

The Research on the AR Technology Leaps and Bounds to Increase Pokémon GO's Attraction to Players

Lingzhi Guan^{1,a,*}

¹School of Communication and Information, School of Art and Science, Rutgers University, New Brunswick, New Jersey, 08901, The United States

a. lg740@scarletmail.rutgers.edu

**corresponding author*

Abstract: In this age, with the development of technology and society, video games have gradually entered people's lives, this not only become a way as an entertainment to help people to relax, but also becoming a new way to learn about innovative technology as a part of study. As the technology becomes more and more innovative, there are more and more video games use high technology, such as AR games. This paper will introduce one of the AR games - Pokémon Go. This game has achieved certain breakthroughs in terms of technology, creativity in content, and interaction between players. More importantly, this game is an immersive video game developed in cooperation with Google map, giving the players a new and authentic experience/ When this game was released, it was very popular, and the popularity continued to rise. This paper will demonstrate why Pokémon Go is attractive around its uniqueness, its contribution to people's health and its contribution to society.

Keywords: Pokémon Go, AR technology, Increase, Attraction, Players

1. Introduction

In this age, following the technology and modern society's development, this is a digital age. There are a lot of innovative technologies, such as AR, VR, AI and so on. The most representative technology is AR, this gives people an immersive experience. There are also a lot of AR video games, the following game is the representative work of AR video games: Pokémon Go. This is a collaboration between Niantic and Nintendo and Pokémon Company. The game can be operated with both mobile phones and Switch devices. The player can create an account, and then the player's geographic location will be displayed on the game's map, and whether there is a cartoon elf is detected. When the player finds it, the elf can be captured. When the player moves in the real environment, the map in the game will also detect the real-time position of the player, and in the game screen, the player will also move accordingly. The prototype of this video game comes from the cartoon Pokémon from Japan, and the cartoon sprites in the game are all from the prototype of this cartoon. The concept for the game was conceived by Nintendo's Satoshi Iwata and The Pokémon Company's Tsunekazu Ishihara in collaboration with Google's April Fools' Day in 2014 and saw the game's concept as a perfect match for the Pokémon series [1]. Niantic uses crowdsourced data from Ingress to populate the locations of PokéStops and gyms in Pokémon Go, data from Google Maps to spawn specific Pokémon on certain terrains. In 2016, the game was first launched as the first virtual reality

video game in history, after the Pokémon Company cooperated with Google map, the game can accurately locate the real-time location through GPS, allowing the player to see within the field of view and see the cartoon sprites the players can catch. As the players move around the places the player lives and visit, the player's smartphone will vibrate to notify the player when a Pokémon is nearby. After encountering a Pokémon, aim at the player's smartphone's touchscreen and throw a Poké Ball to catch it.

This virtual reality video game was very popular when it first launched. At the time of its new launch in 2016, the game was one of the most popular mobile games. As of the end of 2016, the game has surpassed 500 million downloads worldwide, and the game has more than 147 million monthly active users. By May 2018, by the beginning of 2019, the global download volume exceeded 1 billion times, and by 2020, the total revenue will exceed \$6 billion. Pokémon Go is a video game that give people immersive experiences and track everyone's location. It is the connection between people's virtual life and real life. They can be socialized and travel far away from their home. When people start to play it, they will have a different feeling as any other video games, when they began to go out and go around with anywhere, they can see any different cartoon sprites, when they go everywhere and see different cartoon sprites' character, this is a new experience and cognition for them.

2. Literature Review

The researchers created a short assessment tool to assess Pokémon Go gaming motivation based on prior motivations for playing online games Constructed from the background findings [2]. They investigated how gaming motivation affects the effectiveness of gamification of outdoor physical activity through the Pokémon GO mobile game. It turns out that more Pokémon Go playtime is spent outdoors. Pokémon GO players with stronger health motivation will play more and maintain higher levels of health behaviors. of men are also more likely to spend time outdoors because they play more and enjoy sports. Older participants were less physically active, suggesting that age had a significant overall negative effect on their physical activity. This result shows that Pokémon Go is a game that allows players to gamify outdoor sports through mobile devices. The author Lasse Juel Larsen and Gunver Majgaard used the example of Royal Library Garden to state that the large number of players and the high level of activity provided by Lure transform the modules on PokéStops from a single attitude to group play, so that it's an experience where players can live together in the game's magic circle while socializing with other players. Here, players can move seamlessly between social, game, and story frames to discuss everyday things at the same time, speeding up player agency and post-game engagement. Design changes enhance the social aspect of the game [3]. Lea-Christin Klaas stated that the immersion in the game is arguably Pokémon Go's greatest strength. The game allows players to seamlessly switch between virtual and reality. So, they don't need to worry too much about being pulled out of the game by outside influences. Games can also be easily integrated into daily activities, as Pokémon can be captured anywhere on the way running errands or on the way to work. Even if there are a lot of people do the research about the connection between Pokémon Go and the video game that people who need to go outside to play it, the author compare between male and female, also compare old people and young people, it let the research become more accurate. Also, there are a lot of people to research about Pokémon Go can let people connect each other and more and more close, but the authors used a specific example to claim that Players are always looking for the ability to trade Pokémon. It wasn't until recently that this option was implemented in Pokémon GO. It might seem like a trivial thing to add a trading option, but it's not. It forces players to meet. It let the reason why Pokémon Go can let people become more socialize become more specific. Lea-Christin Klaas listed the specific game rules to talk about why this AR video game can give people immersive experience [4]. In Pokémon Go, players can and must move as freely as possible. What the game does is place Pokémon in different locations. When the player gets close enough to these

locations, the player can see the Pokémon on the map and walk to them [5]. By doing this, the game can recommend at most one direction. When the player cannot see the Pokémon on the map during gameplay, his navigation is completely unaffected. People like to play this game for three reasons: 1. Let people go out to play it, increase exercise for players, good for their physical situation. 2. Let people become more socialized 3. Let people have the immersive experience. Pokémon Go is attractive for players become more and more pursuable. For the purpose of attraction, the paper will explore those three factors about the reason why Pokémon Go is attractive for players.

3. Methodology

After the observation, this game has three main features that are very attractive to players. First, whenever the players open the game, it always has its uncertainty, because the time and place where each sprite appears is random. As a result, no matter when or where, people will never know which spirits will appear around them. Even if players are in the same place, but at different times, the pixies that appear will never be the same. Second, this is not a “Krypton Gold Game”, people don’t need to spend money to play this video game if they want to play it well. They just need to get the tools when They can get tools through this game’s bonus system. It is different with most video games; the players usually need to spend money to get tools or advanced their equipment. In Pokémon Go, the players don’t need to spend money. Finally, there is the interactivity of the game. When the players collect enough elves, the players can exchange elves with others, and the player can also play against others to win more rewards.

4. Results

The first point, uncertainty. Here is an example. In a player’s room, there are four sprites around the room when the player opened this video game, “Weepinbell”, “Lunatone”, “Tangela”, “Dunsparce”. It was 8.45 p.m. in that time. In the second day, it was still the same time. However, there are three different sprites around this player’s room, “Pikachu”, “Ditto”, “Frillish”. There was the same place, but with the different time, the sprites that the player met in the Pokémon Go were totally different. It showed that this video games’ uncertainty. If the time is different, the sprites that the player met will be different even if the player is in the same place. The players can just catch different sprites in their room if the time they catch is different. The second point, the bonus system, there is a player who had run out his Poké Balls. There are two options, one option is that spending 3 dollars to buy 100 Pokémon Coins to buy the Pokémon Ball [6]. The other option is that finding the designated gym, that is, a designated landmark in a surrounding environment to get the Poke Ball, which is a ratable component used to receive in-game items. It contains not only Poké Balls, but other items for rewards. So, if the player finds the designated gym, the players can get the designated Poke Ball without spending money. So that usually, the player can just find the Poke gym to get poke ball instead of spending money to get it [7]. For the third points, interactivity. There is player was playing Pokémon Go, when his classmates saw that, and asked them to exchange his sprites. The players were so glad to agree with his classmates and exchanged them together. Later, his classmates invited him to battle together in this video game, which is fighting with a “big Boss” together, and then get the bonus. With their common agreement, they found a place to fight with a big Boss together. When they got victory, they got the friendship each other. It shows this video game’s strong interactivity.

5. Discussion

AR technology can make games have a new experience. Pokémon Go is a 2016 augmented reality (AR) mobile game, part of the Pokémon series, developed and published by Niantic in partnership with Nintendo and The Pokémon Company, for iOS and Android devices [8]. It uses a mobile device

with GPS to locate, capture, train and battle virtual creatures called Pokémon that appear as if they were in the players' real world. The game is free; it uses a free business model combined with native advertising and supports in-app purchases for additional in-game items. When the game first launched, there were about 150 Pokémon species, which will increase to about 700 by 2021. The profit model for Pokémon Go has changed. Pokémon Go game is free. This attracts more players to participate in the experience. While experiencing happiness, they are very happy to buy in-game props and AR products. This not only promotes the development of AR technology, but Pokémon has developed more AR game products, while reducing the price of AR game products, attracting more players to participate. This positive business cycle promotes the further development of Pokémon game products. This model is a bit like the sales model of printers and ink cartridges. The price of the printer is not expensive, which attracts customers to buy it. Once a customer buys a certain model of printer, the only way to keep buying this model of consumable ink cartridges. Most of the profit points for printer manufacturers are in the ink cartridges. Geoffrey Alan Rhodes claimed that "the game has conclusively demonstrated the power of digital technology to capture imaginations and create an engaging platform from little pieces of information that come together in a digital-physical ecosystem" [9].

In November 2018, game Freak developed a game inspired by Pokémon Go, Pokémon: Let's Go, Pikachu! and "Let's Go, Yiyi!" released on Nintendo Switch [10]. The game will feature Pokémon Go style catch with Joy-Con, with integration between the two games. Additionally, the new Pokémon Melton was released in September, becoming the first new Pokémon to be released via Pokémon Go. On October 10, 2018, The Pokémon Company and Niantic announced plans to bring Pokémon from Diamond and Pearl to Pokémon Go. On October 12, Niantic released a fourth-generation game that will be coming to Pokémon Go [11].

In the paper "Pokémon Go, go, go, gone?", the scholar Tom Baranowski stated that Pokémon Go capitalizes on the prevalent ownership of smartphones with continuous video imaging capabilities, the broad-based appeal of the Pokémon characters, and geocaching. Supplementing the real world with computer imagery allows players to become immersed in a videogame 2, thereby increasing their emotional investment as they navigate physical environments to find and capture Pokémon and requiring them to be physically active. Games that elicit PA have been called Active Video Games (AVG) [12]. In such an immersive experience, AR games can make people feel the game more with immersive experience and reality and immerse themselves in the game. According to the paper, "Why 'Pokémon GO' Is the World's Most Important Game".

The scholars JV Chamary stated that "Through gamification, Pokémon GO gives extra reasons to explore green spaces. As the cartoon theme tune said, the main aim is to 'catch 'em all!' But with hundreds of different 'species' available, the chance of finding the ones the players need can be low, and whether a given Pokémon is common in the player's area depends on geography" [13]. When this video game has connected player's geographical position, it caused that what kinds of sprites the player can catch not only depend on what area are the players in, but also depends on the weather's situation that it is raining when the player begins to play Pokémon Go, there will be some sprites that is the drainage system. There are some specific areas that can produce some infrequent sprites. For example, in Australia, this is a sprite looks like kangaroo, this sprite just exists in Australia because kangaroo is the presentation of this country.

Through the innovation and marketing layout of Pokémon GO content. It can be analyzed that the Pokémon company has summarized the highlights of Pokémon attracting players. The Pokémon Company attracts more players by constantly innovating highlights. It can be speculated that soon, the Pokémon company is likely to launch Pokémon entertainment products that go to the moon or Mars to explore new species. The experience of the moon and Mars can be experienced on Earth through AR technology. Once this Pokémon version of the game is launched, it will be very popular.

People usually have an idea that they are learning by playing and learning by playing. The players can learn a lot of science by playing Pokémon games, learn about geography beyond Earth, and experience the mysteries of space travel, after all, very few people can go to the moon or Mars. AR technology underpins the innovation of Pokémon game products. Pokémon Go is a gaming product. As an important feature of the game is to be attractive. AR technology just makes games more engaging. Only continuous innovation of Pokémon game products can attract more players. At Comic-Con 2016, Niantic founder John Hanke announced the appearance of three team leaders: Candela (Team Valor), Blanche (Team Mystery), and Spark (Team Instinct). Hanke says about 10 percent of the game's ideas are implemented. Future updates, including adding trades, more Pokémon, the implementation of Pokémon hubs in PokéStops [4]. AR technology treats gaming as a sport, rewriting the notion that gaming is detrimental to health [14]. Of course, things have two sides, just like a coin has two sides. Players of Pokémon Go play at religious places of worship, as many Poké gyms are located there [15].

6. Conclusion

Pokémon Go was just an augmented reality (AR) mobile game in 2016. But it is a fusion of technological innovation and creative innovation. Pokémon Go represents the direction the game is going. Game products must keep up with the development of the times. The emergence of AR technology has injected impetus into game products. AR technology treats gaming as a sport, rewriting the notion that gaming is detrimental to health. The creativity of the game is the vitality of the game. The creativity of the game can change the original properties of the game. Gaming is no longer entertainment; it is also a way of learning. The Internet has changed the concept of time and space. Pokémon Go brings people from all walks of life together to play and enhance learning and communication. Pokémon Go has had some positive effects, also known as the game's "social media phenomenon." This phenomenon has been criticized by some religious leaders. But if it is actively guided, AR game products will be rejuvenated and generate stronger positive energy.

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