' collective consciousness; Frith (2017) describes some rare electronic monsters in Pokémon GO as "digital lure" for the marketing strategies of local sponsors. When researchers understand non-human actors from a semiotic perspective, they pay more attention to the relationship between location-based media and users' display perceptions (Ryfe, 2021). Researchers have described the virtual map in Pokémon GO more as creating a "sub-world" parallel to the real world (De Souza e Silva, 2017). On the one hand, the description of the "sub-world" reveals the relationship between geographic symbols and the user's experience of authenticity (De Souza e Silva, 2017); on the other hand, the description of the overlap between the "sub-world" and the real world also shows the relationship between the user's engagement and safety (Evans & Saker, 2019).

2.2. Mental health and Pokémon GO gameplay

As an actor, media has an ameliorative effect on users' mental health, which is an important part of studying media reconfiguration in users' urban lives. Numerous studies have shown that moderate engagement with video games can help users improve their mental health (Granic, Lobel, & Engels, 2014). Pokémon GO, as a location-based media, puts the relationship between mental health and video gaming into a new hybrid-reality context. Pleasure benefits a lot of players' mental health which

can be gained by negotiating their relationship with Pokémon GO (Laor, 2021). Pokémon GO is thought to have the effect of motivating users to access public places such as parks for exercise and socialization, which contributes to improved public health (Althoff, White, & Horvitz, 2016). Scholars have also tried to understand escapism in the process of players optimistically playing Pokémon GO. They call it "inert escapism" and argue that it is good for players' mental health (Kogan et al., 2017; Evans et al., 2021). Kogan et al. (2017) found that by using Pokémon GO, dog owners' feelings of burden during dog walks and anxiety after leaving home were alleviated because "they found something [on the road] to focus on." Tateno et al. (2016) found in a study of teen hikikomori that Pokémon GO brought these youths out of their home-locked status, encouraging and requiring them to engage in real social interaction. Ku et al. (2021) made similar findings, suggesting that Pokémon GO was effective in improving the situation of players who were socially withdrawn or socially awkward. The impact of Pokémon GO on players' mental health has been loosely discussed on a more positive level. This paper will move further and explore a systematic and empirically-based theoretical framework.

2.2.1. Negotiation during gaming

First, negotiation is the basis for the media to improve the mental status of users. Arguably, it is only by examining the power relations and decisions between media and players during the negotiation process that we can understand how media improves the mental health of players. For decades, in the field of mental health, scholars have continued to value and develop the negotiation present in games. Negotiation is considered to be an important means for players to achieve mental health in the course of play (Pruitt and Kimmel, 1977). Players negotiate the relationship between their own needs, the needs of other actors, and the rules of the game in the process of negotiation.

Some studies have focused on the conflict between players negotiating their

playtime and real-life commitments during gaming (Pruitt and Kimmel, 1977; Hellman et al., 2017; Bhatt, 2022). This is often linked by scholars to gaming addiction (Hellman et al., 2017). Further, some scholars argue that players avoid this conflict by negotiating the relationship with gameplay to weaken their dependence on the rules of the game (Bhatt, 2022).

2.2.2. Health escapism in digital gaming

When the user has more power than the media in the negotiation, the user can effectively control his or her own usage behavior and thus achieve mental pleasure. Escapism is an important branch of research in the field of mental health conducted in the field of video games. According to the tradition of escapism, scholars generally believe that players escape from reality by immersing themselves in the worldview of games (Kardefelt-Winther, 2014). According to such a view, players' mental health is negatively affected, which eventually leads to a number of negative mental conditions, such as gaming addiction, social disorders, depression, etc. However, Stenseng et al. (2021) critique this view, which they refer to as negative escapism. They also suggested that players' escapism during play is a binary system that includes negative escapism and positive escapism. Kosa and Uysal's (2020) study reached a similar view by suggesting that there is "healthy escapism" while gaming. Their study found that players negotiate their relationship with the game primarily through emotional control and emotional regulation, and ultimately prevent falling into the trap of negative escapist attention.

2.2.3. Social disorder and digital gaming

When the media has more power than the user in the negotiation, the media can guide the user's usage behavior for the purpose of persuasion. Online games are also thought to help adolescents with social disorders to socialize. Studies have shown that in video games, those with mental illness are more likely to socialize with other players (Sioni et al., 2017). During the game, players interact with other actors through the

medium of "their avatars" (Sioni et al., 2017), which gives them social security. On the other hand, the game also promotes socialization among players through gameplay design. By setting up common goals within the player community, games create consensus and a sense of group mission within the player community (Sioni et al., 2017). On the other hand, scholars emphasize that cooperation is the only way to achieve goals, and at the same time, cooperation is one of the main ways to build interpersonal relationships (Sioni et al., 2017). However, some scholars have also shown that gaming may create social anxiety for players who suffer from severe mental illness because they are more sensitive (Marino et al., 2020).

2.3. Locative media and the smart city

In order to understand more intuitively the reshaping of users' urban lives by location-based media, I will draw on some ideas from research on smart cities. Locative media occupies an important niche in the development of smart cities (Kirimtat et al., 2020). A smart city refers to a city's data collection and management of citizen traffic within the city through electronic devices such as information and communication technology (ICT) or the Internet of Things (IoT) to connect with citizens and ultimately optimize urban order and urban efficiency (Kirimtat et al., 2020).

We can interpret the role Pokémon GO plays in smart cities from the perspective of HRG. De Souza e Silva (2017) argues that Pokémon GO has the triple characteristics of mobility, sociality, and spatiality, which reinforces the relevance and surveillance between users and communities. At another level, some scholars have proposed the concept of digital inscription to explain the role of location-based media in smart cities. The digital inscription is a highly symbolic concept of the mapping and geographic elements of locative media. Locative media reinforces space by creating digital inscriptions (Frith, 2017; Zwicker et al., 2017; Woods, 2020; Saker & Evans, 2021). Frith (2017) argues that electronic monsters, supply stations, and dojos in Pokémon GO, as digital inscriptions, serve to guide users to local sponsors.

As a rather innovative and technological city, several media scholars have studied Rotterdam from a smart city perspective (Dirke and Molenaar, 2015; Butot et al., 2020). In their study on Rotterdam and environmental adaptation strategies, Dirke and Molenaar (2015) state that locative media plays an important role in the process of smart cities and that it contributes to the practice of policies at the micro-level (individuals and clusters). Butot et al. (2020) argue that at the level of locative media and citizen safety, Rotterdam's citizens are concerned about technology domestication and moral risks in the process of regulation through technology. These studies both mention that studies of smart cities based on individual technologies are not sufficient to reflect the diversity and richness of citizens' perspectives on smart cities (Dirke and Molenaar, 2015; Butot et al., 2020).

2.3.1. Re-territorialization and digital inscription

Re-territorialization, or rather, place-making, is one of the most important areas of research related to locative media. Several scholars' studies have indicated that digital inscription plays an important role in the process of re-territorialization (Barreneche, 2015). Re-territorialization refers to the redrawing of the boundaries of physical territories through digital media. The digital inscription is the digital asset used in locative media to represent places, signposts, buildings, etc. (Evans and Saker, 2020).

On the one hand, digital inscription helps users in the emotional dimension, to establish a connection with a specific region (Engberg and Bolter, 2015; Evans and Saker, 2020). Engberg and Bolter (2015), on the other hand, state that digital inscription is a carrier of culture and identity, which is a digital representation of the player's sense of belonging to the area. In the study by Evans and Saker (2020), it was shown that digital inscription contributes to the emotional attachment and emotional affinity of employees to the work area.

On the other hand, digital inscription increases users' attention to a particular area (Barreneche, 2015; Evans and Saker, 2020). Barreneche's (2012) study shows that

locative technology sets up the digital inscription, which brings additional population movement to these areas. In the tradition of smart cities, the digital inscription can bring population movement to designated areas, thus enhancing the population movement in public areas, such as city parks and commercial pedestrian streets. Conversely, areas that are not marked by digital inscription have a passive reduction in population movement, which contributes to smart city safety (Barreneche, 2012), e.g., Pokémon GO does not create any digital inscriptions in urban fringe areas, suburban forests, and streets with high crime rates. inscription.

The digital inscription can bring population movement to a given area, which shows a certain pre-existing commercial value (Frith, 2017; Saker and Evans, 2021). Frith (2017) looks into the digital assets in Pokémon GO in the context of the business tradition, which he refers to as the "digital lure." Among his researchers, he shows a successful case of Starbucks partnering with Pokémon GO in North America. Frith (2017) argues that the commercial value of these digital assets for small businesses is even more significant because "digital lure moves additional people there, which will generate a significant amount of revenue. " Saker and Evans (2021) further explored Frith's research in their study. They argue that in the context of family travel, adult male players amplify this commercial value because they are often the decision-makers who set the destinations.

Based on the re-territorialization of cities, digital inscriptions, and digital decoys, scholars have studied the ways and paths through which locative media have shaped smart cities (Dirke and Molenaar, 2015; Barreneche, 2015; Frith, 2017; Saker and Evans, 2021). However, in these studies, the role of the user, that is, the occupant, has been trivialized. My research will introduce a microscopic, user-centered research perspective to the field here. By examining the role Pokémon GO plays and played in reconfiguring urban life, I will explore existing research farther.

[Word count section 2: 3056]

3. Methodology

3.1. Research design

The studies that have been done tend to focus their eyes on the natural attributes of Pokémon GO. However, they have often slighted, or only briefly mentioned, the relationship between Pokémon GO and players. In my study, I consider Pokémon GO as an actor in the urban life of players and thus explore the relationship that exists between Pokémon GO and players. Therefore, my research will be exploratory in nature. In order to obtain valid data, I will use the qualitative method (digital ethnography) to collect data (Ritter, 2021). As we can see, it is a good approach for researching a lesser known phenomenon due to the exploratory nature of ethnography. In the analysis phase of the data, I will follow the tradition of ground theory, which is inductive, to analyze the data in order to obtain insightful perspectives (Chun Tie, Birks, & Francis, 2019).

3.2. Research method

For my study, I will adopt the tradition of digital ethnography. The tradition of digital ethnography advocates for researchers to understand, practically, the cultural assumptions that are embedded in the everyday use of digital platforms (Ritter, 2021). In order to answer the question of how Pokémon GO increases user engagement, I will combine four methods in my digital ethnography: walkthrough method, participant observation, documentary research method, and in-depth interview. First, I will examine RQ03 based on literature research methods to explore the engagement strategies of developers and the media characteristics that Pokémon GO has. Secondly, I will use data obtained through interviews to answer RQ02. Finally, I will examine how Pokémon GO reconfigures players' urban lifestyles by analyzing data obtained in walk-through method and participant observation method studies.

3.2.1. Documentary research method

The documentary research method is applied to the research and analysis of existing secondary data (Ahmed, 2010). The specific steps of the documentary research method include the fragmentation of texts, the conceptualization of texts, the use of texts, and the evaluation of texts (Ahmed, 2010). Relying on the tradition of the documentary research method, I can ensure that validity is guaranteed during the analysis of external data, which will be done through evaluation and screening. In my research, I will apply the documentary research method to study the player engagement strategies of developers.

To ensure the validity of the data, I collected the software update logs from the official Pokémon GO website, as well as the developer logs. The software changelog records the details of Pokémon GO's product iterations in a more visual text. The developer logs are in the form of an interview, in which members of the development team describe the content and purpose of the product iteration. In total, I collected 24 reports throughout the study. The sample information is shown in Table 3.2.1.

| Type of the document | number |
|-----------------------------|--------|
| Developer dairy (interview) | 4 |
| Newest software updates | 10 |
| Newest activities updates | 8 |

Table 3.2.1. The online document on the Pokémon GO official website

3.2.2. In-depth interviews

In-depth interviews are considered to be one of the best methods used to study how users are improving their mental state in the process of using Pokémon GO. Firstly, the tradition of semi-structured interviews helps me keep the topic relevant to the research question while gaining some flexibility (Barriball & While, 1994). With a pre-designed interview guide, the researcher can ensure that the interview topics are focused on core concepts while exploring some of the topics related to mental health

and Pokémon GO usage in more depth, even if the interviewer is not very experienced.

Besides, semi-structured interviews can be used to capture respondents' perceptions of media, or the reasons for a decision (Barriball & While, 1994). The main role of semi-structured interviews is to obtain rich and vivid qualitative information through in-depth and detailed interviews based on the guidance of the interview outline (Barriball & While, 1994).

The third reason is that the online interview format helps to lessen the psychological impairment of the interviewees (McGonagle & Sastry, 2021). Since this research question focuses more on users who have psychological deficits, such as social disorders, depression, autism, etc., the online interview format ensures that the interview is conducted in an environment where the respondent feels secure (McGonagle & Sastry, 2021).

3.2.2.1. Operationalization

A total of 5 interviews were conducted, with individual interviews lasting approximately 45 minutes. The interviews were conducted via Skype and Zoom, and they were recorded as audio and notes. The interview focused on three main topics. First, after the icebreaker, I discussed with the interviewees about personal information and basic Pokémon GO using behavior. In the next section, I asked the interviewees questions about their mental health, such as “do you feel a loss of motivation and find it difficult to get out of the house? When is it usually?” Finally, I moved to the enhancement of mental health with regards to Pokémon GO, the questions were like “how does playing Pokémon GO release the pressure you mentioned before?” The interview guide is placed in Appendix A.

3.2.2.2. Sampling strategy

To obtain a valid sample, snowball sampling was used in this study. Snowball sampling

is mostly used in media research to investigate a certain type of people with common characteristics (Handcock & Gile, 2011). Pokémon GO users have good social connections, so snowball sampling can be suitable for obtaining the samples. Initially, I looked for players who meet the criteria within the game as an initial sample. After having gained their trust, I offered them some incentives and ask for their help in referring other players. Finally, I conducted 5 interviews with Pokémon GO players who currently live in Netherland. The information of the sample is shown in Table 3.2.4.2.

| Interviewee No. | Nick name | Gender | Major | Age |
|-----------------|-----------|--------|------------|-----|
| 1 | Maria | Female | Waitress | 32 |
| 2 | Alex | Male | Student | 23 |
| 3 | Jackson | Male | Student | 22 |
| 4 | Johnathan | Male | Influencer | 29 |
| 5 | Sophie | Female | Student | 26 |

Table 3.2.4.2. Interviewee list.

3.2.3. Walkthrough method

The walkthrough method is often used in socio-cultural research based on digital media (Light, Burgess, & Duguay, 2018). The walkthrough method combines the qualities of both scientific and cultural research (Light, Burgess, & Duguay, 2018), and it provides a critical perspective for research institutes to analyze the corresponding digital media software, as well as locative media. In this research project, the walkthrough method is used to study the app interfaces of Pokémon GO. I will study how users engage in Pokémon GO and how users reconstruct their perception of urban life by using Pokémon GO through the walkthrough method. Using Pokémon GO in person and generating a field note, allows me to gain evidence for the research questions.

3.2.3.1. Sampling

Regarding this research, I will study how users engage in Pokémon GO and how users reconstruct their perception of urban life by using Pokémon GO through the

walkthrough method. Using Pokémon GO in person and generating field notes, allows me to gain an initial knowledge for research questions. In the early stages of my research, I was able to turn on all the features of Pokémon GO through consistent use and leveling up. I briefly documented this process in the introductory section of the field note. After that, I experienced as a player how Pokémon GO reconfigured my life in the city of Rotterdam. This phase lasted 28 days. I recorded the content related to the use of Pokémon GO during these 28 days in the field note. The content is in the form of a diary and in-software screenshots. The table of contents of the field note is shown in Figure 3.2.2.1.

▪ [Catalog](#)

| | |
|----------------------|-----------------|
| Preface..... | 3 ^u |
| Date 03.02.2022..... | 4 ^u |
| Date 04.02.2022..... | 6 ^u |
| Date 05.02.2022..... | 8 ^u |
| Date 06.02.2022..... | 10 ^u |
| Date 07.02.2022..... | 12 ^u |
| Date 10.02.2022..... | 14 ^u |
| Date 11.02.2022..... | 16 ^u |
| Date 12.02.2022..... | 18 ^u |
| Date 13.02.2022..... | 20 ^u |
| Date 14.02.2022..... | 22 ^u |
| Date 15.02.2022..... | 23 ^u |
| Date 17.02.2022..... | 25 ^u |
| Date 18.02.2022..... | 26 ^u |
| Date 19.02.2022..... | 28 ^u |
| Date 20.02.2022..... | 30 ^u |
| Date 25.02.2022..... | 32 ^u |
| Date 28.02.2022..... | 33 ^u |
| Date 01.03.2022..... | 35 ^u |
| Date 02.03.2022..... | 36 ^u |
| Date 03.03.2022..... | 37 ^u |
| Date 04.03.2022..... | 38 ^u |

Figure. 3.2.2.1. The catalog of field notes.

3.2.4. Participant observation

Participant observation is an important aspect of the tradition of digital ethnography. In contrast to non-participant observation, the tradition of participant observation provides the researcher with a perspective that is integrated within the context (Seim, 2021). Understanding the context in which users are using the locative media and obtaining

data through co-participation in the use of Pokémon GO is necessary in order to study the participatory behavior of Pokémon GO more from the user's perspective. However, in order to gain a more comprehensive understanding, this study will also incorporate a non-participant observation approach to finding the developer's perspective from social media and web pages.

First, I collected data from Facebook and Twitter through a participant observation approach. The majority of players' usage behavior outside of Pokémon GO occurs on social media, primarily Facebook and Twitter, which are important "online meeting places" for Pokémon GO players (Frith, 2017). *Pokémon GO | Friendship International* is a public Facebook-based group of 89,000 Pokémon GO players from around the world, with more than 100 posts per day. This source provides a rich data resource for my research and allows me to engage with these online user behaviors. Due to limitations on the size of the study, I start to record 2 most-liked posts (the posts which got the most amount of likes that day) every day from the 5th of February to the 5th of March. Finally, I get a sample with 60 posts about players' online behavior.

3.3. Data analysis

I used grounded theory for analyzing all the data obtained through the study. Some theories already exist which can support this study, however, these theories are not specific enough to explain the questions related to locative media. The tradition of grounded theory advocates developing theory from practical experience (Chun Tie, Birks, & Francis, 2019), which coincides with my research approach. Therefore, the tradition of ground theory is suitable for generating information from the research data. The entire research process lasted 4 weeks, with the coding process starting in parallel after obtaining the first-week research data for obtaining the sub-topic. The reason for this decision is for seeking more information in the ongoing research to refine them precisely (Chun Tie, Birks, & Francis, 2019).

The coding process will be carried out in the Atlas.ti coding software, which

facilitates the traceability and management of all codes and the corresponding data (Bazrafkan et al., 2019). In the fragmentation phase of the text, I used the sentence/ a set of sentences as the coding unit, thus preventing the missing or over-richness of information (Bazrafkan et al., 2019). In the initial coding stage, I mainly used in-vivo codes. In the axial coding phase, I refer to all the existed coding for several sub-categories and refine these sub-categories in the ongoing research process. Meanwhile, I will also pay attention to the theoretical framework, to ensure academic relevance (Bazrafkan et al., 2019). Finally, I moved to the selective coding phase to find the key terms for answering the research questions. In the study, I also paid special attention to extreme cases during the analysis process, such as hardcore gamers, as they can provide more information on the main themes (urban perception, mental health, and engagement strategy). The overall coding frame is shown in Appendix. C.

3.4. Research Ethics

Research ethics nursery rhymes need to be considered, including originality, potential conflicts of interest, and the potential harm of the study to the subject, etc. (Markham et al., 2018; Tiidenberg, 2020; Brunger & Chubbs, 2021). First, I would like to make a statement about the originality of my research: the entire analysis and conclusions will come from the data I produced and collected during the research process. Second, this study is for theoretical exploration only, and there is no conflict of interest with the research subject, Pokémon GO. In addition, to ensure the privacy and security of the subjects observed during the participant observation process (Tiidenberg, 2020), as well as the interviewees during the interview process, they will be anonymized (Markham et al., 2018). Finally, through short pre-tests, I confirmed that the interview guide of this study is not potentially harmful (Brunger & Chubbs, 2021) and does not negatively affect the mental health of the interviewees.

[Word count section 3: 2131]

4. Ethnographic Case Study and Findings

In this section, I will analyze and explore the research questions based on my research data. To explore what role Pokémon GO plays in the reshaping of players' urban lifestyles in Rotterdam, I break down the research questions into three separate dimensions: Pokémon GO gameplay and players' mental health, Pokémon GO and developers' engagement strategies, and locative media's re-territorialization of urban space and players' urban lifestyles. In the first case study, I will look into the foundation and developers' engagement strategy of Pokémon GO. In this way, I can explore the potential of Pokémon GO for players, and answer RQ03. In the second case study, I will look into the players' behavior from the mental health perspective, which is also an important dimension of players' city life. In this way, I will answer RQ02. Finally, in the last case study, I will answer the main research question which is about the re-territorialization in Rotterdam and its reconfiguration impact on players' city life.

4.1. Engagement strategy and media design of Pokémon GO

In the literature review and research design sections, I describe Pokémon GO as an actor in the life of the player. To answer the main research question, I relate the developer's engagement strategies to the media characteristics that Pokémon GO has. Based on the research data I obtained, this subsection will specifically discuss how developers give Pokémon GO these characteristics as an actor. By analyzing the developer's diary, I analyze the developer's engagement strategies. I argue that these strategies give Pokémon GO characteristics as an actor.

In this case study section, I will answer which engagement strategies are used by developers of Pokémon GO, and which functions and activities relate to those strategies. In my research, I explored the engagement strategies developed by Pokémon GO developers in three dimensions: strategies of routine maintenance, strategies of collecting gameplay, and strategies of creating cultural recognition. The

purpose of the routine operation strategy was to encourage players to engage in daily game-playing (Richardson et al., 2022), and the developers implemented this strategy through tactics of scenario setting, tasks set, and player-to-player battles. Further, I found that the strategy of collecting gameplay drives players to experience the game by going out and exploring the city for collecting Pokémon (Alavesa and Xu, 2022; Shiao and Huang, 2022), which developers implement through the tactic of multi-dimensional differentiation of core digital assets. The strategy of creating cultural consensus facilitates the strengthening of a solid and expanding player group (Apeldoorn and Hollander, 2021; Klass, 2021), which developers implement through tactics of conducting offline group activities and online gift sharing.

4.1.1. Routine player-maintenance strategy

In their routine player-maintenance strategy, the developers of Pokémon GO have adopted a hybrid-reality experience strategy to enhance the engagement experience and a strategy to create ongoing incentives (Richardson et al., 2022; Shiao and Huang, 2022). Through enhanced reality technology, the developers of Pokémon GO bring the fantasy creatures which exist in the video game world into the players' reality, allowing them to experience an immersive adventure atmosphere and fulfilling the wishes of Pokémon players. On the other hand, the developers of Pokémon GO have set up the Mega Involvement System (MIS) to motivate players to continuously devote their time to the game and earn great rewards by completing simple tasks.

4.1.1.1. Augmented reality(AR) technology and fantasy world

The developers are committed to bringing Pokémon features into the real life of players through augmented reality technology (Shiao and Huang, 2022). They believe that in order to motivate players to get out of the house and explore the world, bringing Pokémon features to the real-life players would be an excellent way of doing so because players can experience a Pokémon adventure of their own. As Matthew, who is the product manager of Pokémon GO developer team, announced in the diary:

"One of the core design elements (in the roadmap design process) was to allow players to experience and feel what it's like to be surrounded by Pokémon. There is no doubt that it will be fun and exciting, instead of providing players with a virtual world to immerse themselves in, we will transform the real world and use the mobile screen as a medium to help players gain access to this world." ("Dev Diaries a mega update to Mega Evolution in Pokémon GO is coming soon," 2022) [from Matthew Slemon who is the product manager of Pokémon GO team]

Wild Pokémon was one of the main design factors for the game developers. In this way, Pokémon GO provides players with the atmosphere of the Pokémon world - offering a fully immersive hybrid-reality experience (Richardson et al., 2022). On one hand, the immersive experience can enrich the fun of players in their daily life and help them experience the world more interestingly. Slemon, the head of the roadmap design team of Pokémon GO, mentioned in the interview that it is "cooler" to bring Pokémon into real life, and "when players explore the world with all these Pokémon, they will feel like it is the world of Pokémon." Immersive experiences are similar to participatory experiences in that they promote players' engagement (Shiau and Huang). As Slemon mentions, providing players with a "fantasy" reality surrounded by Pokémon would be a "fun" and "exciting" thing to do.

4.1.1.2. Task and time-limited reward settings

The Pokémon training mechanism which uses time as a limit for powerful form transformation is another powerful feature designed by the developers to promote player engagement (Saker and Mercea, 2021). This feature was built so that users could continuously invest their time in the process of collecting expendable supplies. The success of the Mega-system, meanwhile, is based on the reinforcement and upgrade of players' childhood memories. In the developer diary, Matthew describe this system as:

"We're very excited about Mega Evolution, and that goes for us (the developers),

the fans, and the trainers as well. We're excited to see when we can make our original partners evolve even further, even to the level of legendary Pokémon, and I think it's going to be a worthwhile investment." ("Dev Diaries a mega update to Mega Evolution in Pokémon GO is coming soon," 2022) [from Matthew Slemmon who is the product manager of Pokémon GO team]

The MIS is an ongoing incentive mechanism. By constantly completing simple tasks within the game, players can obtain a small number of props for mega evolution, thus enabling their Pokémon to grow to mega status. For players, this might be the growth and reinforcement of childhood memories. MIS first appeared in the Pokémon game as a mechanism to reinforce the original Pokémon generation, thus adapting to the strength of the latest version. As expected, this reinforcement of existing partners ignited the enthusiasm of players, and more and more lost players picked up the game console again because of MIS. Thus, MIS is a successful system that can retain and motivate players to participate. It is important to note that the mega status is an unstable and short-lived state, a mega evolution can last only 48 hours. Therefore, players need to constantly obtain props, so as to maintain the purpose of the partner into the mega-state. This is as the developer said, "We hope that players can be continuously involved in the activities of the collection".

4.1.1.3. Global competition and Pokémon championship

Matchmaking is one of the core elements of all Pokémon games, and the same for Pokémon GO. However, Pokémon GO's battle system has the ability to work as a motivator for other gameplay systems for the players. The access to battle in Battle League for Pokémon GO players needs to be gained by walking outside and collecting Pokémon. On the other hand, Battle League is also dedicated to matching players with opponents on a global scale, which benefits the globalization of the game (Kuo et al., 2021). Matt, who is the head of battle system team, explain this element in the developer diary as:

"There is no player who does not like Pokémon battles, which is one of the design elements that have fascinated players since the very beginning of this game. These designed the matchmaking system, as Pokémon GO's gameplay is not the same as the mainstream Pokémon game. Therefore, the matchmaking system has been adjusted a bit, which involves ordinary skills, rechargeable skills, etc. We want players to feel the fun in the battle and experience the game with global players. " ("Dev Diaries GO Battle League," 2022) [From Matt Ein who is the senior game designer of Pokémon GO team].

Battle League is one of the core elements of Pokémon GO, which reflects the developers: the core of Pokémon GO is designed with players' needs in mind. As the core design elements of the Pokémon series of games, the battle system allows players to experience the power of their strength, and the ranking system is more straightforward to show the player's strength in the ranking of all players. In addition to motivating players to engage in outdoor sports and adventure as the main purpose Pokémon GO also added the battle system, which reflects the core design concept of player needs. As senior game designer Matt Ein mentioned: the developers "care a lot about what they [players] like and whether they find it interesting". The Battle League is like a global hub where players are in touch with the entire world no matter where they are. Matthew mentioned that Battle League was designed to provide players with a "global level matchmaking platform" that allows players to experience that they are engaged in "world-class competition.

"We don't want only those players who are good at battling to be the elite Pokémon GO players, we want those who are willing to go out and have real adventures to be the elite as well. So after player experience Battle League for the first time, we will ask them to go out and complete the rated walking miles to gain access to Battle League." ("Dev Diaries GO Battle League," 2022) [From Matthew Slemon who is the product manager of Pokémon GO team]

As Slemon announced in the dairy, in the design of Pokémon GO's gameplay, Battle League is not only a battle system that players use to self-position their strength, but also an incentive for players to get out of the house and catch Pokémon. Incentives for players to engage in outdoor sports and real social interaction are unique claims that make Pokémon GO different from other Pokémon games. In order to participate in Battle League, players are required to complete a specified number of miles of walking in order to earn a League Pass, which allows them to participate in battles and improve their global ranking. The players who are willing to complete the adventure and have the spirit of adventure are the ones who deserve more respect. On the other hand, the battle system motivates players to engage in real-life social interaction. Matt explains, "Because many Pokémon can only be collected in a limited number of cities or countries, players need to travel or meet people from other countries to obtain those powerful Pokémon. Matt explained, " Since there are many Pokémon that can only be captured in certain cities or countries, players need to travel, or meet friends from other countries to get these powerful limited Pokémon so they can win in battle".

4.1.2. Collecting gameplay as a strategy and differentiation

Differentiating the core elements of the product is one of the common operational tactics used by developers to efficiently engage persuasion (Nery and Veloso, 2021 August; Shiau and Huang, 2022). Through analysis of developer diaries, I found that developers often use a strategy of adjusting the types of Pokémon that appear on the map in stages. On the other hand, the developers also like to use "lucky talk"; Pokémon GO developers persuade players by randomly setting up rarer or special Pokémon in addition to the regular wild Pokémon. Nevertheless, we cannot ignore the importance of Pokémon trainer culture as a backdrop to operational strategy.

Game developers have always differentiated their products through different designs to provide players with " interesting experiences" (Shiau and Huang, 2022). These interesting experiences are central to the player's engaging decision for

Pokémon GO. the developers of Pokémon GO provide a comprehensive account of the specific changes that come with each version iteration in their development diary. In the tradition of differential persuasion, I found that Pokémon GO's developers went about making differences through two main paths: designing special Pokémon populations that iterate on a time-based cycle (Shiau and Huang, 2022); and setting up randomly appearing, rare, high-quality wild Pokémons (Nery and Veloso, 2021 August).

4.1.2.1. Periodic iterations and differentiation

Developers apply the tactic of periodic iterations, where they persuade players to engage with the game on an ongoing basis at a low cost (Shiau and Huang, 2022). Pokémon that players can capture in the wild can be broadly divided into two categories: regular Pokémons that can be captured at any time, and event-limited Pokémons that can only be captured during special events. "The developers of Pokémon GO are not only holding events at real festivals, but they are also trying to create Pokémon GO original festivals and events.

January 31, 2022

Celebrate Lunar New Year with Pokémon GO's 2022 Lunar New Year event



Lunar New Year 2022

Tuesday, February 1, 2022, at 10:00 a.m. to Monday, February 7, 2022, at 8:00 p.m. local time

Shiny Litleo Leads the Pack

It's time to celebrate Lunar New Year! Running at the front of the pack during the event is Litleo! If you're lucky, you just might run into a [Shiny Litleo](#) for the first time in Pokémon GO!

Event Bonuses



Increased chance for Lucky Pokémon in trades



Increased chance to become Lucky Friends

Figure 4.3.2.1-1. *Lunar Year 2022* event of Pokémon GO

Pokémon GO's main strategy is to launch limited holiday events in tandem with regular real-life holidays, which is a kind of engagement persuasion that uses the holidays as the launching point for events (Shiau and Huang, 2022). The main activities of Pokémon GO for the holiday are more conventional, including the setting up of special Pokémon in the wild, as well as providing players with low-cost in-game gift bags and the opportunity to obtain additional game props. This limited event can be seen as a kind of holiday marketing. Pokémon GO will be these special Pokémon designed as a combination of the holiday and gameplay. For example, as shown in Figure 4.3.2.1-1. in the *Lunar Year 2022* event, the developers provided players with a large number of lion-shaped Pokémon for capture; on Valentine's Day, the developers designed canine Pokémon with special love decorations for players to find and capture. However, most of these events are announced to players in the form of

announcements within a week before the holiday, and no related event summary developer diary is generated.

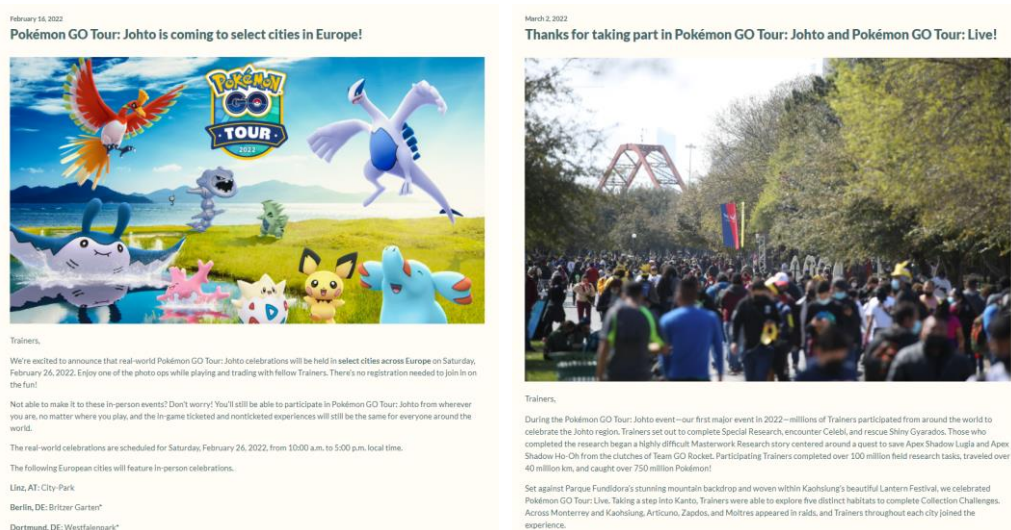


Figure 4.3.2.1-1. The announcement of *Pokémon GO TOUR: Jhoto 2022* event

Unlike the holiday events mentioned above, by setting up original festivals based on Pokémon GO culture, developers can persuade players to participate dynamically (Sone, 2021). These original programs persuade players to participate in a way that is closer to a full campaign (Sone, 2021). Taking *Pokémon GO TOUR: Jhoto 2022* event as an example, we can observe the complete marketing campaign flow. In November 2021, the developers began to disclose campaign information on the official website as well as on the social platform accounts owned by the developers. In February 2022, the developers started to advertise the campaign on social media platforms. In March 2022, the event was officially held and received a lot of spontaneous content disclosure from players on social networks about the event site. In the end, the developers reported the event and posted it on the official website. This shows that the developers have invested a lot of money in this kind of event. On the other hand, the developers and operators were given more initiative to optimize the event experience for the players (Shiau and Huang, 2022). The developers of Pokémon GO have made the decorative hats in the game into objects and hung the flags and banners that will appear in the game scenes within the event venue. Players share the experience

through in-group partnerships, which helps foster a positive cultural consensus within the player community. These shares help to persuade players within the group to participate (Shiau and Huang, 2022). On the other hand, players can serve to persuade non-Pokémon GO players to convert to Pokémon GO players by sharing quality campaign experiences with other users (Shiau and Huang, 2022).

4.1.2.2. Shiny Pokémon and “if you are lucky...”

Setting up special Pokémon is also one of the main strategies applied by Pokémon GO developers, who promote player engagement by defining "luck (Nery and Veloso, 2021 August)." The developers specified "luck" as two phenomena: "special Pokémon" and "shiny Pokémon". By using ambiguous descriptions like "lucky", developers motivate players to make engagement decisions (Alavesa and Xu, 2022).

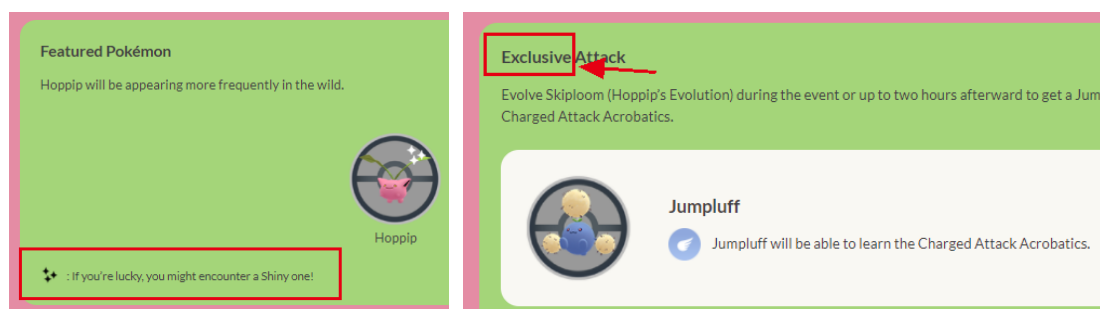


Figure 4.3.2.2. The lucky description in Update Dairy

"Luck" is often an important game design element that stimulates players' nerves (Alavesa and Xu, 2022). Luck, such as lotteries, random events, chance encounters, etc., stimulate players' desire to participate more than their reward incentives (Alavesa and Xu, 2022). Pokémon GO's developer diary often mentions "if you are lucky you can meet...", which is an ambiguous way of expressing the "probability of existence". This is an ambiguous way of expressing the "probability of existence", which helps to enrich users' positive imagination and positive association and achieve the purpose of persuading them to participate. In addition, the developers also referred to the "special Pokémon" with a high probability of occurrence (about 10%) and the "tiny Pokémon"

with a small probability (about 0.0025%) as "This allows players to enjoy the psychological satisfaction of "luck" while constantly seeking "extra luck. "

4.1.3. Collective memory and group expansion

Among the design strategies of developers, shaping collective consciousness and mobilizing players for socialization are considered effective strategies to motivate user engagement (Klass, 2021). The collective of players obtained by shaping collective memory and collective consciousness has more uniform group characteristics. Therefore, developers can adjust their existing strategies more efficiently based on these characteristics. Meanwhile, socialization among players can not only accelerate the formation of collective consciousness and collective memory but also expand the boundaries of existing player collectives and bring more players to Pokémon GO (Apeldoorn and Hollander, 2021).

Pokémon GO's core player base tends to consist of players who share memories from other Pokémon IPs. I speak of these shared memories as Pokémon collective memories. A strong Pokémon collective memory facilitates developers in developing engagement strategies (Apeldoorn and Hollander, 2021; Klass, 2021). A strong collective memory can bring a large and solid core of players to Pokémon GO in a short period (Klass, 2021). Further, core players will use Pokémon collective memories as a basis to form a collective consciousness of Pokémon GO and spread it to non-core player groups and non-player groups (Apeldoorn and Hollander, 2021). In other words, there is a potential for player groups that share collective memories to diffuse to other players or non-players, contributing to the formation of a special Pokémon GO-based player collective consciousness. I call this diffusion phenomenon "collective inheritance". Therefore, in designing collective activities, developers need to allocate additional attention to the existing collective memory, as Steranka, the director of the product marketing department of Pokémon GO, said in the diary:

"Looking back at all the Community Day events we designed during 2021, players

participated in the largest total number of Eevee's events. Since the beginning of the first generation of Pokémon games, Eevee, which changes its form and attributes, has been one of the most popular partners in the hearts of players. Therefore, it is not difficult to guess that Eevee's Community Day Event is the most successful one we have ever held. However, to bring more Pokémon to the players' attention, we are also exploring different ways to persuade players to participate in Community Day and join other players in their adventures." ("Dev Diaries Community Day," 2021) [From Michael Steranka who is the Director of Product Marketing team]

The collective memory of players can help developers to inform their strategies, avoid risks, and increase players' willingness to participate (Klass, 2021). Michael mentioned that when designing a global event, Community Day, developers preferred to select the main character, Pokémon, from the most popular characters in Pokémon games released in the 1990s or the millennium. They believe that this will "evoke the memories and enthusiasm of the players, who (players) will find the partner they aspire to in the same era in all corners of their real lives. This is also because the developers hope that Community Day can be an event that players "can and will" participate in, no matter where they are. The same design thinking is reflected in the design of the global city-only event, Pokémon GO Fest, where the developers tend to choose design elements that exist in the collective memory of players. For example, for the Pokémon GO TOUR in March 2022, the developers chose Johto, the virtual continent from the Pokémon game released in 1999, as the cultural backdrop for the event and ultimately drew players from around the world to the Monterrey region, where they trekked over 40 million kilometers to great success. Slemon explain this design in the diary as:

"We want players to bring their friends and family along to our city events, to travel again for adventure, and to experience the Pokémon world in their adventures. We hope that those rooted in the memory of players' Pokémon plots can then be passed on to future generations, family, and friends in these offline activities. And

in these offline activities, we hope that players can socialize in real life, to meet some interesting people, to get a rich and colorful Pokémon life." ("Dev Diaries Community Day," 2021) [From Matthew Slemon who is the product manager of Pokémon GO team]



Figure 4.3.3. The recording of offline collective activities of a Pokémon GO event.

Shaping collective consciousness is one of the main purposes of game developers in the design of group activities. If collective memory is the basis that developers refer to when forming a strategy, shaping collective consciousness is an important goal for strategy implementation (Apeldoorn and Hollander, 2021). Developers enhance the player experience through live-action design by distributing event gifts and props to players in limited areas; on the other hand, developers encourage players to engage in out-of-game social platform-based content sharing by way of formula content within the game interface. Figure 4.3.3. shows that players are happy to interact with unfamiliar players in Pokémon GO Fest and participate together under the shared Pokémon culture largely dismantling the social barriers between players in the event's

scenarios. According to the statistics of the news content disclosed on the official website, on average, the development team of Pokémon GO will hold 3 large offline events and 12 small community events worldwide every year. There are two types of large-scale offline events: the *Pokémon GO SAFARI Zone*, which is themed on urban culture, and the *Pokémon GO TOUR*, which is themed on Pokémon culture, and smaller community events, which are themed on a specific, highly popular Pokémon. These three types of offline activities are the main strategies developed by Pokémon GO's developer team.

Moreover, players were happy to wear Pokémon GO Fest-themed costumes, which enhanced their overall experience at the event. As Matthew mentioned, "We (the developers) want players to meet people and enjoy the event." On the flip side, the developers also encouraged players to engage in cross-media social activities. As the Figure shows, by sharing event-related photos under a designated hashtag in their Facebook accounts, players will be rewarded with additional generous in-game items and have the opportunity to be officially named and featured on the game's homepage. "Obviously, for some reason, Pokémon GO does not directly meet the social needs of players." He also mentioned that he hopes players can participate in these offline events, not only for themselves but also for their friends who are unable to participate, and that the developers hope players can "trade their Pokémon" with their friends to "inspire participation from players worldwide."

4.1.4. Results

In the conclusion of this sub-case study, the developer team adopts three main strategies to engage the players: strategies of routine maintenance, strategies of collecting gameplay, and strategies of creating cultural recognition (Apeldoorn and Hollander, 2021; Alavesa and Xu, 2022; Richardson et al., 2022). For the first strategy, the purpose of the routine operation strategy was to encourage players to engage in daily game-playing (Richardson et al., 2022). Further, for the second strategy, I found

that the strategy of collecting gameplay drives players to experience the game by going out and exploring the city for collecting Pokémon (Alavesa and Xu, 2022; Shiau and Huang, 2022). For the third strategy, the strategy of creating cultural consensus facilitates the strengthening of a solid and expanding player group (Apeldoorn and Hollander, 2021; Klass, 2021).

4.2. Pokémon GO and mental health enhancement

To fully answer the main research question, after exploring Pokémon GO's media characteristics, I will also explore Pokémon GO's impact on players' mental health. In this sub-case study, I relate media characteristics and Pokémon GO gameplay, to players' mental health. Based on the findings obtained in the previous sub-section, the improvement of Pokémon GO on players' mental health in urban life is discussed further.

Playing Pokémon GO contributes on improving players' mental health (Loar, 2021; Bhattacharya et al., 2022; Robertson and Bearman, 2022). In conducting my research through the interview, I also realized that Pokémon GO plays an important role in players' improved mental health, which is also another aspect of players' urban lifestyle that cannot be ignored. In this way, I can answer the RQ from mental health perspective. On the other hand, I will answer the RQ02 in this sub-section. Based on the data obtained from the interview, I found that players derive mental pleasure from negotiating their relationship with Pokémon GO (Robertson and Bearman, 2022). On the other hand, Pokémon GO reduce players' daily stress by creating a subspace where they can escape (Laor, 2020; Loar, 2021). In addition, Pokémon GO enhance players' mental health while promoting socialization among players (Evans et al., 2021; Valentine and Jensen, 2021; Bhattacharya et al., 2022).

4.2.1. Negotiation behavior and mental health

In this section, I will introduce a negotiated theory tradition on the role that Pokémon

GO plays in players' decisions to maintain their mental health. This is not only because the negotiation is closely related to the game theory, but also because the negotiation tradition can go some way to explaining how players cope with the tension between playing the game and doing other things and regulating their mental states (Robertson and Bearman, 2022). Here, we will focus on analyzing the relationship between players and Pokémon GO in the negotiation tradition. First, the negotiation perspective will shed light on how players plan the act of playing the game in their lives. On the other hand, I will explain in general terms, in the negotiation tradition, the improving effect of playing on players' mental states.

Players negotiate in the decision-making process of allocating energy and time spent on playing games (Robertson and Bearman, 2022). Here I will introduce the concept of weighting. According to the tradition of negotiation psychology, individuals ultimately form decisions by assigning weights to all events involved in the negotiation and calculating or measuring them (Bhatt, 2022). The size of the weights represents the importance of time, and the formation of weights is directly related to player needs. We can understand how players form and assign weights from the perspective of player needs and weights. The example is shown below:

"I usually play [Pokémon GO] on my way home, because then the time is relatively loose. And I j don't have to worry about some other arrangements coming up later. So I can enjoy following the Pokémon I want to capture, taking a detour to a nearby business district or neighboring community. Of course, that's why I don't usually play the game when I'm on the way to school, because [then] it may take too much time, and you know, once you start playing, it's hard to feel the time passing, and that can delay something important." (Alex, who is male and 23 years old, interviewee)

Weights are important metrics used in negotiation to directly reflect the importance and priority of matters, and the formation of weights is directly related to player needs

(Bhatt, 2022). Players with different needs have significantly different weights for using Pokémon GO. Alex, who is male and 23 years old, argues that the game is simply "a part of life to pace" and states that he does not want Pokémon He said he didn't want Pokémon GO to cause him to "take time away from something important. For players who see Pokémon GO as a social connection, it is given high weight, and they believe they need some time in their lives dedicated to the game. Maria, a 32-year old female player, said, "When I get off work, I need to hang out with my friends in the community [through Pokémon GO] to collect Pokémon that don't pass," and she added, "[They] are the only good friends in the community, and its Pokémon GO that brings [everyone] together. I need to spend more time [on Pokémon GO] in order not to become a lonely one. " Beyond this, there are also Pokémon "hardcore players" who have embedded their identities in the Pokémon GO world and who give great weight to Pokémon GO and other Pokémon games Johnathan, who is male and 29 years old, spends a lot of time every day experiencing Pokémon GO, investing a lot of money for in-game props, and even traveling across the country to attend offline events around the world. He believes he is "a great Pokémon trainer, an adventurer who walks in the real world." In short, different types of players give Pokémon GO different levels of weight, assigning their priorities in their daily lives and negotiating the relationship between playing the game and other matters.

4.2.2. Escapism, hybrid-reality world in Pokémon GO, and mental health

Kosa and Uysal's (2020) study shows that there is "healthy escapism" while gaming, which means when the emotional escaping and physical escaping is under control of the player, it will contribute more on players' mental health without negative impact. The hybrid-reality world formed in Pokémon GO provides players with a space that can be used to escape from reality healthily (Laor, 2020; Loar, 2021). Some players claim that they feel calm and free when they can immerse themselves in the world of Pokémon GO (Laor, 2020). Others mentioned that being immersed in the hybrid-reality space provided by Pokémon GO allowed them to calm down and think about things

(Laor, 2021). There were even amazing players who mentioned that they took additional cross-country trips because of Pokémon GO, allowing them to grow as they traveled. The example is shown below:

"I don't know what to do. He (boyfriend) thinks I spend too much time around him, disturbing his work and making him feel stressed. But I didn't know how to stop and not think about him. It wasn't until I was brought into Pokémon GO that I found something interesting to do. In that world, I didn't have a job or a couple, I could just go on adventures and do what I want to do. It makes me feel relaxed and I know that it will be good for my relationship with him as well." (Maria, who is female and 32 years old, interviewee)

During playing games, "escaping" can have a positive effect on maintaining the healthy dimensions of the player's mental state (Laor, 2020). In the game world, players are immersed in the game's mechanics and rules and are no longer limited by the rules in the real world, which is the main reason why games are beneficial for players' mental health. However, a completely independent game world from reality can cause negative states such as game addiction. Pokémon GO is a mixed reality game that creates a hybrid-reality world based on the real world but at the same time, different from the real world. In the fantasy world created by Pokémon GO, players will feel calm and free. One of my interviewees mentioned that Johnathan, a 29-year-old male player, is "passionate" about "exploring" the world of Pokémon GO and finds it "a way to make him feel relaxed and happy ". Another interviewee, Maria, who is a 32-year-old female player, said that being immersed in the Pokémon GO world makes her feel "mentally relaxed" and that she "can venture out and do what [she] wants to do."

"I sometimes play Pokémon GO when my research isn't going well, you know, the feeling that you need to take yourself out of your rigid mind, and Pokémon GO helps me do that, he can even take me outside for a walk and take a break. But on the other hand, I don't get addicted to that world, I always get tired quickly, and

even when I see those real-life scenes on the screen, I still remember the things I didn't do. But it doesn't make me feel so irritable and anxious anymore, I can calm down and rethink the things that bother me in a relaxed way. " (Alex, who is male and 23 years old, interviewee)

As the transcript shows above, the immersive experience of Pokémon GO also helps to calm players, allowing them to think and solve problems in a calm manner (Laor, 2021). Pokémon GO keeps players calm by distracting them in the real world (Laor, 2020). Such conditioning comes from the use of augmented reality. Augmented reality blends the digital and real worlds, using the real world as a platform, and it gives digital assets to the real world (Guo et al., 2021). These digital assets can attract the attention of players and reduce their mental stress. My interviewee Sophie, who is female and 26 years old, mentioned that when she played Pokémon GO, she was able to "clearly" realize that she existed in her community "and not in another world" and that it was the Pokémon that were brought into the real world. The Pokémon were brought into the real world. She also mentioned that these virtual creatures help her "focus on the adventure" instead of the "excruciating stress of schoolwork. On the other hand, Pokémon GO's initiative to discover the world on foot also serves to relax players' spirits, as it promotes outdoor exercise (Laor, 2021). As Alex, a 23-year-old male player, mentions, he "often plays Pokémon GO when the subject is difficult" because it allows him to "take a walk to relax" and he can "stay in peace," he can also "stay focused and think calmly about difficult problems." Outdoor exercise, as verified by many scholarly studies, is beneficial for players' mental relaxation and peace of mind (Laor, 2021).

"In my childhood, I wished I could have a real Pikachu of my own and take him on adventures around the world. Pokémon GO has made that a reality and I can have an adventure. He even gave me the motivation to finish my work more efficiently so that I would have more time to explore Pokémon GO World. I even traveled to Poland, Australia, and Japan to participate in Pokémon GO, which gave me a

more comprehensive understanding of the world and the culture, and I had a lot of fun, and I think I grew while playing Pokémon GO." (Johnathan, who is male and 29 years old, interviewee)

As we can see from the information above, Pokémon GO prompts players to explore outside of their homes and reap the benefits of growth during their adventures. In the process of traveling to different areas to interact with Pokémon, players gain experience and growth, which helps players' mental health. Jonathan, who is male and 29 years old, claims that as he continued to travel across the country because he wanted to participate in Pokémon GO's offline events, he "saw a greater diversity of cultures. "This made him "more tolerant" and "easier to understand and accept other people's viewpoints" when he encountered cultural shocks that led to different opinions in his university course collaboration. Maria, who is female and 32 years old, credits Pokémon GO with getting her acquainted with her community and truly becoming "a part of it".

4.2.3. Light sociability in Pokémon GO and player mental health

Pokémon GO's improving effect on players' mental states is also reflected in the incentive to engage in socialization among players. The cultural consensus and task gameplay embedded in the game facilitate socialization among players (Evans et al., 2021; Valentine and Jensen, 2021; Bhattacharya et al., 2022). First, the game provides a common cultural context for the player community, which creates cultural recognition among players (Valentine and Jensen, 2021). On the other hand, the "group-work" gameplay embedded in the game reduces the social burden among players as they experience the game (Bhattacharya et al., 2022). Finally, given the specificity of locative media, the limited social features within Pokémon GO facilitate social behavior among players in real life, as well as cross-platform social behavior among players.

4.2.3.1. Pokémon GO and cultural recognition

Pokémon GO forms a cultural identity among players, which promotes social behavior among players (Evans et al., 2021; Valentine and Jensen, 2021). As mentioned previously, Pokémon GO creates a hybrid-reality world full of wild Pokémon for players based on the real world. therefore, Pokémon GO assigns cultural identities from the virtual world to the real life of players (Valentine and Jensen, 2021). In the hybrid-reality world shaped by Pokémon GO, all players share the same cultural identity and cultural background, which, on the contrary, weakens the cultural divide between players due to the conflict between different cultural identities (Evans et al., 2021). The example is shown below:

“When I first arrived here (Zaandam, Netherland), I found it hard to fit in with the local community and even communicate smoothly with my neighbors. Then after I played Pokémon GO and joined a local community group on Facebook, I met my current friends. I know there are still a lot of differences between me and them, and I still can't understand some of the topics they talk about, but they are at least willing to accept me as a member of the group. They would take me on adventures around the city and introduce me to more of the local culture to me.” (Sophie, who is female and 26 years old, interviewee)

Pokémon GO brings the cultural identity of players as Pokémon trainers into real life, reinforcing cultural recognition within the player group (Evans et al., 2021; Valentine and Jensen, 2021). On the one hand, players are more likely to form a consensus because all members of the group have a Pokémon trainer identity, which in turn facilitates player socialization (Valentine and Jensen, 2021). One of my interviewees, Jackson [Male, 22], mentioned that in playing Pokémon GO, he met many players from different countries, and he felt that there was "no culture clash at all" between them and that they communicated "very smoothly ". After having thought about this issue, he realized that they never seemed to talk about topics other than

Pokémon, which he thought might be the reason why there was no conflict between them. Apparently, this strong Pokémon-based cultural identity makes players ignore topics that could create conflict when socializing. On the other hand, players tend to socialize around in-game content, which reduces the rejection of cultural differences between players (Evans et al., 2021). As my interviewee Sophie, who is female and 26 years old, mentioned, she and her gaming friends did not directly erase differences due to cultural barriers because of Pokémon GO, but on the other hand, Pokémon GO served as a bridge between players in these different cultural identities situation. She also mentioned that in the process of playing Pokémon GO, Sophie's friends would take her "exploring the city" and "introduce her to more local culture". Further, I can speculate that the cultural identity created by Pokémon GO can help bridge the cultural gap between players due to different cultural backgrounds, and even facilitate communication between different cultural backgrounds.

4.2.3.2. Pokémon GO and light sociability

Pokémon GO improves players' mental health by strengthening relationships between players and other actors in society (Evans et al., 2021; Bhattacharya et al., 2022). Pokémon GO motivates social behaviors among players and motivates players to interact with public facilities in the city, thus, strengthening players' mental health. On the one hand, Pokémon GO does not only motivate players to socialize within the game, but it also serves to motivate players to socialize across platforms, even in the real world. To sum it up, Pokémon GO encourages players to participate in group activities, even if the groups formed by the game are temporary. The example is shown below:

"Overall, I'm more of a solitary person, playing games by myself and reading books makes me feel happy. I was often called a grungy geek by my classmates during my high school days. But after contacting Pokémon GO, I am changing. I was serious about playing the game well, but I found that I needed the help of other

players if I wanted to collect the full range of partners. And in the process of helping each other, I found that I gradually became interested in the lives of other players, and the culture of the countries they live in. Now, one of my best friends is a Japanese girl I met in the Pokémon GO forums, which makes me feel much better." (Alex, who is male and 23 years old, interviewee)

Pokémon GO becomes a bridge for players to communicate with other members of the community. First, Pokémon GO has light sociability, so players regard all the social behavior in Pokémon GO as willingly and less burdened (Bhattacharya et al., 2022). When players experience Pokémon GO, they will find that they are only realistically represented on the map in the high precision map, and it is difficult to find other players; in addition, the information disclosed to players is extremely limited, only limited to online time, total miles walked, etc. Players and players cannot even produce any direct communication methods other than trading Pokémon, sending each other gifts, and playing against each other. These extremely limited social elements are designed to give Pokémon GO light sociability. As my interviewee Jackson, who is male and 22 years old, mentioned, he does not feel "burdened by friends" during his Pokémon GO experience. "They just stay there quietly". Second, the light sociability property of Pokémon GO has the effect of stimulating players' desire to socialize across platforms, even in real life (Bhattacharya et al., 2022). Sophie, who is female and 26 years old, mentioned that she feels "lost" when she "looks at herself alone on the map," which reminds her that the characters in the game are usually composed of partners and opponents, so she also started looking for "friends to play Pokémon GO with" on Facebook. She also started looking for "friends who can play Pokémon GO together" on Facebook. Finally, as players experience Pokémon GO's group activities, they are asked to team up with unfamiliar players temporarily to cooperate and compete. Maria, who is female and 32 years old, met other members of the community in the process of defending the Gym in the community, alleviating her feelings of unfamiliarity and loneliness in the community she had just moved into; Johnathan, who is male and 29 years old, met other members of the community in order to participate

in a group battle where she could get a limited Johnathan, who is male and 29 years old, was "touched" and "happy" when he met another player in the community during a group battle for a limited Pokémon, and they even went to Japan together to participate in an offline Pokémon GO event.

4.2.4. Results

To make a sum, Pokémon GO also plays an important role in players' mental health, which is also an aspect of players' urban lives that cannot be ignored. The enhancement impact is shown in three dimensions. The first dimension is that players gain mental pleasure by negotiating their relationship with Pokémon GO which is beneficial for players' mental health (Laor, 2021). For the second dimension, Pokémon releases players' daily mental stress by creating a sub-space where they can escape healthily (Laor, 2020). For the last dimension, Pokémon GO enhances players' mental health while promoting socialization among players (Laor, 2021).

4.3. Pokémon GO and urban life reconfiguration

In the two previous two-sub-sections, I discussed the media characteristics that Pokémon GO has and how it enhances the mental health status of players, respectively. In this sub-section, I will figure out the main research question: How does Pokémon GO reconfigure the way users experience their urban life in Rotterdam? To answer this question, I will focus on the way Pokémon GO reconfigures players' urban life by combining my practical experience of using Pokémon GO in Rotterdam with some data from the interviewees.

From the perspective of community culture, Pokémon GO provides players with digital inscriptions, which digitally asset landscapes that are representative of the community culture and help players experience and embrace the community culture (Saker & Evans, 2020). From the perspective of players' travel habits, Pokémon GO is changing players' travel trajectories through the digital lure, which on the one hand

helps to improve players' utilization of urban public areas (Kirimtat et al., 2020), and on the other hand, reveals some potential commercial values (Frith, 2017). Finally, from a security and ethical point of view, Pokémon GO maintains the security and trust of players through the application of augmented reality (AR) technology and information security commitment clauses.

4.3.1. Pokémon GO and digital inscription

The digital inscription is a concrete element in the hybrid space created by Hybrid-Reality Game (HRG) (De Souza e Silva, 2017). The digital inscription has a mapping in the player's real space as well (Saker and Evans, 2020). We can say that digital inscription is one of the infrastructures necessary for the existence of HRG, that is, it is one of the nodes where virtual space and real space are combined and overlap most closely (Saker and Evans, 2020). inscriptions on a high-precision map to guide players out of their homes and to focus on a specific number of locations. I found that digital inscriptions within a community seem to effectively represent the culture of a community and reinforce players' sense of identity and belonging to their community. In addition, I found that digital inscriptions were often densely located in Rotterdam's residential areas, commercial streets, and parks, which seemed to influence the players' daily routes of movement to some extent.

4.3.1.1. Digital inscription and experiencing community culture

The digital inscription has largely enhanced the spread and exposure of community culture within the Pokémon GO player base. By combining representative designs in the community, such as sculptures, street signs, decorations, murals, etc., with in-game locations (Pokéstop and Gym), Pokémon GO has created a large number of digital inscriptions based on the community. It can be said that the existence of digital inscriptions is not only a medium for highlighting the community culture, as is shown in Figure 4.1.1.1-1., but also inspires players to move from their homes to the community.

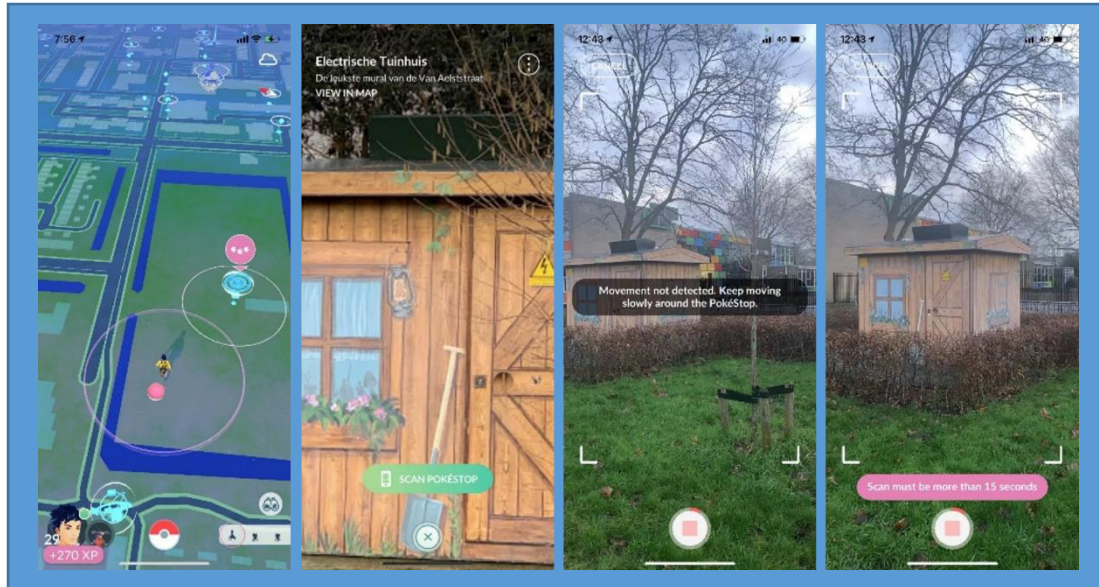


Figure 4.1.1.1-1. Building and operating a Pokéstop.

Pokémon GO builds community culture in hyper-reality by making real-life microscopic scenes into digital inscriptions on a high-precision map. Pokémon GO zooms in on microscopic scenes, allowing those easily overlooked community culture symbols to be presented to players in a new way. The reason why it is brand new is that in the overall game screen, we can see that most of the buildings are simplified except for the roads, and instead, these digital inscriptions are highlighted specially. This visual differentiation of expression emphasizes and highlights these otherwise tiny scenes and designs. It is important to note that these scenes and designs are lived-in and folkloric. By making them into digital assets, Pokémon GO creates those symbols that best reflect the culture of the local community.

For a city like Rotterdam, with a large foreign population, people from other countries need to find a home and identity in the community, while its residents also need a strong community culture to satisfy the need to maintain their original identity (Pieber & Quan-Haase, 2021). Pokémon GO acts as a locator in this process. Through these digital inscriptions produced by the system, Pokémon GO turns the originally abstract community culture into a fixed digital asset, enhancing the solidity of the culture as well as its accessibility (Laato et al., 2021).

In addition, according to the design of Pokémon GO, Pokéstop needs to be finished for continuous maintenance, which can eventually be upgraded to Gym and bring more rewards and provide more activity sites and features. This design allows players to understand and participate in the community culture, based on a sense of territory and sense of ownership (Barreneche, 2015). A Pokémon GO player, named Maria who is female and 32 years old, believes that they "created these Gyms, they can station [their own] partners here to get more rewards, and if someone wants to challenge or take over our Gym, we [they] will expel them without mercy. " It is this sense of territory that makes the community culture stronger, even in the form of entities and groups. In addition, the gift design in Pokémon GO is based on the miniature landscape in which Pokéstop is located, and players can get gift cards to give to their friends by visiting Pokéstop." Johnathan, who is male and 29 years old, says, "I'd love to share those gifts with my friends with photos, it's like I'm inviting them to 'If you ever come to my city, come visit this place, this is where I've lived. "'These phenomena show that Pokémon GO can foster a sense of pride in the community where players live.

Pokéstop also hosts some game features that drive players to leave their homes and visit Pokéstop in their neighborhoods, as shown in Figure 4.1.1.1-2. First, Pokéstops are the main source of in-game free items. By swiping the Pokéstop coins embedded in the phone, players clock in at the site and reap a plethora of rewards, such as Pokémon Balls, tree berries, stickers, and postcard gifts. This reward-focused incentive allows players to voluntarily and spontaneously visit these punching places with clear community cultural markers for HRG experiences, which strengthens the interaction and bond between players and the community. In addition, Pokéstop also plays the role of "clue" in the process of players' game, players can check the Pokémon species that will appear near Pokéstop in the community through the nearby function, to choose the preferred partner to capture. To make it short, Pokémon GO connects players and the community closer through digital inscriptions such as Pokéstop.

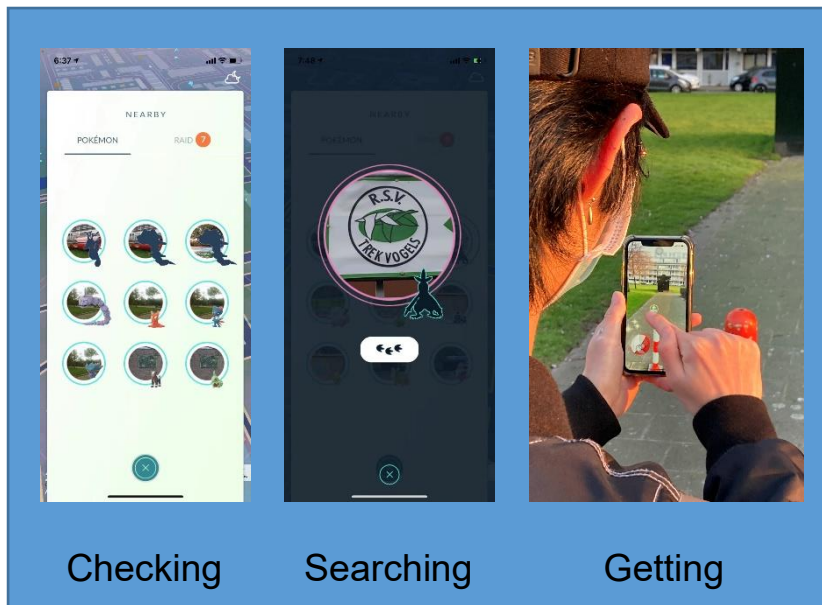


Figure 4.1.1.1-2. Chasing and getting a wild Pokémon.

4.3.1.2. Digital inscriptions and city exploration

On the other hand, Pokémon GO provides players with geographic information location services by setting up digital inscriptions of different densities on the map. It can be said that Pokémon GO contributes to the process of players' urban exploration and urban travel. First, for those players who live locally, Pokémon GO highlights those areas digitally and entertainingly on a high-precision map that better reflect the culture of the city but are easily overlooked (De Souza e Silva, 2017). Second, Pokéstop marks microscopic locations for travelers that reflect the culture of the city, allowing them to experience the local culture personally (Evans & Saker, 2019).

Pokémon GO brings additional information about the city's public facilities to the daily lives of city dwellers. Pokémon GO serves as a digital infrastructure by making some easily overlooked geographical information available to players through a system-generated Pokéstop. This not only expands the player's perceptual range and perceptual accuracy (Evans & Saker, 2019), but also enriches the player's life experience.

Because Pokéstop relies on real geographic locations, it has some infrastructural

properties (de Souza e Silva et al., 2021), including the provision of services, information, etc. By providing players with geographic information in a hybrid-reality space, Pokéstop can play a role in realizing players' needs for public activity areas in their daily lives. Maria, who is a 32-year-old female, mentioned, "I sometimes get bored and have nothing to do, so I make a habit of checking to see if there's a Pokéstop nearby. this often leads me to discover some interesting small commercial areas and some small parks that were once undiscovered by me, you know, and then I can go out for a walk afterward. "To a certain extent, Pokéstop serves as a carrier of locations and real-world scenes, providing players with geographic information services.

In addition, Pokémon GO has a system-generated Pokéstop that maps out areas for players to "check out." Pokémon GO collects miniature local landscapes that do not easily appear in official travel brochures and presents them to players through the coin in the Pokéstop. In contrast to traditional urban tourist attractions, Pokéstop brings players into the city's daily life, visualizing and anchoring the loose urban culture. This allows players to experience what the city is like from a practical and experiential perspective, rather than from the traditional traveler's point of view.

Pokéstop has become a travel guide for some players who enjoy urban adventures. Some players enjoy experiencing Pokémon GO while traveling because, on the one hand, some hardcore players, such as Johnathan, a 29-year-old professional player, see it as more "adventurous" and "acts more like a Pokémon trainer". On the other hand, they also consider visiting Pokéstops in the cities they travel to to be an "efficient" way to "embrace the local culture". All in all, Pokémon GO provides traveling players with information to use in planning city trips and adds to the fun of travel. In addition, Poekstop's gifts have the attributes of souvenirs. When I get a Pokéstop postcard gift in a city I'm visiting for a short time, I find them more valuable because they are "proof that I've been here before".

4.3.2. Pokémon GO and digital lures

According to the tradition of actor-network theory (ANT), the digital infrastructure, as well as the digital assets in Pokémon GO, work equally as independent actors for players during the game-playing (Light, Burgess & Duguay, 2018). The relationship between players and these digital properties is not just static, as mentioned earlier, players receive information from these digital infrastructures. We can also understand the relationship between the digital property and the player from a dynamic perspective - the digital asset can guide the player's behavior, not only limited to gameplay, but also in other everyday actions. In this sub-section, I will look at these digital assets as active and interactive actors in the user's engagement behavior and further analyze how Pokémon GO is reshaping the player's lifestyle in Rotterdam. These digital assets reshape players' urban lives in two ways. First, they extend players' lives by directing them to places they don't often visit (Guo et al., 2021). Second, Pokémon GO provides a channel for businesses to gather players, which makes these digital assets work like digital lures (Frith, 2017).

4.3.2.1. Pokémon GO as rout-planner

Pokémon GO pins more spots to the player's original travel route. Sometimes players will occasionally pass by these spots, which tends to happen in the case of chasing and capturing Pokémon, and such visits are temporary; in other cases, players' travel routes are changed over time, which usually happens in the scenario of players' visits to Pokéstop where is within the community or working area.

The presence of wild Pokémon in high-precision maps is one of the main triggers for players to change their daily travel routes. The core element of Pokémon GO is to capture Pokémon that appear in the wild. Players capture wild Pokémon in three ways: by catching random Pokémons in passing places; by following prompts to find Pokémons near Pokéstop; and by going to specific Pokémon locations based on location information shared by other players and capturing them. Therefore, to capture

their desired Pokémon, players will not only need to walk more on the road but also according to the information from a variety of ways to go to some temporary location to capture their desired Pokémon.

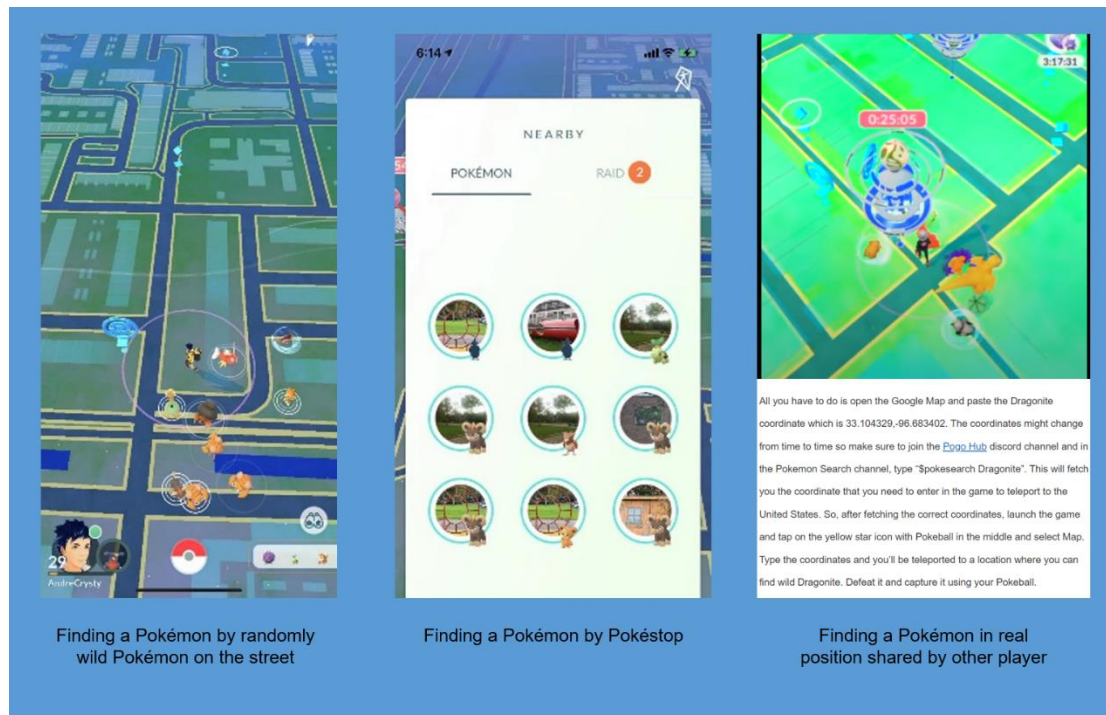


Figure 4.1.2.1. Three ways of capturing a wild Pokémon

Additional trips or detours motivated for capturing Pokémon are temporary, and they may occur just once, or occasionally several times. First, as shown by Figure 4.1.2.1., the appearance of Pokémon is naturally generated by the system, which means Pokémon will not repeatedly show up in a constant location again at different times, and it is for this specific reason that players do not change their travel routes during the exploration process. Second, since such a change in travel route is driven by the motive of capturing Pokémon, this behavioral process loses its corresponding motive when the player has accomplished his purpose, and thus it is difficult to happen repeatedly. However, there are special cases where to capture a specific type of Pokémon, the player recalls some areas with specific properties to gather. For example, insect-type Pokémon tend to appear in parks more frequently, and if a player wants to obtain more insect-type Pokémon, then he will spend more time visiting parks; metal-

type Pokémon will appear more frequently in industrial areas, and then players who want to capture them will have to spend more time traveling to industrial areas to play the game.

On the other hand, Pokémon GO also changes the travel routes of players by setting Pokéstop and Gym on the map. Players need to visit Pokéstop regularly in order to complete in-game daily tasks as well as multiple group tasks. Frith (2017) found that players would occasionally visit locations that they had not visited before after using Pokémon GO. In my study, I find that the impact of Pokémon GO is not limited to occasional visits, but affects players' habits of choosing travel routes.

Pokémon GO also changes players' travel routes by setting up Pokéstop and Gym on the map, a change that could be long-lasting. Pokéstop, a digital infrastructure based on real geographic locations generated by Pokémon GO, carries a lot of in-game functions, such as offering free in-game items and providing information for tracking Pokémon. Players can also interact with Pokéstop to improve Pokéstop's level, and the final they can upgrade Pokéstop to their own Gym. Additional features of Gym are to provide players with space to reside in Pokémon to get free game digital coins and to host raid bosses. Raid is the main group challenge in the game, where players can defeat raid bosses to get the chance to capture rare Pokémon and even legendary Pokémon. To sum up, Pokémon GO players have a strong reliance on these digital infrastructures. On the other hand, Pokémon GO requires players to visit digital infrastructures in specific areas on a regular basis in order to access the game. This will change the players' regular travel routes to some extent. As one of my interviewees mentioned, "I would often take a detour to a living service area two kilometers away to maintain my and my friends' Gym and get a lot of game props there. Of course, if I didn't play Pokémon GO I don't think I would do that." [Maria, female, 32]

4.3.2.2. Pokémon GO and digital lure

The digital infrastructure in Pokémon GO, in addition to altering the travel trajectory of

players, can also bring players together in public areas. At the level of city management, Pokémon GO can increase the use of city parks and open squares (Wang, 2021); at the level of business, Pokémon GO can bring a steady flow of customers to those local shops that have partnerships (Pamuru, Khern-am-nuai & Kannan, 2021; Firth, 2017).

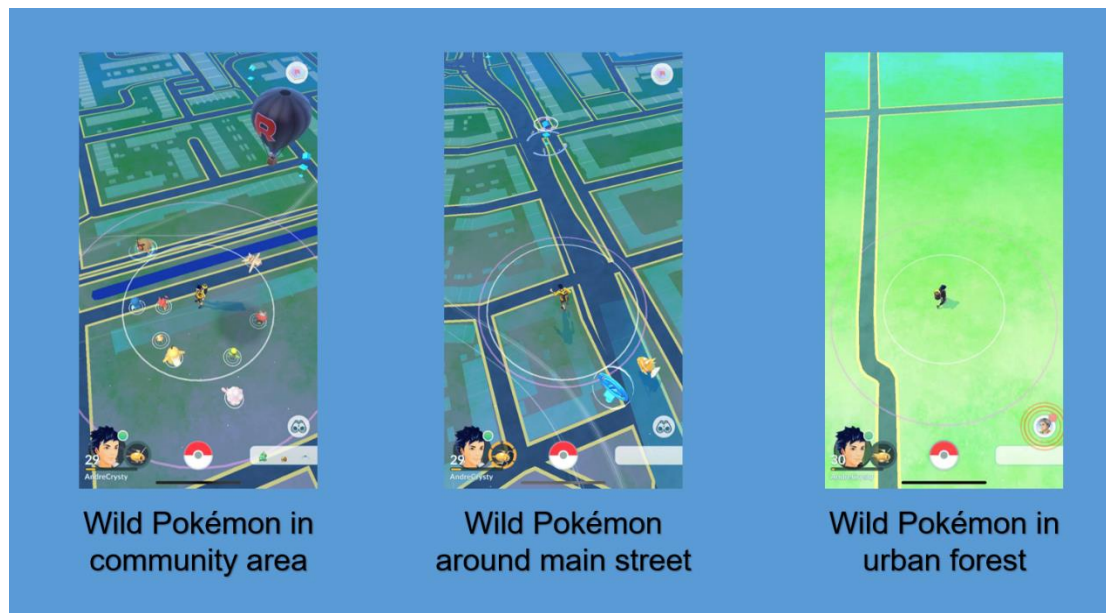


Figure 4.1.2.2. The distribution of wild Pokémon in the different areas.

Pokémon GO attracts more players to some public areas of the city (Wang, 2021), which is shown in Figure 4.1.2.2. Pokémon GO attracts players by setting up more Pokéstops in parks, shopping streets, and living areas in the community, and by generating more wild Pokémon. By going to the park, players can avoid the fatigue of moving a lot between Pokéstops loosely distributed in the city. Instead, players can enjoy the services of a large number of Pokéstops in these public areas, and thus gain access to a large number of game props at once. As I recorded in my field notes: "I don't often go for walks in the park before. But while experiencing Pokémon GO today, I ask my friends for a public park walk, because there we can use more Pokéstop at once, and thus can get more Pokéball faster, these free Pokéball can help me not with more wild Pokémon tomorrow, the special event day." On the other hand, Gym, the digital infrastructure upgraded from Pokéstop, provides a hybrid-reality space for the

group activities and becomes a gathering place for players. As players need to interact with the Gym to complete the challenge (the Raid) to obtain the opportunity to capture the legendary Pokémon, parks, living areas and other urban areas where the Gym appears in greater numbers have become the destination for players to gather and socialize. Overall, as a locative media and HRG, Pokémon GO has the potential to increase the utilization of Rotterdam's public recreational areas (Wang, 2021).

The digital lure in Pokémon GO also has the potential to bring customers to local partner stores (Pamuru, Khern-am-nuai & Kannan, 2021; Firth, 2017). As locative media, Pokémon GO accurately reflects the reallocation information of players and digital infrastructure. Based on such characteristics, Pokémon GO can enter into larger-scale partnerships with chain stores, bringing more traffic to the chain stores (Pamuru, Khern-am-nuai & Kannan, 2021). Back in 2017, Starbucks in Japan entered into a partnership with Pokémon GO, setting up a Pokéstop with the Starbucks logo as a doughnut in all Starbucks coffee shop locations within Tokyo and the ability to earn codes by spending money in the store in exchange for game props. Pokémon GO can also enter into loose partnerships with smaller stores in the community to set up exclusive stores. During my research, Pokémon GO helped me discover a hidden bar in the community, and I met the owner, who is also a Pokémon GO player. However, he said he had "only heard of a similar formal partnership," but he had never entered into a formal partnership with Pokémon GO. He believes that "that Pokéstop just happened to be set up here and used his store as the image." Therefore, the form of cooperation between Pokémon GO and Rotterdam's local merchants has not been studied. But we can still conclude that Pokémon GO can enter into partnerships with local stores to bring additional customers to the stores.

4.3.3. Pokémon GO as a potential monitor

In the first part of this section, I mentioned how Pokémon GO has positively reshaped the urban life patterns of Rotterdam players. However, to more fully understand the

role of Pokémon GO in the process of reshaping the urban life patterns of Rotterdam players, we should give some attention to its potential risks as well. Surveillance and monitoring are topics of ethical concern that cannot be ignored in the study of locative media (Laor, Rosenberg & Steinfeld, 2021). Pokémon GO does create some hidden dangers in the process of players' gameplay: the concern of data security for players (Nery Filho & Veloso, 2021), the physical safety of players during explorations (de Souza e Silva et al., 2021), etc. In this sub-section, I will analyze what potential risks Pokémon GO has and, on the other hand, how it convinces players to take these risks.

Locative media, as a new mobile technology, is gradually forming a new territorialization (Bassett, 2022). The use of locative media is a process of convergence between information flow and geography (Lemos, 2010). In the early stages of locative media's popularity, users were often concerned about the status that sharing their real geographic location data with the developers in real-time. Due to the black-box nature of this process - users cannot be explicitly informed about how developers will use their data (Woods, 2020). Pokémon GO, as a combination of HRG and locative media, has to face the same concern. Given this, how did Pokémon GO persuade players to share their real information and how did it make this claim accepted and even embraced?

According to my research records, Pokémon GO develops players' trust and security to play. First, it is the acceptance stage, where players are informed by Pokémon GO's prompt messages that they need to gain accessibility to the game interface by sharing their location information with the developers in real-time, at least for the duration of using the game. After that, it is the acceptance stage, where players will gradually accept the setting of sharing location information during their experience of the game. Finally, it's the advocacy phase, and players will open up more location information to Pokémon GO for better gaming experience.

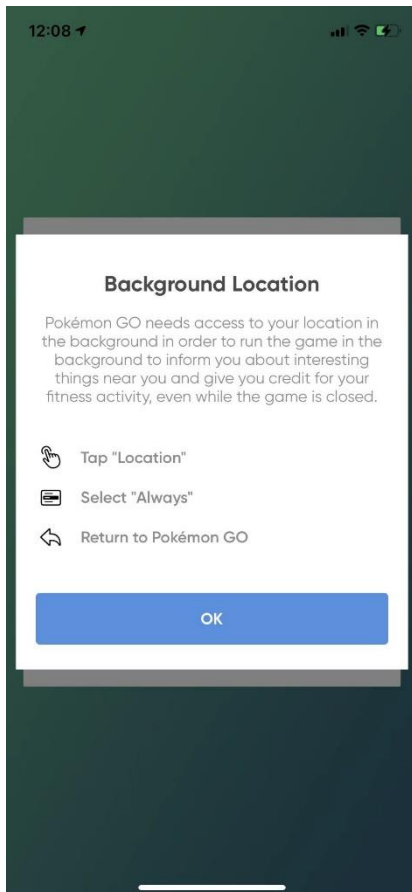


Figure 4.1.3. The announcement from Pokémon GO.

Pokémon GO's persuasion for users is gradual and daily. In the very beginning, Pokémon GO will ask players to turn on location information sharing permission to gain access to the most basic game features. As shown in Figure 4.1.3., Pokémon GO will first ask players to turn on location permission before they register their game account, otherwise, they will not be able to jump to the registration page. In order to get the game experience, players at least share the real-time positioning when using the app, and if they refuse, the game will automatically quit. At this stage, in order to experience Pokémon GO, I had to share my real-time location data with it.

In the second phase, I gradually stopped thinking that sharing location data with the developers was "dangerous" because nothing dangerous happened. At the same time, Pokémon GO was constantly reminding me through in-game pop-ups to further enable additional data sharing permissions. Pokémon GO will recommend players to

use the AR function to capture Pokémon in the tutorial, while players get a more realistic experience, Pokémon GO can also get access to the player's camera. Occurring at the same time, Pokémon GO will recommend players share their location information full time to get additional services. For example, in a February 2022 update, Pokémon GO upgraded the in-game "hatching" activity, which was originally set to be recorded only when using Pokémon GO (players need to walk a specified number of miles to complete the hatching task to get Pokémon), has been changed to "you can record mileage without opening the game as long as you turn on the permission to permanently share geolocation information."

In the third phase, I've come to embrace Pokémon GO's sharing of player data, because nothing has happened that I can perceive as dangerous. At this stage, I think I've come to fully trust Pokémon GO's collection of my data, although I still don't know exactly what channels my data will be developed to use. I even started to defend the Pokémon GO developers - I would sometimes rebut posts in the forums that proclaimed that Pokémon GO violated players' privacy and security. Laor and Steinfeld (2021) refer to this process as "domestication. However, player acceptance does not mean that the risks disappear; rather, we need to be more vigilant about these potential risks.

4.3.4. Results

In this sub-section, I conclude that Pokémon GO reconfigure the way users experience their urban life in Rotterdam by providing digital inscription, setting digital lure, and maintaining the safety of the player. From the perspective of community culture, Pokémon GO provides players with digital inscriptions, which digitally asset landscapes that are representative of the community culture and help players experience and embrace the community culture (Saker & Evans, 2020). From the perspective of players' travel habits, Pokémon GO is changing players' travel trajectories through the digital lure, which on the one hand helps to improve players'

utilization of urban public areas (Kirimtat et al., 2020), and on the other hand, reveals some potential commercial values (Frith, 2017). Finally, from a security and ethical point of view, Pokémon GO maintains the security and trust of players through the application of augmented reality (AR) technology and information security commitment clauses.

[Word count section 4: 11253]

5. Results and Discussion

In the last section, I analyzed and explored the research questions based on my research data. To explore what role Pokémon GO plays in the reshaping of players' urban lifestyles in Rotterdam, I break down the research questions into three separate dimensions: Pokémon GO gameplay and players' mental health, Pokémon GO and developers' engagement strategies, and locative media's re-territorialization of urban space and players' urban lifestyles.

The developer team of Pokémon GO adopts three main strategies to engage players: strategies of routine maintenance, strategies of collecting gameplay, and strategies of creating cultural recognition (Apeldoorn and Hollander, 2021; Alavesa and Xu, 2022; Richardson et al., 2022). The purpose of the routine operation strategy was to encourage players to engage in daily game-playing (Richardson et al., 2022), and the developers implemented this strategy through tactics of scenario setting, tasks set, and player-to-player battles. Further, I found that the strategy of collecting gameplay drives players to experience the game by going out and exploring the city for collecting Pokémon (Alavesa and Xu, 2022; Shiau and Huang, 2022), which developers implement through the tactic of multi-dimensional differentiation of core digital assets. The strategy of creating cultural consensus facilitates the strengthening of a solid and expanding player group (Apeldoorn and Hollander, 2021; Klass, 2021), which developers implement through tactics of conducting offline group activities and online gift sharing.

Pokémon GO plays an important role in players' mental health, which is also an aspect of players' urban lives that cannot be ignored. Based on the data obtained from the interview, the enhancement impact is shown in three dimensions. The first dimension is that players gain mental pleasure by negotiating their relationship with Pokémon GO which is beneficial for players' mental health (Laor, 2021). For the second dimension, Pokémon releases players' daily mental stress by creating a sub-

space where they can escape healthily (Laor, 2020). For the last dimension, Pokémon GO enhances players' mental health while promoting socialization among players (Laor, 2021).

The Pokémon GO reconfigures players' urban life by re-territorializing urban space in Rotterdam. From the perspective of community culture, Pokémon GO provides players with digital inscriptions, which digitally asset landscapes that are representative of the community culture and help players experience and embrace the community culture (Saker & Evans, 2020). From the perspective of players' travel habits, Pokémon GO is changing players' travel trajectories through the digital lure, which on the one hand helps to improve players' utilization of urban public areas (Kirimtat et al., 2020), and on the other hand, reveals some potential commercial values (Frith, 2017).

5.1. Discussion

In my research in the literature, some scholars argue that locative media is designed from the beginning to put a mask on users so that they can gain a sense of security in their use (Humphreys, 2017). My research suggests that beyond a sense of security, the developers of Pokémon GO prefer to create a living environment where users can freely socialize and take risks and provide them with an adventurer's identity. It can be argued that Pokémon GO developers want players to have "interesting adventures" more than they want to feel safe, which is considered to be conducive to player engagement. In the existing studies on locative media, scholars tend to favor dividing the characteristics of locative media into digital and real properties. Although some scholars emphasize that locative media provides users with a mixed reality world, they still favor realistic or digital attributes in their studies (Thielmann, 2010). My research shows that from the beginning of design, developers want to provide players with an adventure world that mixes display properties and digital properties. That is, all the properties that locative media has, whether digital or realistic, are real to the developer.

We should not consider the properties of locative media in two separate aspects, they are a complex, interdependent new system. Moreover, developers' engagement strategies develop media functions, which determine media potential and media characteristics (Aal and Hauptmeier, 2019). The study of objects confirms the idea that players' usage patterns largely match developers' expectations for strategy execution. These usage patterns, in turn, directly influence players' city life patterns.

On the other hand, Pokémon GO also reshapes players' urban lifestyles by improving their mental state. My research suggests that players' mental states improve during the use of locative media, especially hybrid-reality games. Much of the existing research has focused on the negotiation between the time players spend playing games and the time they spend on other things in their lives (Bhatt, 2022). My research suggests that during this negotiation, the player's definition of his or her identity and the need for the game help the player make decisions. On the other hand, players also gain mental pleasure by escaping from the game. Some scholars declare that escapism can be positive and beneficial for players' mental health (Laor, 2020). My research corroborates this view. Scholars also believe that playing games help alleviate the symptoms of which players suffer from the social disorder (Sioni et al., 2017). My research suggests that Pokémon GO facilitates socialization by providing players with a culturally consensual group and does not provide players with light sociability.

in previous studies, some scholars have argued that locative media affects users' urban lifestyles by reterritorializing urban spaces. Frith (2017) notes that digital inscriptions created by Pokémon GO can effectively change players' travel routes. My research confirms this view. In addition to this, I found that some players actively applied these digital inscriptions to set destinations and travel routes. Arguably, these digital inscriptions also act as "city guides". On the other hand, Frith (2017) also points out that Pokémon GO has some commercial potential to collaborate with local stores and bring additional people to these stores. My research confirms this view.

Overall, my study expands and adds to the existing findings on locative media. I first interpret the media characteristics that Pokémon GO has from the perspective of developer strategies and explore the media potential of the medium. Afterward, as an important aspect of urban life, I examine the ameliorative effects of Pokémon GO on players from a mental health perspective. Finally, I unpack how Pokémon GO affects players' urban lifestyle from the perspective of user and media engagement.

[Word count section 5: 1034]

6. Conclusion

For the role played by Pokémon GO as an actor in the urban life of players, I applied digital ethnography to research and analyze it. My research takes three perspectives and revolves around players' urban life patterns. First, by using documentary analysis method on developer diary, I analyzed the strategies adopted by the developers. Second, I engage with five interviewees to examine the improving effects of playing Pokémon GO on players' mental health. Finally, I examine the role played by Pokémon GO in players' urban lives in the tradition of the walk through method.

6.1. Future study

In my study of Pokémon GO's role in players' urban lives, I analyze the effects of Pokémon GO as a locative media and hybrid-reality game on players' urban life patterns in Rotterdam and the associated ethnic risk, respectively. However, since Pokémon GO is much less popular in Rotterdam than in most cities in Japan and North America, some questions are not explored in more depth. how does Pokémon GO realize its commercial potential in practice? What impact will the massive gathering of players have on local public facilities? These questions need to be further examined by empirical studies.

In the course of my research on developer strategies, I focused on analyzing the purpose of developer strategy design, as well as the specific design elements employed and their corresponding roles. However, what are the specific patterns of developers working together? How do the developers' decisions emerge from their negotiations? And how do developers go about predicting the effects of these decisions? These questions need to be further explored through qualitative research.

Playing Pokémon GO has improving effects on players' mental health, which, according to my research, specifically include motivating players to play outdoor sports,

motivating players to explore the world for themselves, and encouraging players to socialize. However, are my findings generalizable? What are the specific factors that influence the mental health of players by playing Pokémon GO? Are these influences significant? And how much do these factors affect players' mental health? These questions need to be analyzed in further qualitative studies. In addition, the focus on positive effects in my study is clearly not comprehensive enough. Does playing Pokémon GO also have a negative impact on players' mental health? What are the specific effects? And what factors are responsible for this? These questions need further qualitative research to be explored.

6.2. Limitation

There are some limitations to my study. First, due to the size of the study, all studies were conducted in the urban context of Rotterdam and do not have generalizability to all cities. In future studies, the field needs more complementary cases from other regions/countries. On top of this, additional research is needed to summarize and analyze these cases and thus obtain a theoretical framework that can be generalized.

Again, limited by the size of the study, I was only able to obtain a small sample during the interview process. The conclusions drawn based on such a sample are limited. It is hoped that in future studies, the sample size can be gradually expanded to obtain a generalizable conclusion.

In addition, the literature research method is not the most preferred choice for studying developer strategies. I still used this method for my study, which was caused by my limited time and my failure to obtain relevant accessibility. In future research, I hope to join the developer team as an intern or employee to conduct further research on the issue in a participant observation manner.

In terms of literature research, I cite a large amount of literature from parallel fields. Some of this literature is not related to locative media, which may have an impact on

theoretical validity. However, I could not avoid such a situation because there is still a large gap in the relevant research content.

[Word count section 6: 639]

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Appendix A. Interview guide.

Introduction

Hello, my name is Haoshan Dong, and I'm really interesting in researching Pokémon GO in relation to mental health. Thank you for joining us today. How are you doing? We appreciate your time in helping us by participating in this interview. The interview is going to be about how users enhance their mental health through playing Pokémon GO. The answers you'll share will be treated confidentially, and anonymously. These interviews will be conducted among others as well. With your and their answers, we will be able to research our topic. Your experiences and opinions regarding the topic are what we would like to listen to today.

If you decide you do not want to participate in this research anymore, please let us know. If so, we will immediately stop with the interview. You also are not required to answer.

The interview will take approximately 30 to 60 minutes. We will stop earlier if you wish to, or if we have talked about all topics.

Do you have any questions before we start?

We would like to start whenever you're ready.

Interview Guide

Personal Information and Mental Statement

Let's start with your personal information, could you please tell me something about yourself?

Personal Information

- ◇ Could you please briefly introduce yourself?
How long have you played Pokémon GO and what does Pokémon GO mean to you?
- ◇ If you were asked to describe Pokémon GO in three words, which three words would they be and why?

Mental Statement

Let's move on to personal experiences regarding mental health. I will ask you several questions about media usage. In this way, we are going to talk about some of your personal opinions and experiences.

- ◇ Do you usually prefer to be alone or to be with others? Why?
- ◇ Does socializing make you feel happy? Or is it stressful?
- ◇ In what way do you usually socialize, online or offline? Can you describe some of your social experiences?
- ◇ Do you feel anxious on a daily basis? In what situations do you usually feel anxious?
- ◇ Do you sometimes feel depressed and unable to concentrate? What are the causes of this?

Pokémon GO usage

Let's move on to personal experiences regarding Pokémon GO. I will ask you several questions about it. In this way, we are going to talk about some of your personal opinions and experiences.

- ✧ How do you feel about the virtual monsters in Pokémon GO?
- ✧ What role do they play in your life?
- ✧ Do you prefer to participate in group activities in Pokémon GO, or experience it alone? Why?
- ✧ What activities have you been involved in? Including online and offline activities. How was your experience with these activities?

Pokémon GO usage with regard on mental health

Let's move on to personal experiences regarding Pokémon GO with regard of mental health with regard of mental health. I will ask you several questions about it. In this way, we are going to talk about some of your personal opinions and experiences.

- ✧ Can experiencing the activities in Pokémon GO reduce the stress in your daily life?
- ✧ Do you think the social activities in Pokémon GO are different from other ways of social activities? What exactly are they?
- ✧ How do you see those friends in the friends list of Pokémon GO?
- ✧ Is there any difference between spending time with them and spending time with friends you've met in other ways?

Close Words

Are there any other things you would like to add to this conversation?

How did you feel about this interview?

Thank you for your time, and your participation in this research. This interview will be transcript and compared with the other participants, however, your answers will be treated confidentially. The key points which we derive from this will be discussed in a research report. We hope you've felt understood and listened to.

If you know any other Pokémon GO users who would like to participate in this research as well, please let us know. We would like to provide you with our contact details, so you can reach us at any time. If you have a question, feel free to contact us. Have a good day!

Appendix B. Ethnic consent form.

| | |
|---|---|
| Project Title and version | Exploring Rotterdam with Pokémon GO: A User-Oriented Locative Media Study |
| Name of Principal Investigator | Haoshan Dong |
| Name of Organisation | N/A |
| Name of Sponsor | N/A |
| Purpose of the Study | This research is being conducted by Haoshan. I am inviting you to participate in this research project about Pokémon GO. The purpose of this research project is to understand the role Pokémon GO played in users' urban life in Rotterdam.. |
| Procedures | <p>You will participate in an interview lasting approximately 45. You will be asked questions about mental statement, Pokémon GO game-playing, and the enhance on mental health. Sample questions include: "What activities have you been involved in? Including online and offline activities. How was your experience with these activities?".</p> <p>You must be at least 18 years old. You must be a Pokémon GO player.</p> |
| Potential and anticipated Risks and Discomforts | <p>There is no obvious physical, legal or economic risks associated with participating in this study. You do not have to answer any questions you do not wish to answer.</p> <p>Your participation is voluntary and you are free to discontinue your participation at any time.</p> |
| Potential Benefits | Participation in this study does not guarantee any beneficial results to you. As a result of participating you may better understand the engagement on Pokémon GO from a perspective of urban life. |

| | |
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| Sharing the results | Your plan for sharing the findings with the participants should be provided. If you have a plan and a timeline for the sharing of information, include the details. You may also inform the participant that the research findings will be shared more broadly, for example, through publications and conferences. |
| Confidentiality | <p>Your privacy will be protected to the maximum extent allowable by law. No personally identifiable information will be reported in any research product. Moreover, only trained research staff will have access to your responses. Within these restrictions, results of this study will be made available to you upon request.</p> <p>As indicated above, this research project involves making audio recordings of interviews with you. Transcribed segments from the audio recordings may be used in published forms (e.g., journal articles and book chapters). In the case of publication, pseudonyms will be used. The audio recordings, forms, and other documents created or collected as part of this study will be stored in a secure location in the researchers' offices or on the researchers password-protected computers and will be destroyed within ten years of the initiation of the study.</p> |
| Compensation | N/A |
| Right to Withdraw and Questions | <p>Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalised or lose any benefits to which you otherwise qualify.</p> <p>If you decide to stop taking part in the study, if you have questions, concerns, or complaints, or if you need to report an injury related to the research, please contact the primary investigator:</p> <p style="text-align: right;">Haoshan Dong +31 0627352507</p> |
| Statement of Consent | Your signature indicates that you are at least 18 years of age; you have read this consent form or have had it read to you; your questions have been answered to your satisfaction and you voluntarily agree that you will participate in this research study. You will receive a copy of this signed consent form. |

| | | |
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| | <p>For research problems or any other question regarding the re-search project, the Data Protection Officer of Erasmus University, Marlon Domingus, MA (fg@eur.nl)</p> <p>If you agree to participate, please sign your name below.</p> | |
| <p>Audio recording (if applicable)</p> | <p>I consent to have my interview audio recorded</p> <p><input type="checkbox"/> yes</p> <p><input type="checkbox"/> no</p> | |
| <p>Secondary use (if applicable)</p> | <p>I consent to have the anonymised data be used for secondary analysis</p> <p><input type="checkbox"/> yes</p> <p><input type="checkbox"/> no</p> | |
| <p>Signature and Date</p> | <p>NAME PARTICIPANT</p> | <p>NAME PRINCIPAL INVESTIGATOR</p> |
| | <p>SIGNATURE</p> | <p>SIGNATURE</p> |
| | <p>DATE</p> | <p>DATE</p> |

Appendix C. Coding frame.

| Selective coding | Axial coding | In-vivo coding |
|---------------------|----------------------------------|---|
| Digital inscription | Community culture medium | <p>A lot of different details and little things. A neglected miniature landscape A photo full of community atmosphere. Beat the challenger. Evidence that I visited here once. Fairy tale repair of power station. Found interesting details in the community design. Get more rewards. Have pride. Help him upgrade by taking photos of Pokestop in the community. Humane feelings. I came across a building that I didn't realize. I found a small church in the community. Is lovely. Make frequent community trips. Pokemon GO took me to an underground bar in the community. Take a walk in the community. The way to share the scenery in my community with friends. These gyms were created by us. Warm and creative. Willing to share.</p> |
| | Adventure in hybrid reality area | <p>Become the real hero. Capture more Pokemon to evolve your partner. Capture Pokemon. Catch Pokemon on the way. Challenge a powerful enemy. develop a habit. Explore the fantasy world in the city. Fantasy real world. Go out for a walk and see if you can meet my favorite Pokemon. Go to Gym for a challenge and get a powerful Pokemon. Go to gym for a challenge. Hiking in the city in order to catch a lot of favorite Pokemon.</p> |

| | | |
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| | | <p>In order to capture Pokemon's extra exercise outdoors.</p> <p>Interact with Pokemon in the city.</p> <p>Invite friends to my community.</p> <p>Reluctantly experience in the room.</p> <p>Sporting blood.</p> <p>Stop the game immediately and continue the wrist-protecting walk.</p> <p>Take my own adventure.</p> <p>You can have a look.</p> |
| <p>Additional population movements</p> | <p>Map of the small landscape</p> | <p>Act more like a Pokemon Trainer.</p> <p>Check out nearby Pokestop.</p> <p>Choose a farther route, but you can get more props.</p> <p>Choose your destination according to the postcard.</p> <p>Discover interesting small communities and parks.</p> <p>Embrace the "efficient" way of local culture.</p> <p>Get a lot of game props.</p> <p>Go for a walk near Pokestop, which I know well.</p> <p>Go to Gym in the urban area for a challenge.</p> <p>Go to the commercial street of the city in order to participate in the activity.</p> <p>Go to the public park to participate in the activity.</p> <p>Habitually detour to the vicinity of Pokestop.</p> <p>I plan to visit a church because there are many Pokestop near it.</p> <p>In order to get more game props.</p> <p>In order to participate in activities, go out to explore the city park.</p> <p>Look for a walking route.</p> <p>Often detour.</p> <p>Postcards as gifts.</p> <p>Read each postcard carefully.</p> <p>Take a detour to Pokestop.</p> <p>Take a walk in Friends Park.</p> <p>The scenery in the photo on the gift is really nice.</p> <p>You can get more Pokeball faster.</p> |
| | <p>Business potential</p> | <p>Get off temporarily to catch Pokemon GO.</p> <p>Go near the special Pokestop to capture Pokemon.</p> <p>Go to a specific place to capture your favorite Pokemon.</p> <p>Maintain my Gym with my friends.</p> <p>Make an appointment with friends to go to the nearby living quarters to participate in the boss battle.</p> |

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| | | <p>Pokestop named after the store name.</p> <p>Pokestop with photos of shops printed on it.</p> <p>Postcards as gifts.</p> <p>Take a detour.</p> <p>The scenery in the photo on the gift is really nice.</p> <p>There is similar formal cooperation.</p> |
| Ethical concern in locative media | Monitoring | <p>Encounter a stranger.</p> <p>I can't catch Pokemon on the subway.</p> <p>It feels like Pokemon GO always wants us to go to city parks or public squares.</p> <p>It was designed there by the system, or rather, the staff.</p> <p>Maintain intimacy by giving gifts to each other.</p> <p>Maintain intimacy by sending Pokemon to each other.</p> <p>On the bus, almost all functions were disabled by the game because of the fast moving speed.</p> <p>Players often design a walking route by checking the functions of Pokemon near Pokestop nearby.</p> <p>Scan inappropriate private areas.</p> <p>Stray into an unfamiliar area.</p> <p>There are always more wild Pokemon and free games items in the park.</p> <p>Unable to have online conversation with friends.</p> <p>You are denied access to the game without turning on the positioning system.</p> <p>You can't visit Pokestop and Gym during high-speed movement.</p> |
| | Data security and persuasion | <p>Hatch.</p> <p>Incubate Pokemon eggs by turning on the positioning function.</p> <p>Just open the permission to share geographic location information permanently.</p> <p>More open positioning functions.</p> <p>On the bus, almost all functions were disabled by the game because of the fast moving speed.</p> <p>Open the camera's permission to get AR adventure function.</p> <p>User data will not be sold.</p> <p>User's notice.</p> <p>You are denied access to the game without turning on the positioning system.</p> <p>You can record mileage without opening the game.</p> |

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| Negotiation | Facing the decision | <p>Don't worry, there will be some other arrangements later.</p> <p>Follow Pokemon I want to capture.</p> <p>Habitual use.</p> <p>He is loose.</p> <p>I even went to Australia to participate in Pokemon GO activities.</p> <p>I even went to Japan to participate in Pokemon GO activities.</p> <p>I even went to Poland to participate in Pokemon GO activities.</p> <p>I usually play Pokemon GO on my way home.</p> <p>I will play in my spare time, when I have nothing to do.</p> <p>I won't play games when I go out again.</p> <p>If you are busy, for example, you may not play at the end of the term.</p> <p>If you want to experience it on the spot, you can experience it on the spot. If you want to attend it at home, he can also attend it.</p> <p>In the process of playing Pokemon GO, I grew up. It was much more comfortable and smoother than before, so I came back to play again.</p> <p>It will delay some important things.</p> <p>It will waste too much time on the road.</p> <p>It's a little crowded, a little scary.</p> <p>It's hard to feel the passage of time.</p> <p>Let me be motivated to finish my work more efficiently.</p> <p>Let me know the world more comprehensively.</p> <p>More time to explore the world in Pokemon GO.</p> <p>Not too safe.</p> <p>So it's a little difficult for you to drive AR live all the time. You have to take that charging thing with you.</p> <p>Sub-world.</p> <p>There is no such equipment, so sometimes I don't know how to use this AR experience.</p> <p>Time is relatively loose.</p> <p>Very random.</p> |
| Escapism | Enjoying emerging in the sub-world | <p>At least the feeling of being with someone.</p> <p>Can you help me pull me out of that state?</p> <p>Constantly exploring in that virtual world</p> <p>Distraction</p> |

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| | <p>Disturbing his work makes him feel very stressed. Do what I want to do. Enter a new cycle. Freak-out Get distracted by playing Pokemon GO Help me get out of that vicious circle. I can calm down. I don't know what to do. I think the pressure is reduced. It can distract me. It makes me feel very relaxed. It may not have a good effect afterwards. It's better to go out to play by yourself or be lonely, and then leave it alone on the way home. It's boring not to look in. It's comfortable now, but you're wasting your time. It's more stress-relieving It's very simple and relaxed. Let all the pressure out of me. My attention will no longer focus on whether I am lonely or not. Nothing to do or nothing to do? Play Pokemon GO when the research is not going well. Reduce the stress in my life Relieve anxiety Relieve some of my loneliness. Something interesting to do. The feeling that you need to separate yourself from your rigid thinking There are really too many interesting things than them. This won't make me feel so irritable and anxious. To rethink those things that bother me in a relaxed way. You can get this sense of accomplishment quickly and easily. You can take risks at will</p> |
| Hybrid-reality fantasy world | <p>You can take risks at will Do what I want to do. Pokemon GO can help me do this. He can even take me outdoors for a walk. He can even take me outdoors for fun.</p> |

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| | | <p>I will not indulge in that world. Those real-life scenes seen through the screen I hope I can have my own real Pikachu. Take him on an adventure in the world Pokemon GO turned these into reality. I can really explore. Let me be motivated to finish my work more efficiently. Punch in, this Pokestop Some gym Dojo halls like this, it's all in some parks. lively It's a half-empty game space in the real world. And then it's also really positioned. Is it right or depends on positioning? It's quite vivid. Give you a dream in real life and have a communication interaction together. The combination of games and maps. Pokemon GO strolled and then watched the scenery. It is a society of social trainers. Based on the real world. Constantly exploring the real world. A completely open world. A truly borderless game world. There is no boundary. A truly open world Is infinite adventure.</p> |
| Light sociability | Culture recognition | <p>When I first arrived here (Poland), I found it difficult to integrate into the local community. I can't even communicate with my neighbors. Join a local community group on Facebook. I met my current friends. There are still many differences between us and them. I can't understand some of the topics they talk about. Willing to accept me as a member of the group. Adventure around the city. Introduce more local culture. I have played the whole series. I'm addicted to it. I've been playing since I was a kid. At first, my brother played this game. It's kind of a belief for me. It was another world outside the class at that time.</p> |

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| | <p>Grow up with the magical baby generation. We are all loyal players of Pokemon. Around the theme of Pokemon go. There are three like-minded friends who can play games together. Everyone is very similar in this respect. Have a topic to talk about. We all like Pokemon. It's been a long time. The topic will be easy to expand. Because everyone plays this one. Enough topics. This thing is really too much, but we can talk about many, many, many hidden settings and all kinds of this wonderful opportunity. Experience of playing Taoist temple. Experience of collocation moves. He just carried me a lot. It's a memory. happy memories. The significance of milestone.</p> |
| <p>Less social burden</p> | <p>I prefer to be alone. Playing games and reading books by myself will make me feel very happy. I am really changing after contacting Pokemon GO. I need the help of other players. I really want to play this game well. In the process of helping each other. Gradually became interested in the lives of other players. Gradually became interested in the culture of other players' countries. One of my best friends is a Japanese girl I met in Pokemon GO forum. Makes me feel much better. Is that I will make some friends on it. Then these friends, to tell the truth, haven't talked much. Add friends, but it doesn't support your friends' online conversation. Keep in touch and communicate with others through postcards. Send a small gift to a friend every day. It's easier not to talk too much.</p> |

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| | | <p>We don't need to talk too much. I don't really need to talk about anything. No burden. No burden at all. There is no need to communicate with them. You have to talk together, or cooperate with the operation. few It's really not much to ask you to get in touch with others. It doesn't involve any social activities that really require one-on-one dialogue or in-depth communication. Not on Pokemon GO. It has a fixed social paradigm. It's easy to socialize and there's no pressure. Even if you lose contact with others, others will not say anything about you. They can't say anything about you.</p> |
| Daily operation strategy | Hybrid-reality world | <p>The core design factor In the design process of roadmap Let players experience and feel the feeling of being surrounded by Pokemon. This will be fun. Exciting Provide players with a virtual world to immerse themselves in. Transform the real world, using the mobile phone screen as the medium. Help players get the right of way to this world. cooler players explore the world with all these Pokemon the world of Pokemon fantasy</p> |
| | Global level interaction | <p>interesting Exciting Something worth investing in. We hope that players can continue to participate in the collection activities. One of the design elements that fascinates players. Have fun in the battle. Experience the game with global players. Be very concerned about what they (players) like and whether they find it interesting.</p> |

| | | |
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| | | <p>Global level matches the opponent's platform</p> <p>Let players realize that they are participating in a "world-class contest".</p> |
| | Excising for accessibility | <p>I hope those players who are willing to go out and have real adventures will also become elites.</p> <p>Get the right-of-way of Battle League</p> <p>Many Pokemon can only be captured in limited cities or countries.</p> <p>Players need to travel or make friends from other countries.</p> |
| Differentiation and lucky-persuasion | Looking for a lucky moment | <p>Lucky speech</p> <p>A novel experience</p> <p>And activity season.</p> <p>Manufacturing environment</p> <p>lucky</p> <p>Special Pokemon</p> <p>shiny Pokemon</p> <p>Encourage players to participate in decision-making.</p> <p>if you are lucky you can meet...</p> <p>Existence probability</p> <p>"shiny Pokemon" is collectively referred to as "Lucky"</p> <p>This player can enjoy the psychological satisfaction brought by "luck" continuously.</p> <p>Pursuing extra luck</p> |
| Construct social interaction | Seeking Pokemon culture | <p>impart and inherit</p> <p>Looking back at 2021</p> <p>Since the original Pokemon game</p> <p>One of the hottest partners in my heart</p> <p>Arouse the memory and enthusiasm of players.</p> <p>They (players) will find that the partners they yearned for in the same year appear in every corner of their real life.</p> <p>Both can and will.</p> <p>Take friends and family to our city activities.</p> <p>Explore on a trip</p> <p>Experience Pokemon World in Adventure</p> <p>Those Pokemon plots rooted in players' memories</p> |
| | Looking for real social | <p>Be passed on to future generations, family, and friends in online activities.</p> <p>Players can socialize in real life.</p> <p>Meet some interesting people.</p> <p>Get a colorful Pokemon life.</p> |

We (developers) hope that players can make friends and enjoy the activities.

Obviously, for some reasons, Pokemon GO can't directly meet the social needs of players.

trade their Pokemon with their friends to

Encourage players around the world to participate "

Appendix D. Document list of developer dairy

| Type of the document | number |
|-----------------------------|--------|
| Developer dairy (interview) | 4 |
| Newest software updates | 10 |
| Newest activities updates | 8 |
| Total | 22 |

Appendix E. Example of developer diary

Diary 2022.1.22 Dev Diaries The Season of Heritage

Dev Diaries: The Season of Heritage



Trainers,

For December's Dev Diary, we've collected insights from a range of Pokémon GO staff as we head into the new year. The topic this time? The Season of Heritage! As we move into our second year of Seasons in Pokémon GO, we thought this would be a good opportunity to reflect on how Seasons have continued to change over the past year—as well as what their future might be—as we head into the Season of Heritage and beyond!



Designing a Season

Dan Thomas: Game Design

The thing I enjoy most about designing Seasons is taking the best parts of each Season and optimizing them even more for the future, while also adding fresh new elements to make each Season feel distinct from the last. Seasons give us a framework that lets us highlight different Pokémon and keep each Season feeling fresh, while also allowing us to try new things and adjust them as we learn what our Trainers like and what makes for an enjoyable Season.

Reflecting on the Season of Mischief and building the Season of Heritage

When looking at our most recent Season, the Season of Mischief, we landed on a theme that meshed well with both the time of year and Hoopa's introduction to

Pokémon GO. We found building from a central theme to be a really fruitful approach, so that's something we want to continue to do in the Season of Heritage and beyond. This Season will take Trainers through events that draw inspiration from several iconic locations in the world of Pokémon, to really dig into the concept of "heritage." For example, our first major event of the Season was inspired by Dragonspiral Tower—the oldest tower in the Unova region seen in *Pokémon Black Version* and *Pokémon White Version*! As we progress through the Season of Heritage, I look forward to seeing our Trainers traverse through events inspired by iconic mountains and other electrifying locations found in the world of Pokémon! During the Season of Mischief, we also tried out a Season-long Special Research story for the first time. We felt this was a great way to communicate the Season's Hoopa-focused narrative and also provide our Trainers with fun and exciting ways to play throughout the Season. However, we did learn a lot along the way, and we're working hard to make the next Season-long Special Research story better! In the meantime, though, we're trying a different approach with the Season of Heritage that focuses more on rotating monthly Timed Research tasks and bonuses throughout the Season.

Designing Seasons beyond

Our goal for the Season of Heritage is to create an experience that celebrates parts of the Pokémon world that many Trainers may look back on fondly, while also introducing new Trainers to these celebrated locales. As we continue to refine the Season model, I want to build ways for our Trainers to find meaningful challenges in whatever way they choose to play Pokémon GO.



Crafting a Season Logo

Jason Marino: Design

I've always loved seeing the world change through the seasons, from poolside days to sweater weather. Just as one overstays its welcome, a new one appears around the corner, bringing with it a change of pace, a new wardrobe, or some new visuals to gawk at. Seasons in games have brought that same feeling to the video game worlds I love. New in-game items, new gameplay features, and even new logos or trailers! These really move my hype bar to another level, and that realization left me sitting at my desk asking, "What can we on the design team bring to our own Seasons?" So, to get the ball rolling, I'm very excited to have had the chance to design the very first Pokémon GO Seasonal logo!

The Season of Heritage is meant to be a celebration of our past, inviting us to look back and be reminded of where we came from. It's also meant to have ties to the Johto region, as it leads right into Pokémon GO Tour: Johto. With this theme in mind, I wanted to bring a feeling of history to the logo while also hammering home the connection to Johto. The Johto region is known for its ruins and storied history, so it was the perfect location to represent. We used the flat art style, paper texture, and script writing to enforce the aesthetic we were going for. It's been a blast seeing our Trainers notice some of the clues I left to hint at what we have in store for you all. This is only the beginning as we strive to make Seasons in Pokémon GO as refreshing as they are in real life!

I truly hope this helps raise your own hype bar to go out and enjoy the game we all know and love safely. Meet you out there!

Creating a story for the Season of Heritage



Linh L: Narrative



Eric Zhang: Product Marketing



Errol Villasanta: Social Media



Eric Tobiason: Art Director

The arrival of Hoopa during the [Season of Mischief](#) presented an exciting opportunity for us to bring further meaning and definition to the Season. By using a common narrative thread in the game and our marketing, we could connect some of the in-game events occurring during the Season. With the Season of Heritage and future Seasons, we'd like to continue experimenting and expanding upon storytelling across different forms of media in order to elevate the concept of Seasons and provide another means for our Trainers to engage with Pokémon GO.

The Season of Heritage's narrative focuses on a historic site Professor Willow has discovered. The story that unfolds over the course of the Season will tie into various in-game events and eventually transform into a focal point of the upcoming Pokémon GO Tour: Johto! The Johto region is home to unique locations like Ecruteak City and the Ruins of Alph that are steeped in history and mystique, and we wanted to echo that feeling of looking to the past for answers through the mysterious locked door featured in the Season of Heritage's historic site. Throughout the Season, we encourage Trainers to follow the [threads we weave](#) around this concept of heritage as the story builds up to its climax!

As Seasons continue to expand and develop within Pokémon GO, we look forward to continuing to build upon the story of Pokémon GO to help support and elevate what Seasons mean to Trainers.



The future of Seasons in Pokémon GO

Michael Steranka - Live Game Director

Our team is extremely excited to continue refining the concept of Seasons in Pokémon GO as we move into 2022! Over the next year, we want our Seasonal themes and storylines to act as the focal point for our in-game events, social content, and more. Our goal will be to make you truly feel like Seasons bring about unique, meaningful shifts in Pokémon GO.

Each new Season is also an opportunity for us to evaluate the current state of the game and what changes and tweaks we want to make in order make it even better. In addition to focusing more on Seasons in the coming year, we also want to continue striving toward achieving our company mission and vision by encouraging Trainers to get out and Explore, Exercise and have Real World Social Interactions with other Trainers. As part of that goal, we'll be reevaluating some of the bonuses we've maintained over the last couple of Seasons—namely Incense effectiveness while stationary and increased Remote Raid damage. You may have noticed special bonuses during recent Community Day events that incentivized socializing or in-

person raids. In a similar vein, we want to encourage Trainers around the world to get out and explore by trying out different Seasonal bonuses.

We're always working hard to deliver updates and improvements that make your experience with Pokémon GO as fun as possible. We look forward to bringing you even more fun experiences in 2022 and beyond.

Until next time, thank you for playing Pokémon GO! We hope to meet you out there!

Appendix F. Interviewees list

| Interviewee No. | Nick name | Gender | Major | Age |
|-----------------|-----------|--------|------------|-----|
| 1 | Maria | Female | Waitress | 32 |
| 2 | Alex | Male | Student | 23 |
| 3 | Jackson | Male | Student | 22 |
| 4 | Johnathan | Male | Influencer | 29 |
| 5 | Sophie | Female | Student | 26 |

Appendix G. Example of transcripts for interviewee

A: Hello, my name is Haoshan Dong, and I'm really interesting in researching Pokémon GO in relation to mental health. Thank you for joining us today. How are you doing? We appreciate your time in helping us by participating in this interview. The interview is going to be about how users enhance their mental health through playing Pokémon GO. The answers you'll share will be treated confidentially, and anonymously. These interviews will be conducted among others as well. With your and their answers, we will be able to research our topic. Your experiences and opinions regarding the topic are what we would like to listen to today.

If you decide you do not want to participate in this research anymore, please let us know. If so, we will immediately stop with the interview. You also are not required to answer.

The interview will take approximately 30 to 60 minutes. We will stop earlier if you wish to, or if we have talked about all topics.

Do you have any questions before we start?

B: Sure

A: Can you briefly introduce yourself?

B: Uh, hello, my name is Alex, and then I'm a veteran Pokémon player, and then ... I've played the whole series. Including the latest switch game, which is often quite addicted to it recently. Then I've been playing since I was a child. At first, my brother played this game. I don't know how he started it, but I started it with him. Later, I just ... played it for every generation. It was a kind of belief for me, because there were some cartoons, animated TV works and so on at that time, so it was quite interesting to watch it, and then it was quite interesting to play it. It was a world outside the class at that time, and it was quite fond of me. Then I was such a child who grew up with the generation of Magic Baby. Overall, I'm more of a solitary person, playing games by myself and reading books makes me feel happy. I was often called a grungy geek by my classmates during my high school days. But after contacting Pokémon GO, I am changing. I was serious about playing the game well, but I found that I needed the help of other players if I wanted to collect the full range of partners. And in the process of helping each other, I found that I gradually became interested in the lives of other players, and the culture of the countries they live in. Now, one of my best friends is a Japanese girl I met in the Pokémon GO forums, which makes me feel much better.

A: Er, OK, so how long have you been playing? Have you played this specific Pokémon GO? Then what do you think of this game?

B: If you want to talk about this game, I still play it quite a lot. I've been playing it since the beginning of 16, but I had a break in the middle. It's been off for about a year. I

didn't play much for 17 years, then I came back to play in 18 years, and then I came back to play in 18 years. Er ... there is a let's go Pikachu and let's go Ibrahimovic. These two are together. It can link this with Pokemon GO and get some Pokemon quickly. It's quite, uh, quite efficient. Just playing this is mainly for efficiency, you know? He can catch some elves that are rare in this game from the daily life of your mobile phone. like, you can't catch them at all. You have a chance to catch them, but you can catch them in this Pakmank, and then transfer them back after catching them. Right, and then friends play more. How to put it? It's quite interesting and amazing, because it will change a lot of your daily routine. I think it's just that I really don't like to go out to the park or anything, but if you play Pokemon GO, it's just a lot of this ... this so-called punch-in point, this Pokestop, that is, there are some gym Dojo halls, which are all in some parks. Furthermore, it's a commercial shop in this, uh, shop street, and then go shopping. This kind of place is what I'm forced to do, so it's a kind of thing for me. In a word, it really brings me a lot of benefits, the benefits of playing this game. Secondly, he can let me go out for a walk, and then, yes, I'm quite happy.

A: Ah, ok, if you describe it in three words, OK, which three words would you use?

B: Then why do I think about three words? Oh, if I had to describe Pokemon GO, three words, the first word, should be vivid. Yeah, I didn't think I would use this word either, but vivid is really appropriate, because no matter what you play the game, it's on the screen, you know what I mean? It's on the screen, but if it is, it's a half-empty game space in the real world, and then it's also really positioned. Although there are some softwares that can cheat, such as you adjust your position and then go out for a walk by yourself, generally speaking, it still depends on positioning or on real positioning, including most people, and then it's quite vivid. For the first time, I can give you a treasure dream in real life, and have a communication interaction with you, but what can he say? It's still on the screen of the mobile phone, because the display of this character image is still on the screen of the mobile phone, which is a little fake, but mainly it's still vivid, much more vivid than other versions.

Then, uh, for the second word, I will choose, uh, the investment is relatively high. In fact, if you really want to treat this game as a separate game, the investment is still quite high, that is, uh, the gameplay is relatively simple, because you just catch it, and then you run, right? Then go to the next place to catch it, and then after that, that's it, right? Then duel or something is just a little bit, and then each elf is equipped with two skills. But if you want to add skills to him, you still have to upgrade him. You have to give him this, you know what I mean? I have to keep turning, that is, catch a few hundred birds a day. This kind of situation sometimes happens, so it is very difficult to carry out. I may play for more than 100 birds a day.

Oh, then the fourth and third word. What will I choose for the third word and the third word? Touched, well, I will choose to be touched, that is, I will make some friends on it, and then these friends, to tell the truth, haven't talked much. Friends are those who didn't have much chance to talk, because in Pokemon GO, he supports you to add friends, but he doesn't support your friends to talk online. This is very interesting. Then

you will keep in touch and communicate with others through postcards, and send them a small gift and a postcard every day.

Well, how do you say this? It's quite touching. Sometimes you will see some scenes that just don't know where they are. I've accepted some from Iceland, Germany, and one from Iceland is particularly impressed, because it looks very good at the photo above, and then this photo seems quite interesting. What does he mean? You scan that scenic spot, and then it automatically generates a photo during your scanning, which must be generated during your whole scanning. It's the one that the system thinks is the most beautiful one, and then it's made into this greeting card and sent to you. It really means giving a gift or something, which is more interesting and meaningful to some extent.

A: Well, OK, then let's look at some of your personal experiences, mainly based on this aspect of mental health, and then do you like to be alone? Or with someone else? Why?

B: Oh, I prefer to be alone, right, because I think everyone is different. I have my own small world, and others have others' big world. I don't particularly like socializing. I mainly talked about Pokemon today, you know? Then I can talk more, but I usually have a lot of interests. I go out to play with others, and I don't know what to play. I'm not too lazy to walk by myself, and I'm not so fond of going out. Yeah, it's mainly late, and I don't know what to do with other people. If there aren't too many of them, I don't think there's too much interest.

A: OK, so do you think it's fun to socialize with others? Or do you think it just doesn't matter, or do you feel very stressed? What do you think about socializing?

B: When you ask me to talk socially, I have no idea or feeling about socializing. Someone really comes to talk to me or something. Well, it's a little annoying, and I don't particularly like to talk, but it doesn't exclude, exclude or exclude me if I can talk.

A: OK, so how do you often socialize? That is, do you have any social activities? Although you don't like socializing, but, um, as you said, will you add some friends? Friends are enough, how do you add friends and partners?

B:

Well, generally speaking, I just search online, you know?

There is a kind of special gathering place, er, I use telegram a lot. telegram is the kind of open community online community. It's sort of, and then everyone can play parking and then have friends with each other.

I sometimes play Pokémon GO when my research isn't going well, you know, the feeling that you need to take yourself out of your rigid mind, and Pokémon GO helps me do that, he can even take me outside for a walk and take a break. But on the other hand, I don't get addicted to that world, I always get tired quickly, and even when I see

those real-life scenes on the screen, I still remember the things I didn't do. But it doesn't make me feel so irritable and anxious anymore, I can calm down and rethink the things that bother me in a relaxed way.

Just pass the friend code and add the friend code. We all don't need to talk too much. I send a code, he sends a code, adds it to each other, and then gives a gift or puts a sticker on it. It's cute, and then it's pretty good. There's not much need to talk about anything. But sometimes I have that kind. You know, I live in Rotterdam, and then I can only catch some Poké mon in Europe in the Netherlands. There are some Poké mon in Japan and North America, including Pokemon in Australia, and I have no chance to catch them, so I need to find some net friends to ask them for them. But generally speaking, I tend to buy from them, because this kind of purchase has a nature, so he talks a lot less nonsense. You know, there is no need to talk. Yes, I prefer it, that is to say, the one I play by myself.

A: Ah, that's right, so you will, um, change the topic. Do you think you will feel anxious about your life every day? Well, or under what circumstances do you feel anxious?

B: Then I really talk about anxiety, that is, my parents are anxious to find a job, or if they stay at home for too long, they will still be anxious. They still have to go to work, but they haven't found a job and don't want to find one. I feel anxious and headache when I think about it, but generally speaking, I'm fine. Yes, I'm not very anxious about this.

A: Then will you feel lost? Or is it difficult to concentrate on doing something right?

B: Well, if you say so, there is something. I haven't studied or worked for a long time, but I can't watch it. It's annoying to watch it, and there are many distractions. The main thing is, well, there are really too many interesting things than them. It's fine whether I play games or whatever.

A: Well, ok, ok, then let's talk about the third big topic, about which we can put aside usage, and then want to share some personal experiences. So what kind of role do you think these virtual little monsters are for you?

B: Pets, it's a bit like pets, especially Kodak, which I like very much. He's a shining big tooth. Alas, I'm very proud. He's really cute, and I take him out every day. Then I don't really take him out, or I set him as my companion pet. He's my little friend, and then he will follow me when I go out to catch other elves. Well, I think it's good for them to accompany me, and they won't talk to you either. Then, if you do something with them, they will give you all sigh and happiness. Little Love likes the positive feedback from the host like this. I quite like to play with them, right.

A: Oh, so do you think they play the role of friends in your life? Or a partner or companion or something?

B: I think when you talk about specific roles, they are pets and companions, but they are definitely not friends and companions, because I don't like to make friends, because I think friends mean that you have a need for him, and he has a need for you, too. But Pokemon, the pet elves, to be honest, I don't think he has any need for us, just like I left him there, and he wouldn't say anything if I starved him for three days. He It's good, no burden, no burden at all, and no need to communicate with them. Yeah, but I think sometimes they are not all so anthropomorphic. Sometimes it may be cruel for them to say so like props, but it is true. Right, because I will look at their three dimensions, that is, their attack defense and life. Er, I usually only keep the best ones, that is, all three items are full, 15-15-15, and the others may be dropped, then thrown away, well, or recycled, and turned into this candy for upgrading the strongest one.

A: But it's true. Well, have you participated in any online activities in Pokemon GO? Or do you experience all your activities by yourself?

B: Ah, these activities are all temporary online activities. You say that he experiences them by himself, which is more like his own experience. You say that he is an online activity and a group activity. He is also a group activity, that is, the kind that is available on Twitter or other factors. You organize everyone to gather in the community, then go to a place together to catch elves, and then play this kind of team battle. But to tell the truth, there has been basically no such thing for nearly a year, because it's just like an epidemic, everyone is reluctant to come out to play like this, but it's just too crowded. Well, basically, it will be to send a person to find the place offline, then initiate a team invitation, and then invite friends in the group, that is, everyone will participate in this place together, that is, whoever enters will participate, who will participate, and then who will be the leader. Then we may give him some rewards or give him some small gifts. In other words, if there is nothing for you to attend on-site activities, and then there is a Taoist temple, we should keep it together, and we don't need all of us to be there, so just put the pet electrician there, and then feed him regularly for maintenance, right? That's it. Oh, that's right.

A: OK, OK, so what kind of activities do you think you would be more willing to participate in? No matter these online or offline activities, then how does the activity experience feel?

B: I think I don't want to take part in activities that can get rare props and Pokemon, such as team warfare. I take part in more activities, and I prefer to take part in such activities. Then he will have a better time playing, because I get what I want. Moreover, although all these activities are said to be done by everyone together, in fact, there are not many requirements for asking you to contact with others. What is really necessary is to talk together or cooperate with others. Hardly. This game is different from other Poké mon games. There is no so-called three-person game or multi-person game mode, that is, on the whole, I don't think it involves any social activities that really need

one-on-one dialogue or in-depth communication. I usually play [Pokémon GO] on my way home, because then the time is relatively loose. And I j don't have to worry about some other arrangements coming up later. So I can enjoy following the Pokémon I want to capture, taking a detour to a nearby business district or neighboring community. Of course, that's why I don't usually play the game when I'm on the way to school, because [then] it may take too much time, and you know, once you start playing, it's hard to feel the time passing, and that can delay something important.

A: So finally, let's talk about this abandonment and this mental health. Er, do you think playing abandonment can reduce the stress of your life?

B: Well, for me, playing Pokemon go has no pressure in my life, but it's even less stressful when I play foam scale, because I just take a walk outside, relax, look at the surrounding environment, and then have some fun, dig a ditch, and catch the elf on it. The time passed quickly, and you wandered outside all afternoon unconsciously. It's amazing, and he ate it. Then my family will think that I have been exercising outside all afternoon or something. Just, um, everything is fine, on the whole. Right, because it's dark in this game, you will be dark in the game. Then some activity games are gone, so it's time to go home, that is, he will let you have some fixed routine at a fixed time, and then there is something that I think can bring me a little happiness. When I play games, I'm the kind of person you prefer to explore and then explore the details. Then, when I play Pokemon go, I am the same way. I prefer to look at those pictures that I put on Pokestop. I later asked for a picture to be scanned. Later, I found out that all these pictures were actually scanned and pasted by the player himself, and he was not here at first. Otherwise, he might be a local business cooperation, such as McDonald's, or Star and Buck's small shop in the community, and then the above picture was marked. It's really interesting, that is, he will have a very, very, how can I put it? The microscopic world shows me these lives, but I think life is still very colorful, that is, I thought life was boring before, but I saw it too rough, and I didn't see any interesting and wonderful places, because the wonderful places are subtle. Hmm.

A: What do you think is the difference between those social activities and other social interactions?

B: I mean there is a big difference in the inclusion of the above. No matter what social activities in other places, you need to talk and chat with others, but Pokemon GO doesn't have a fixed social paradigm, so you just do a few specific operations, even if you finish your social tasks. Then you will be asked to do some other social activities, extra social activities, such as trading elves trading yours for someone else's. Well, there are some of them, but there are few of them. Mainly, it's online based on these activities inside the game, and then he can socialize easily without any pressure. Then even if you lose contact with others, others won't say anything about you. After all, they can't say anything about you. They just want to be autistic when they are autistic, and then they want to interact with others or interact with others slightly. Then there are

many players. You can keep adding new friends and meeting new people. But if you want to meet, I don't want to meet them, so I only add their in-game friends. But once you add in-game friends, I have seen a brother who really likes socializing. He kill a number crazily in our group, and that number belongs to another player. It seems that he wants to be friends with that player. Yes, but there are also people who become friends in real life like this. They are quite cool, but I don't have this need if I say so. I really don't have this need to talk and chat. I think I'm quite happy to have my own little life.

A: OK OK, so what do you think of your friends? Do you think they have no burden on you, so their existence still means anything?

B: I don't think so. In real life, I don't think they mean anything, let alone virtual partners. We are all cooperative, and we get what we need. I give them mine, and he gives me theirs, which is basically like this. Then we all have activities, that is, collective activities, to participate in and then guard Gym together. Speaking of this, we did have a close social interaction. We met three good friends, and then we kept a Taoist temple together, that is, we kept it together every time. At that time, we hadn't moved yet, and it was relatively early. In the previous 16 years, the players here in Holland were much more special. It's almost like you are playing in your street, and someone can talk to you and say, "Alas, you are also playing this game. Let's add a friend." But now it's basically gone. Yes, it's rare now. There used to be. Then the three of us have a small group of whaapp, and then discuss some games on it like this. Because we are all loyal players of Pokemon, not only playing this game, but also having experience in other games. Then he went around the theme of Pokemon go, and then it was fine. Well, I was quite happy at that time. In fact, there were three like-minded friends who could play games together and all kinds of related games, but then they lost contact with each other. Because we moved out of different communities, we all moved to that place, and then we didn't live there. Ah, it's a pity, isn't it?

A: Then, will you feel happier with them? Or you already feel happy, but do you know why you feel happy? That's what you have to say. Yeah.

B: I think I've thought about this question. I think I'll be very happy, and the reason why I'm particularly happy is that we have a topic to talk about, that is, we all like Pokemon, but we basically haven't had anything other than Pokemon, so we'll focus on this one, because everyone is very similar in this respect. They all started to watch and play from the very beginning of Xiaozhi's generation, what red, yellow, blue, red, yellow and green, red, yellow and green at first.

Emerald, then Pearl Diamond, then Sun and Moon Sword Shield, xy Alas, it's really been a long time, that is, it's easy to talk about me when I'm with them. Tell others what they tell me about academics, what they work for, what they tell them, what their friends gossip, I don't understand, and I don't know much about it, just like I don't live in the same circle. But I will be very happy when playing Pokemon GO, because everyone

plays this one, and then there is no need to talk about anything extra. There are enough topics, because there are so many things, and we can talk about many, many, many hidden settings, all kinds of wonderful opportunities, etc., and then include the experience of playing Dojo and matching moves, because as a whole, it is very simple to play back the mechanism with four skills. But if you want to win, it's really difficult, because he has too many skills, so how to allocate his skills, including some personality and race values behind him. These things are worth digging, and there are too many things worth studying carefully. Then everyone has been doing this all the time, so it's a topic to talk about and a sense of existence. I think it's about the same situation.

A: Oh, so I want to ask you, are you satisfied with this Pokemon GO game? And does this game make you feel less lonely?

B: Well, I don't think anyone will feel lonely when playing this kind of games. Well, it's ok, but it's relatively good. Yes, it's just so-so, because it doesn't allow some so-called NPC characters, and you run on the map. To be honest, it won't be displayed on your map if you run past and are the same as you. Well, if it can be displayed on your map, and you can see other players, well, it may be a dangerous thing, but he has a lot to say. It feels good, and it really feels like everyone is playing together, because this game may still have some privacy concerns, and I don't want to know where I am when I'm playing, but if I look at it in a treasure dream world view, if there are no trainers running all over the world. So, um, he's really good at socializing with me. He doesn't really want to socialize on it, but he does let me go out often, and I exercise more. Well, I'm happier than before. I've absorbed more sunshine, gained vigor, and then I'm more satisfied with my life, because I've found many wonderful points in my life. As I said earlier, that's all for the whole.

A: Are there any other things you would like to add to this conversation?

B: Nope

A: Thank you for your time, and your participation in this research. This interview will be transcript and compared with the other participants, however, your answers will be treated confidentially. The key points which we derive from this will be discussed in a research report. We hope you've felt understood and listened to.

If you know any other Pokémon GO users who would like to participate in this research as well, please let us know. We would like to provide you with our contact details, so you can reach us at any time. If you have a question, feel free to contact us. Have a good day!

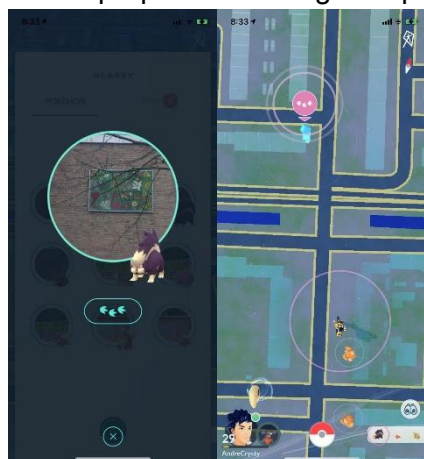
Appendix F. Example of field notes

Date 06.02.2022

I got up this morning and went out before I could open the game. I had to rush to the supermarket in Alexandra to buy special products. After getting on the bus, I received postcards from other countries, sharing the scenery in their eyes and making me feel that today is another day full of hope.



On the way, I missed a rare monster. Before I could make it my partner, it ran away. It's so sad. I stopped by to visit some PokéStop, but I couldn't succeed because I was sitting on the bus too fast. Therefore, I decided to walk home from the supermarket. These props for catching new partners were missing in my backpack.



Near the supermarket, my eggs hatched, and at the same time, I caught a lot of monsters and turned them into candy for my partner's upgrade and evolution.



I walked back along Route 6, and in order to get more props, I wanted to visit more PokéStop, so I chose a route that I didn't take very often. I suddenly found that there were such avant-garde red sculptures in my community and an apartment consisting of a low-rise building.



At night, I opened the game, captured monsters around the apartment, and looked at monsters in nearby communities. After finding no object I wanted, I closed the game.

