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Case Study on Pokémon GO - Motivation for Playing Mobile Casual Games

A Media and Convergence Management related Research

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Thanks to my family.

And a very special thanks to Mike,
for his incredible support and motivation.

Also thanks to Fred.

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Abstract. In the summer of 2016 the mobile app *Pokémon GO* celebrated immense global success. People across varying age groups played the game in cities, at places of work, schools and other public places. But what is the user's motivation to play mobile casual games such as *Pokémon GO*? Could it be simply to pass time, to improve the user's mental state or perhaps something different altogether? To answer this question, this study delves deeper into the history of (mobile) casual games and explores different theories on motivation. In addition, four *Pokémon GO* users were interviewed to determine the reasons they choose to play *Pokémon GO* and mobile casual games in general. To determine whether the game had an impact on their mood they were asked to share their current mood within the context of the arousal and valence model before and after playing *Pokémon GO*. The research revealed that *Pokémon GO* is a unique case study as the primary motivations to play the game were the nostalgia factor, passing time and social interaction with other users while the arousal and valence experiment revealed a minimal impact on the mood of the users. While this study touches upon selected aspects surrounding motivations to playing the game, it provides an insight into the reasons people play mobile casual games. However, there remains scope for expansion and further research, particularly within the context of *Pokémon GO's* success due to nostalgia which is not applicable for most other casual games.

Keywords. Pokémon GO, casual games, mobile games, nostalgia, motivation, arousal and valence, flow theory, Maslow's pyramid, grounded theory, kill time, social

Zusammenfassung. Im Sommer 2016 faszinierte die App *Pokémon GO* Millionen von Spielern auf der ganzen Welt. Auch heute spielen Menschen aller Altersschichten *Pokémon GO* in der Stadt, der Schule, der Arbeit und anderen öffentlichen Plätzen. Aber was motiviert Menschen mobile Unterhaltungsspiele, auch Casual Games genannt, wie *Pokémon GO* zu spielen? Sind es die zu überbrückenden Wartezeiten, der positive Einfluss auf das Gemüt oder doch ein anderer Grund? Um eine Antwort auf diese Frage zu finden, wurde in dieser Masterarbeit ein Blick auf die Geschichte der Mobile Casual Games und den verschiedenen Motivationstheorien geworfen. Dafür wurden vier *Pokémon GO* Spieler zum Thema Casual Games, *Pokémon GO* und ihrer Motivation befragt. Anschließend wurden sie gebeten, mithilfe des Arousal und Valence Models ihre Gefühlslage vor und nach dem Spielen grafisch festzuhalten. Die Auswertung hat gezeigt, dass die Hauptgründe Zeitvertreib bzw. Langeweile, nostalgische Gefühle und der soziale Kontakt zu anderen Spielern sind. Das Arousal und Valence Experiment zeigte nur geringe Einflüsse des Spielens auf die Gefühlslage. Obwohl es sich hierbei nur um eine kleine Forschung handelt, lässt diese dennoch Einblicke in die Beweggründe des Mobile Casual Gamings zu. Dennoch sind einige Dinge unklar geblieben und bedürfen weiterer Forschung. Auch hat sich gezeigt, dass *Pokémon GO* ein Spezialfall und nicht mit anderen Casual Games zu vergleichen ist, da die Marke *Pokémon* von vielen aus nostalgischen Gründen gespielt wurde und immer noch gespielt wird.

Stichworte. Pokémon GO, Casual Games, mobile Spiele, Nostalgie, Motivation, Arousal und Valence, Flow Theorie, Maslow'sche Pyramide, Grounded Theory, Zeitvertreib, soziale Kontakte

1. Introduction

In the summer of 2016 there was a big hype with an app called *Pokémon GO*. It was a game about catching so-called “Pocket Monsters”. The aim was to find as many *Pokémons* as possible, train them and to fight with them against other players. Every second friend of mine was playing this game so there was one question popping up in my mind – Why are they playing this game so enthusiastically? What motivation exists to spend hours with catching digital animals?

Trying to understand this hype means to go back much further into gaming history. My research is based on games that are called *casual games*. There is a broad use of the term *casual game*, as a game which you can play for a short time, more a kind of a level-based game, to kill time or just to have fun. Comparing this definition with *Pokémon GO* already shows, that this definition seems to be outdated as most of the *Pokémon GO* players seem to invest several hours of time to play this game. Moreover, *Pokémon GO* is not a level-based game in the sense of the above definition.

This paper aims to figure out what are *casual games* nowadays and *What are the reasons or rather the motivation of users for playing casual mobile games?* This is the research question that needs to be answered with using *Pokémon GO* as case study.

The first chapter of the paper gives a definition for *casual games*. One key definition will be given by Jesper Juul. In his book *A casual revolution* (2010) he tried to revolutionize the classical definition of *casual games* of being short-time based and only entertaining games. However, this chapter will also present other definitions for *casual games* to underline the difficulties of giving a true and valid definition for this kind of games. In connection with *casual games* a definition and differentiation of *gamers* will also be given. Also, the common differentiation of *casual gamers* and *hardcore gamers* has changed throughout the years.

The next part will discuss the definition of *mobile (games)* as *Pokémon GO* is a mobile game, designed for smart phones and tablets. Moreover, this chapter will go back into gaming history and show up how *mobile games* have developed further from *Nintendo* consoles until such time as smart phones with their mobile applications have captured the gaming market.

The last chapter of the first part will introduce *Pokémon* and *Pokémon GO*. Invented in the 1990s *Pokémon* was one of the most popular mobile games, played on the *Nintendo Game Boy*. About twenty years later *Pokémon* celebrated its successful comeback with *Pokémon GO*. So this section will also deal with the question which role *Nostalgia* has in relation with *Pokémon GO* as most of the players grew up with *Pokémon* and played it when they went to school.

The second part of the chapter will focus on the reasons for playing games in general. On the one hand it will discuss the definition of *motivation* and present different concepts of motivation. The *arousal and valence* theory tries to dig deeper in the role of emotions and their relation to the level of activation during the game.

Another important concept to mention is the *flow theory* from Csikszentmihalyi (1975). He figured out that when the skills of a person meet with the challenge of a certain activity, this person gets in a so-called *flow state*. This is the state when people for example play a game and completely lose the feeling of time.

The last part of this paper will be the investigative part. The research is divided in two methodologies: the first will be a qualitative interview with *Pokémon GO* players, talking about the game itself, why they are playing it and trying to figure out which gaming behaviors they have in general. In the second part the participants were asked to define their current arousal and valence status, then playing *Pokémon GO* and afterwards defining their arousal and valence status to determine whether the game had a positive impact on their emotions. The second part also included a participative observation that revealed some additional findings to the interviews.

Finally, the paper will discuss the findings of the interviews, the results of the arousal and valence experiment, as well as the participative observation and will give an answer to the research question, *What are the reasons or rather intentions of users for playing casual mobile games?* Last but not least there will be a short summary and suggestions for further research on this topic.

It must be noted that this thesis has been written for achieving the master degree of the studies “Media and Convergence Management”. The main goal of these studies is to focus

on the convergence in our daily life, especially the convergence of media, economics and IT. Therefore, I felt I must cover theoretical backgrounds from those different disciplines. Additionally, as this research is talking about motivation and emotion, some concepts from the fields of psychological will be included as well.

Note that this research is not aiming of being representative, as the sample is too small. But it can give a basic idea and further suggestions into why casual mobile games, especially *Pokémon Go*, are so popular and how they could influence the user's emotions, due to the exploratory mature of the applied method.

2. Casual Mobile Games – An attempt for a definition

As already mentioned in the introduction, the definition of *casual games* has evolved over the years. Also the platform on which users played these *casual games* has transferred from the popular *Nintendo* consoles to the point of our handy, multifunctional smart phones. This chapter will try to create a definition for *casual mobile games* by investigating different approaches about *casual games* and *mobile games*.

2.1. What is a game?

Before we can talk about casual games it is essential to look at the definition for games in general and to make a journey through video game history. Jesper Juul (2008) dealt with different definitions for (playing) games and finally came up with a new definition for games:

A game is a rule-based formal system with a variable and quantifiable outcome, where different outcomes are assigned different values, the player exerts effort in order to influence the outcome, the player feels attached to the outcome, and the consequences of the activity are optional and negotiable. (Juul, 2008, p. 31)

Juul describes six different characteristics that should be available to constitute a *game* (see Image 1). Firstly, a game must ensure certain fixed rules that are valid for everyone who is taking part in the game. This is an essential characteristic so there is no chance to argue about any unclear situation during the game. To accompany the rules, games must offer different outcomes – depending both on the rules and the players of the games. Juul mentions tic-tac-toe: Once the player has realized the system behind the game or rather its rules, there will be no variable outcome anymore because the player will always win the game. A child might not understand that there is a system behind winning tic-tac-toe, so it will always place the first piece on a different spot. Hence, the outcome will be different in each and every round – the child might win or lose. And quantifiable in this context means, that in certain games, you will get points rather for collecting specific items or making special moves as opposed to just playing in a tactical manner. (Juul, 2008: pp. 32-33)

The third characterization of a game is the valorization of the outcome which means that, as previously alluded to, depending on what action is taken in the game, the outcome will be different. For example, if a player does not perform a specific move in the final stage of a

game or the final level, also known as end-boss level, you might die. But if a player knows which action to take the chances of completing the level is increased. The valorization of the outcome is a very important aspect as a game will only be successful if a challenge is presented (see Flow Theory, chapter 2.6.3). The outcome is influenced by the player's effort. Depending on the player's activity the outcome of the game will change. Also the so-called attachment of the player is a key part of a game. One player might be happy with the outcome; another will play the level again because he/she has not reached every available achievement within the game (for example in *Jelly Splash*). (Juul, 2008: pp. 34-35)

Juul describes "negotiable consequences" as the sixth feature of a game which builds the bridge to real-life consequences, like time and energy invested in the game but also injuries can be such consequences. But Juul underlines that in some games, especially in sports, this border between harmless injuries and life-threatening injuries can be crossed quickly. This leads Juul to the conclusion, that games are only games as long as the player has a certain control over these consequences. (Juul, 2008: pp. 35-36)

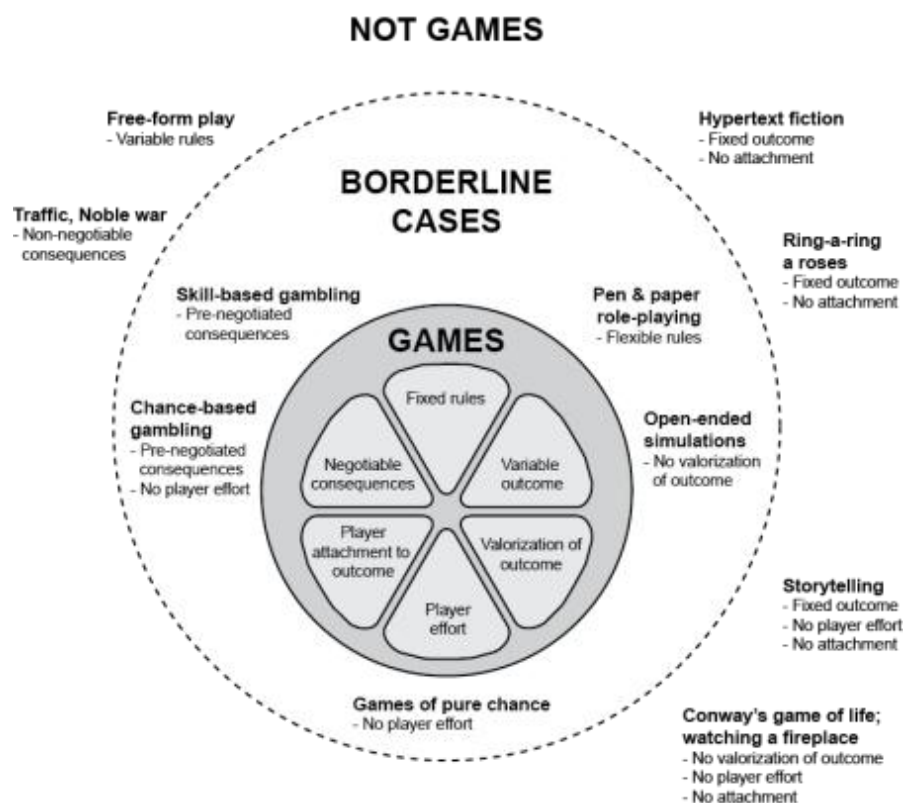


Image 1: The classic game model by Jesper Juul (2010)

As it can be seen in Image 1, the six mentioned features must apply to constitute a classical game. Games based on gambling, both skill-based and chance-based, pen & paper role-playing games, games of pure chance and open-ended simulations are borderline cases.

2.2. History of Video Games

The following chapter gives a brief overview on the history of video games, to understand where the idea for video games and its success comes from.

It must be stated, that there is no clear beginning or a certain game that can be seen as the first milestone in video game history, but the start of the gaming phenomenon can be traced back to the 1960s, when pinball machines and board games were extremely popular. Also text-based fantasy role playing games like *Dungeons and Dragons*, where players had to use their own imagination, enjoyed varying levels of success. During that period, the first forerunners for computers with very limited storage but with an extraordinary high price were available. At the time several people from various backgrounds started to invent the first kind of video game for different reasons. Without knowing it, one of the first pioneers was Willy Higinbotham who invented the *Tennis for Two* in 1958. His intention was to present something exciting for the visitors of the open day of the company where he was working. Therefore, he used an oscilloscope and made it possible to shoot a ball from the one side to the other. In contrast to other inventors like Steven Russell, Ralph Baer and Nolan Bushnell, it was not his intention to set the basis for a video game, as it was also not possible to score the points. He had also not patented his invention. (Malliet & de Meyer, 2011, pp. 23–24)

Just four years later Steve Russell, student at the Massachusetts Institute of Technology, wanted to invent something to entertain people. He invented a game called *Spacewar*, which was unfortunately only available for the PDP-1 mainframes at the MIT. The idea for the two-player game was to fly spaceships while not getting destroyed by the black hole or the opponent. People believe that *Spacewar* can be seen as the first video game because it was intended to be a video game and it was possible to play it on a digital device. (Malliet & de Meyer, 2011, p. 24). Another four years later Ralph Baer, an engineer, thought about a machine that would allow people to play games at home. The basic idea was to connect the machine to the television, so it was possible to play it on the screen. The game was a hockey simulation and was very similar to Higinbotham's *Tennis for Two*. Baer's invention can be seen as the first video game console for home usage. Baer also had the idea to make the games available via television cable, but the cable providers were not interested in that idea. (Malliet & de Meyer, 2011, pp. 24–25)

Coincidentally, it took another four years until the next inventor attempted to achieve success with video games. Nolan Bushnell, later the co-founder of Atari, wanted to re-invent the pinball machine by re-inventing Russell's *Spacewar*. His game was called *Computer Space* and was nothing new in terms of ideas but his vision was to have *his* machines instead of the old fashioned pinball machines, making them widely available and to be able to monetize them. (Malliet & de Meyer, 2011, pp. 24–25)

The years went by and video games celebrated their huge success in the mid-seventies. As already mentioned, Bushnell established the video game company Atari and was successful with games like *Pong*. They were clever enough to have some very strict license politics in place, which limited the number of successful competitors. One could say that Atari even held a monopoly in the arcade game industry. Arcade games in the seventies and eighties had the characteristic to be easy to learn, but hard to master, so you had to play the game again and again, investing one penny after the other - that is why they were also called Penny Arcades. Although this concept was quite successful, several companies were interested in establishing their own home consoles. Baer's home console attracted interest from Magnavox, an electronics company. They bought a license and launched the *Odyssey* home console. The home console was well received, but was missing features like sound or colors. Moreover, due to the limited hardware it was not possible to play any other games than the integrated ones. Two years later, in 1972, Atari also wanted to position themselves on the console market and launched the *Home Pong*, which was nothing more than a similar console to the *Odyssey*. In 1976, two consoles brought the next technical breakthrough: the *Channel F* (by Fairchild) and the *Studio II* (by RCA). Those consoles allowed the user to play non-integrated games as well, as the language used for the games could have been easily stored on external mediums. Once again Atari jumped on this bandwagon and launched the *Atari 2600*, which followed the same idea than the *Channel F* and the *Studio II*, the difference being its increased popularity and status over its competitors. (Malliet & de Meyer, 2011, pp. 25–27)

Those consoles however, had just a short-lived success. There were only a few types of video games and most of them were *Pong* clones, as the technical possibilities and hardware were very limited. Many inferior video game clones flooded the market; everyone wanted to occupy a of the market. This resulted in a big crisis around Christmas in 1977, the so-called

Video Game Crisis in the United States. At that time the European market already had its own home PCs and the Asian market had its own consoles (*Famicon* from Nintendo). Many companies disappeared from the market as there were too many home consoles but not enough variety in games. Atari was one of the few companies that survived thanks to their innovative and new games that they published. In 1978 new companies, especially Japanese companies conquered the US market. On the one hand there were many new and successful games from Japan like *Pac-Man* (Namco), *Donkey Kong* (Nintendo) or *Space Invaders* (Taito). On the other hand, there were Japanese companies that were both successful with their consoles and their games, like Nintendo with the *NES* and *Super-NES* in the late eighties and early nineties, soon followed by the first handhelds like the *Game Boy*. In 1994 Sony re-invented the home console and established 3D graphics, better data carriers with more storage and new games for different target groups (for example games with higher complexity). Microsoft followed with the *Xbox* just a few years later. (Beil, 2013, pp. 8–10; Malliet & de Meyer, 2011, pp. 27–30). As this thesis is focused on mobile games, especially mobile games on smartphones, you can read more about the historical progress of mobile phone games in chapter 2.3.1, History of Mobile Games.

2.3.Mobile Games

Over the last two decades the definition for *mobile games* has completely changed, notably due to the development of the smartphone and tablet sector. One of the starting points of *mobile games* was the Nintendo Game Boy, a small handheld device on which games could be played. The Asian market soon understood that this type of game would be the key to the mobile gaming future. These handheld devices were only the beginning and next to the new generations like the Nintendo DS or the Playstation PSP, the Asian industry started to develop mobile messaging services like *Kakao*. Similar to Social Games of Facebook nowadays, there was a big rise of In App Games of these messaging services.

In Japan there was a mobile phone, called *i-mode*, that had been developed to not only make phone calls, but to access the internet and the specific *i-mode* apps. Convergence of new technologies made it possible to develop the phone from just using it for calls, to using it for entertainment. Even if it is obvious that this was the beginning and successful rise of the *mobile games*, it took a long time until these games have been categorized as *casual games*, do Hjorth and Richardson (2014, pp. 30-34) claim. In fact, when taking a closer look at the history (see chapter 2.3.1) it was a hard task for developers to produce *mobile games* for mobile phone devices. The launch of the iPhone paved the way for *mobile games* into the mainstream, with a market share of more than 40 percent (smartphone plus tablets, see Image 3).

In this paper, for the definition of *mobile game*, a differentiation needs to be established between handheld consoles like the Nintendo Game Boy or the Playstation PSP and (smart)phones or tablets. When talking about *mobile games* in the following sections it's always meant to be games that are played on smartphones or tablets. This is the reason why the next pages are dedicated to the history of mobile phone games, with *Snake* on the Nokia phone as its origin.

2.3.1. History of *Mobile Games*

As mentioned in chapter 2.2, History of Video Games, the mobile gaming market already started to flourish with the Nintendo Game Boy. In 1997 the game *Snake* was integrated on the Nokia 6110. It was a very simple game allowing the player to use the phone's keypad to direct a permanently moving snake up and down or left and right. This game is seen as the beginning of the most pervasive form of gaming, as mobile phone owners would carry their devices with them at all times. With the release of *Snake II*, Nokia reached about 350 million gamers. 1997 was a very important year in mobile game history as not only did *Snake* celebrate its huge success, the WAP forum (short for Wireless Application Protocol) also published WAP which allowed players to choose their preferred games and download them directly to their device. This also made it possible to store them on the internet and adapt the content. Moreover, it was now possible to play multiplayer games and connect the devices.

(Osborn, 2014, pp. 3-4)

However, at the time, due to the existing devices on the market it was not possible to gain a higher user experience – no touchscreen, no color and the lack of proper hardware. In 2001, Java presented the J2ME, an environment for applications, which supported color displays and introduced the next phase for the quality of games. A lot of famous games such as *Sonic the Hedgehog*, *The Prince of Persia: Sands of Time* or *Splinter Cell* made their way onto mobile devices. But the mobile game market was still suffering from the lack of technology, too many varying screen sizes and multiple keypad types. Big mobile operators like T-Mobile made a cut in terms of revenue, which made it even harder for developers to create high quality mobile games. In 2003 Nokia tried to stop this declination of the mobile game market by introducing the N-Gage, which was a mix of a mobile console and a phone. It was a pioneer device in terms of Bluetooth based multiplayer and digital distribution but was failing in both, being a console as well as being a phone. Critics claimed it was only possible to make “taco holding” phone calls, besides the fact that it was necessary to change games physically. (Osborn, 2014, pp. 5-6)

All that was missing were tools that developers were longing for, and Apple provided. 2007 was a milestone in mobile game history. Apple announced the iPhone and with it the long expected support in terms of tools and technology. It offered a large screen with a touch

interface, which allowed more controlling options than the numeric keypad could offer. Developers could offer their games in the App Store by paying a small fee and a certain amount of their profits to Apple. One example was *Angry Birds*, launched in 2010. The game was developed by a small team and earned millions of dollars. Within a few years, the mobile app market rocketed from 500 apps to more than 200,000 apps. It would not be long until Google and Microsoft also jumped on the bandwagon and offered their own app stores (Android Market and Windows Phone Market). (Osborn, 2014, pp. 7-8)

Soon the first boom was over and players were not happy to pay much money for the offered games in the App Stores. This saw prices begin to fall and developers had to find new ways to generate revenue. One very successful way was to invent the Freemium/Free2Play or in-app purchase. Players could download the apps for free and buy useful (or necessary) items inside the games. One other way to drive revenue was the inclusion of advertising (more details see chapter 2.5.1.3). *Clash of Clans* or *Candy Crush Saga* is a successful example of free games, which raised their revenues enormously with in-app purchases, released in 2012 the game is still in the top 5 games in July 2018 (see Image 2)

GAMES ▼		REVENUES ▼		EUROPE AGGREGATE ▼		JULY 2018 ▼
IMAGE	RANK	NAME	PUBLISHER		CHANGE	
	1	Fortnite	Epic Games		2 ▲	
	2	Candy Crush Saga	King		1 ▼	
	3	Pokémon GO	Niantic, Inc.		1 ▲	
	4	Clash of Clans	Supercell		2 ▼	
	5	Gardenscapes	Playrix Games		-	

Image 2: *Clash of Clans* and *Candy Crush Saga* as best practice examples – still successful after their launch in 2012

(Source: Newzoo)

2.3.2. Categorization of Mobile Games

Playing *mobile games* doesn't automatically mean to play it only when being "on the go". There are three types of *mobile games* that make it interesting to go outside and use your smartphone to play a game and at the same time to discover your environment. A well-known term for this phenomenon is *urban games* or *urban gaming*. Hjorth and Richardson (2014) describe it the following:

Urban games require the screen to become a physical component of the gameplay, whilst players negotiate online and offline spaces simultaneously. (Hjorth, 2011a, p. 135)

These games work with location-based services like GPS or Google Maps, that is why they are also called location-based mobile games. Especially geotagging, where places like a monument get a tag with their position (coordinates) are very popular. Sometimes also photos get tagged with their position (in Facebook for example). Also *Pokémon GO* is based on geotagged places so users can find Pokéstops or arenas easily. Usually these are used on mobile phones with location awareness functionalities and a connection to the internet. The interesting aspect of these games is that players are connected with other players and at the same time are connected with places or locations. That is the reason why the game mainly takes place in the real, physical world. (Hjorth, 2011b, pp. 362–363)

Hjorth and Richardson (2014) explain this phenomenon the following:

Location-based mobile games, on the other hand, hybridize our experience of place and presence, by demanding that the player conflate their own 'situatedness' in the world with dynamic locative and navigational information, thus creating an augmented and networked game reality. (Hjorth & Richardson, 2014, pp. 17–18)

Most of these games are multiplayer games like the urban game *Pac-Manhattan*. The idea was to have two teams, one for Pacman and one for the ghosts. There were some ghosts outside on the streets, hunting Pacman. The other part of the team is checking the location of Pacman on the screen and is giving its position to the team mates. The same happens for

team Pacman. Passengers were also part of the game, as they were asked if they have seen Pacman. (John, 2004)

The whole city was suddenly a big game. Players use the whole city instead of just a screen and the interaction between other players and non-players like passengers make it interesting and real. Kim (2013, p. 45) compared it with role-playing games (RPGs) or massively multiplayer online role-playing games (MMORPGs), as collaboration plays an important role.

But there are also other forms of mobile games. For example location-based mobile games or augmented reality games, that are successful in blurring the lines between reality offline and the reality online. One example is the game *Zombies, Run!*, a mobile game which is running on your phone while you are outside for example for a walk. When the Zombies in your virtual surrounding get nearer, you will get a notification and then you have to run away in the offline world to escape them in the online world. (Hjorth & Richardson, 2014, pp. 56-57). Another successful example is *Pokémon GO* which has been selected the game for this case study (more details about *Pokémon GO* see chapter 3).

2.3.3. Mobile Games Market

The success of smartphones on the gaming market is still unbroken as statistics from 2016 and 2017 and future forecasts show (see Image 3 and 4).

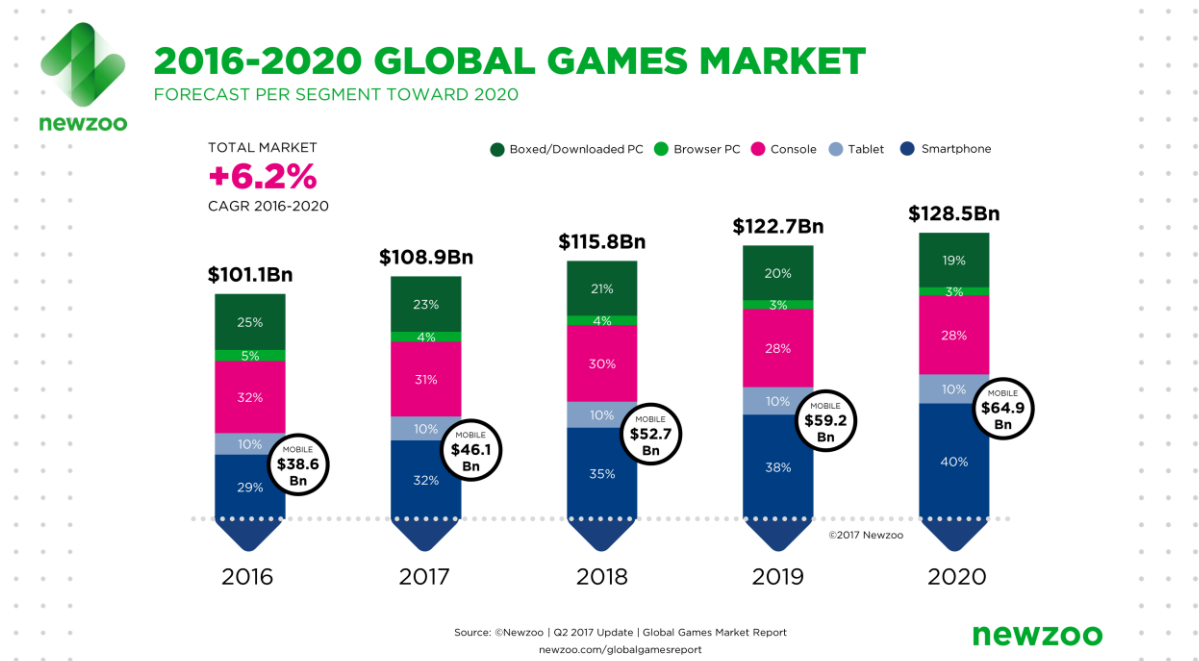


Image 3: The market share of smartphones is still rising

It is expected that especially the smartphone gaming market will continuously increase, while the market segments will stay the same or slightly decrease in the next few years. In general, the mobile games market is strongly increasing every year. Forecasts say that within ten years, the revenues of the mobile game segment will increase by 25% percent (see Image 4). With 2018, PC games and console games have together the same revenues as mobile games have.



Image 4: the success of mobile games is unbroken

The success of mobile games has changed so rapidly that the Peter Warman, Co-Founder of Newzoo, a market intelligence partner, providing statistics about the games market, said that they had to adjust their forecasts already for the second time this year (Newzoo, 2018, p. 3). This is not surprising when taking a look at the current top 5 of the game apps (see Image 2).

Also interesting to see is that *Pokémon GO* after two years has still increased their number of downloads and has the highest number of active users in 2018, although the interest in the game dropped due to the missing functionalities and moderate updates (Philips, 2018; Chauhan, 2018).

2.4. Definition *Casual Game*

It seems that there is no clear and valid definition for what a *casual game* is. To get to a definition, which will be used in this paper, it will be necessary to take a look at the history of *casual games*. Moreover, this section will take a look at the term *gamer*, as it occurs that there is a differentiation between *hardcore gamers* and *casual gamers*. Finally, we will take a look at the *casual games* market.

Indeed, there is no official definition for the word *casual* in terms of games. However, some refer to key factors that help to differentiate *casual games* from *hardcore games*. Chiaparello (2013) indicates that five factors might be a good basis to define *casual games* - the place of the casual game in the gaming society, in general the challenge that games possess as well as the importance of this challenge, how much time it takes to play a casual play session and lastly, the role of fiction.

The most interesting factor might be the degree of challenges inside *casual games*. Whereas it is said that *casual games* should be easy to play and *hardcore games* are the tricky ones, and one needs to invest a lot of time to be successful in the game, it seems that having a challenge in the game is indeed an important factor for *casual gamers*. On the one hand, the game should be designed in such a way, that if a player fails, they do not need to re-play the entire game. On the other hand, the game should be challenging in a way that there should be some type of punishment and also a chance to have learning curve. If a game would be too easy, it would not be interesting enough. (Chiaparello, 2013, pp. 2–4)

Hjorth (2010) points out that

Casual games were characterized by being easy and quick – and thus often addictive. Most casual gamers would never see themselves as ‘gamers’, a term that has been traditionally deemed as a ‘hardcore’ preoccupation. Hardcore games are ones in which the time and energy investment on behalf of the player is high. The games associated with this type of engagement were online games – especially MMOs. However, these

divisions, like gaming, have dramatically changed and blurred.(Hjorth, 2011a)

Hjorth takes the common view that casual games are easy to play but argues, that they can be addictive, which leads to the conclusion that gamers could also invest a lot of time into *casual games*. She observed that it is difficult to classify gamers into *casual* and *hardcore gamers* as the characteristics of these stereotypes blur. Juul and others also noticed this change, which shall be further discussed in the next chapter.

2.4.1. Casual VS. Hardcore Gamers or Hardcore Casual Gamers?

Video game history has revealed two stereotypical kinds of gamers – *casual gamer* and the *hardcore gamer*. The *hardcore gamer* is a gamer who is playing a larger amount of different games, mostly science fiction or fantasy games and is investing a lot of time, and in most cases also a lot of money, into the game(s). (Juul, 2010, pp. 8-10). This brings us back to the definition of a *casual game*. Juul (2010) follows the opinion that

A casual game is sufficiently flexible to be played with a hardcore time commitment, but a hardcore game is too inflexible to be played with a casual commitment. (Juul, 2010, p.8)

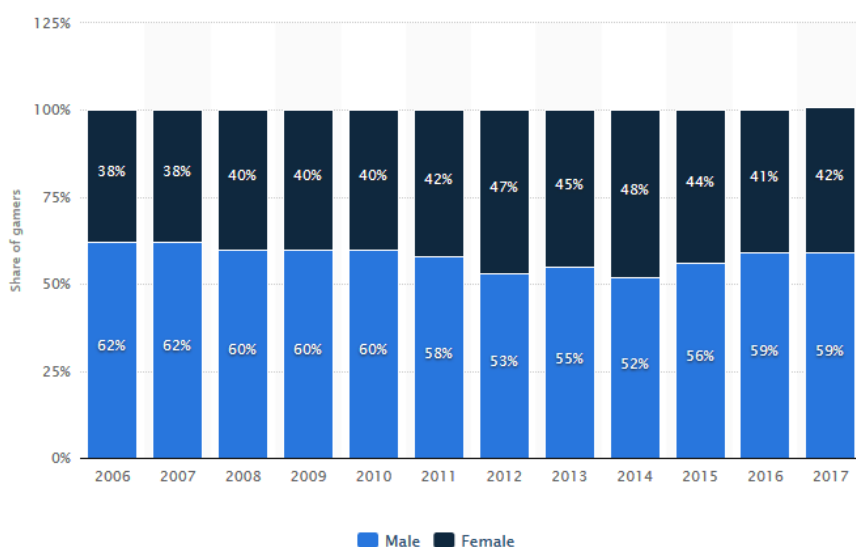
The same is true for *hardcore* and *casual gamers*. Juul's assumption seems to be realistic as a *hardcore gamer* can also play casual games in a hardcore manner. Also Di Loreto and Gouaich argue that there is some kind of evidence for being a *casual gamer* like playing casual games only for short periods and not on a frequent basis like *hardcore gamers* might play, however, they underline that not everyone is following the stereotypical definition of a *casual gamer*. (Di Loreto & Gouaich, 2010)

For this thesis, the traditional definition of casual games being easy to play, and for short periods, suffices as a valid definition. Also *Pokémon GO* seems to follow this pattern. Therefore, the main targets of this game also seem to be *casual gamers*, as they play this game just for short periods. However, it must be mentioned that during the hype phase of the app, *Pokémon GO* users played it for weeks. The assumption can be asserted that a fluid border exists between being a *casual* or *hardcore* gamer.

2.5.The Casual Gaming Market and its Business Models

As outlined in the previous two chapters, the casual gaming market showed exponential growth with the successful launch of the Wii console and Xbox Live. This also opened up new business models like in-game advertising. A successful and established business model is the micro transaction (further details in chapter 2.5.1.4,). These new business models, especially the micropayment transaction, generate more revenue than popular business models or rather games like World of Warcraft generate with their faithful core players. (Casual Games Association, 2007: pp.19-20)

The Casual Games Association (Casual Games Association, 2007: p. 20) has underlined that the casual gaming industry has a very interesting advantage over other game genres – casual games are played by a wide variety of people. People from all over the world, male and female, old and young people play casual games. Statistics also indicate that in general the number of women that are playing video games has increased over the last ten years, even if there is a strong belief that mainly young males do play these games (see Imge 5). In 2016 the age distribution is nearly one quarter for each age category – The number of players under 18 years resembles the number of gamers that are older than 50 (see Image 6).



© Statista 2017

Image 5: The number of female players has increased over the last ten years (Statista, 2017)

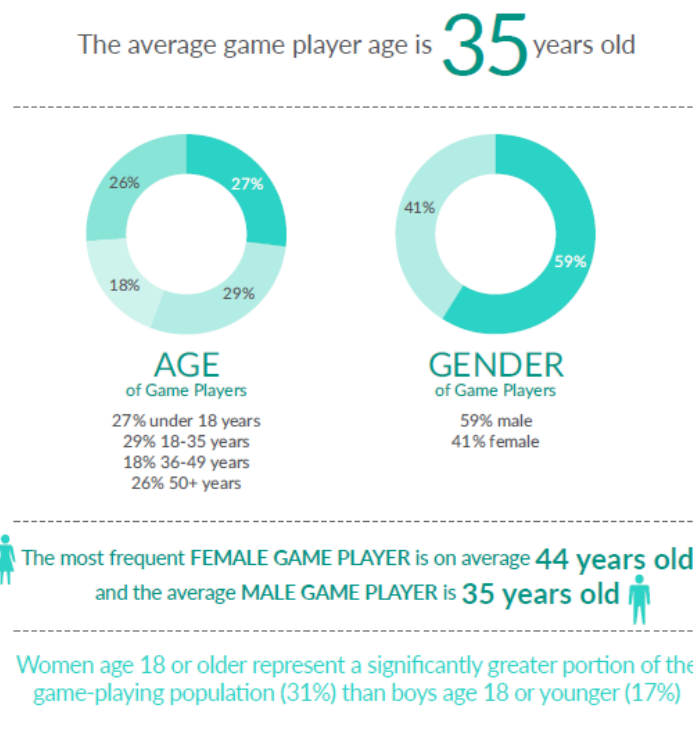


Image 6: The age doesn't play a significant role(Entertainment Software Association, 2016)

The fact that the age of casual gamers has a very broad variety from young to old people, lead the gaming industry to invent new business models to gain higher profits. The most popular ones will be highlighted in chapter 2.5.1, Business Models.

In general it can be seen that the games market continues to grow annually. The smartphone game market in particular (see Image 3 in blue) shows significant increases annually.

2.5.1. Business models

Over the last years there are six popular business models that have been established for the gaming market (see Image 7). Shortly named, the skill-based model for games based on the gamer's skills, subscription model which is based on a monthly or yearly fee, trial-to-purchase where players can play the game for a certain time or until a specific level and can pay money to get the full game, the advertising based models where advertisement is included in different forms and the micro transaction or Freemium model where people can make in-App purchases such as more lives for the game or virtual currency.

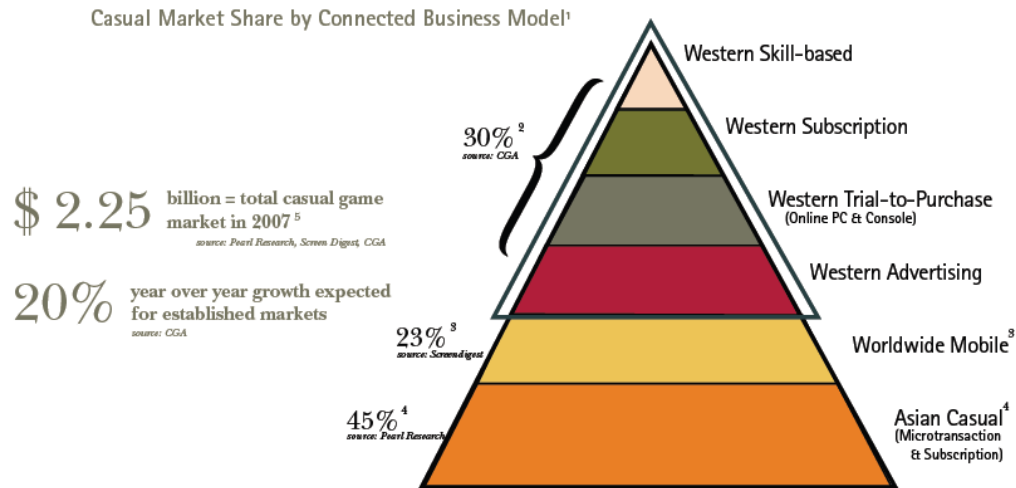


Image 7: The image shows the top 6 business models in the gaming industry (Casual Games Association, 2007)

The graphic in Image 7 shows the ranking of the casual market share by business model and as one can see, the micro transaction s especially the subscription based model in Asia have the highest market share. There is also a differentiation between direct and indirect monetization. Direct monetization means that the revenues are coming from In-game purchases like virtual money or items for the game. Whereas advertisement like banner ads or video ads are indirect monetization goods. (Alomari, K. M., Soomro, T. R., & Shaalan, K., 2016, p. 673). More details about In-game purchases, advertisement in games and the other models can be found on the next pages.

2.5.1.1. Skill-based games

Before taking a closer look at skill-based games it is necessary to differentiate between gaming and gambling. Gaming is mostly playing a game and winning using personal skills. These can be physical skills like being quick with your mouse or keyboard, or mental skills where you have to play strategically, for example Tic-Tac-Toe or Chess. Gambling is playing a game which is chance-based, means playing a game where you cannot influence the outcome with skill for example Bingo or Roulette. This is a very important difference when talking about skill-based gaming because gambling is not legal in all territories. Certainly, skill-based games can also have some elements of chance, but they are mainly based on skill. (Rachael Church-Sanders, 2010, pp. 21-22)

There are different business models for skill-based models – After paying an entrance fee players can compete against each other in head-to-head competitions or tournaments. This can be restricted to a certain amount of play rounds so that the player has again to pay once more to take part in the next competition. Another possibility is to collect points to get the prize of the day, month or year. (Casual Games Association, 2017, p. 31)

2.5.1.2. Subscription

Another popular business model is the subscription. Users pay a certain fee per month or year to get access to advertisement free games, fully playable games and features like being part of a community, sending messages, etc. There are two different subscription models. The first model allows the player to play all available games from the provider. The second model offers a bulk game package each month. This kind of model is for example offered by the *Playstation Network* where you pay a certain fee on a monthly or yearly basis. Once a month you get one specific game for free and bigger discounts on other games. (Casual Games Association, 2017, p. 32)

2.5.1.3. Advertising supported/In-game Advertising/Advergames

No matter which media we are consuming advertising is virtually omnipresent. Mobile games can also be a platform for advertisement placement – either to advertise products of the same company (for example other mobile games) or to generate revenue with advertisements from external companies. There are several possibilities to include advertisement in mobile games. You can place banner ads at the bottom of your game, so it doesn't interrupt the gamer while playing. Interstitial ads are like pop-up ads in a browser. They interrupt the game and generate relatively higher revenues as users are forced to pay attention unless they close the ad (which is often not that easy as the X for closing is often quite small). Video ads have a similar approach, but some videos cannot be stopped so the user has to watch the entire video before getting back to the game. (ChromeInfotech, 2016)

A special form of advertisement is the advergame, which has been designed for promotional purposes. Usually the product is in the center of the game, for example the PC game *Das magische Tal* from Ferrero and Ubisoft, published in 2001, which you could find in every box of Kinder Milchschnitte.¹ It was a very clumsy but a funny jump and run game with

¹<https://ferrerofreshadventures.tumblr.com/post/166792469429/das-magische-tal-download>

characters that looked like the products (for example the penguin from the Kinderpingui). Another smart solution to promote products in games is product placement. Producers get paid to integrate the product into the game context in a very subtle way, like product posters in the background. (Grimes, 2013, pp. 388–389)

2.5.1.4. Free2Play/Freemium and Micro Transactions/In-game Purchases

The most popular business model for mobile games is the Free2Play model. As the name suggests, the mobile game can be downloaded and played for free, but has certain restrictions inside the game, for example a limited amount of levels, avatars, lives, etc. To get the full game experience the user can buy virtual goods, also known as in-game purchases or micro transactions. Lin and Sun found out that there are two types of in-game items that users can purchase. On the one hand there are functional items that serve the gameplay itself, for example special weapons or power boosters, which gives the user an advantage over the other competitors in the game. And there are items that have no function that could influence the game for example skins for your avatar, decorative items or certain communication options. Very often those items that have a really high impact on the game, for example additional levels are featured as premium content that seem exclusive, so users are willing to pay. (Grimes, 2013, pp. 390–392; Lin & Sun, p. 335)

The Free2Play model has two significant advantages – firstly, although it seems that there are a lot of users that accept the restricted game version (which often means slower progress in the game), they are very valuable because they share their gaming experience with other people, that might be willing to pay for in-game items. Secondly, users are not forced to pay money to play the game before even knowing if it is worth it. Users can test it and invest money into it, once they decide on their own. Although it can be assumed that impatient users are the primary customers, as the in-game items are often accelerating the gamers' progress. (Paavilainen, Hamari, Stenros, & Kinnunen, 2013, p. 797). *Pokémon GO* is definitely a good example for Free2Play, as you can play the game without investing money – but a user's progress can be quicker when buying items like Pokéballs because you can buy them instead of running to the next *Pokéstop*.

2.6. Motivations to Play

After discussing the definition of casual and mobile games and learning more about the history as well as the different business models, it is essential to take a look at the players. Several studies and research concentrated on emotions and feelings of people while doing certain activities. Concepts about emotions like the circumplex model (arousal and valence theory), flow theory and theories about motivation in terms of fulfilling needs (Maslow's hierarchy of needs) should be used as frameworks for this research.

2.6.1. Arousal and Valence Theory

An important framework when exploring emotions and experiences is the arousal and valence theory. It aims to define how the users are experiencing the game they are playing. In other words, it tries to find out which emotions occur. There are two dimensions. One is the arousal which helps define the level of activation, like how excited/activated or bored/deactivated is the user while playing the game. For example if the game is too easy and boring, it can be assumed that the activation level is very low. The second dimension is the valence, which is about the emotions the user feels while playing. Does the gamer feel happy during playing or is he/she upset because the game is too difficult or complicated?

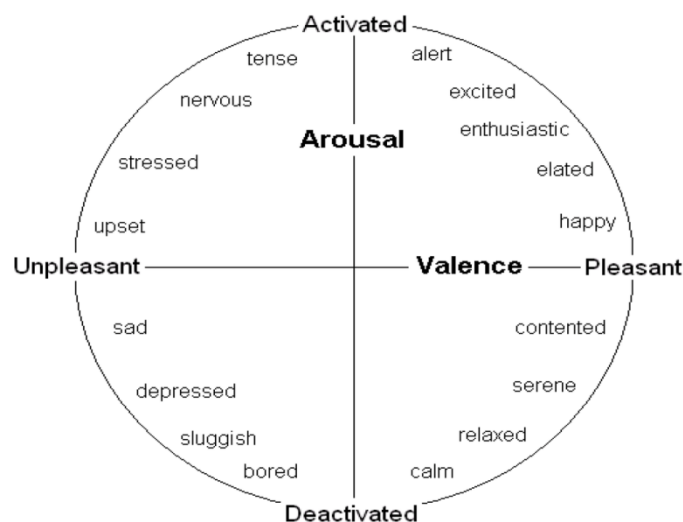


Image 8: Two dimensional scale - Arousal and Valence, <http://www.mdpi.com/2076-328X/3/3/501/htm>

The basic principle of the arousal and valence theory is called the circumplex model. Over the years this model has been developed by several researchers. Most studies are based on the first findings of James Russell, who published *A Circumplex Model of Affect* in 1980. Before Russell has developed the circumplex model, only the theory of the basic emotions existed. This theory has been used to explain and understand emotions by defining a set of basic emotions. Russell and other researchers criticized that the theory of basic emotions is not sufficient enough, as it is lacking in reflecting the complexity of emotions. In contrast to the circumplex model, the theory of basic emotions claims that emotions need to be seen separately. This means whether people feel happy or content. (Posner, Russell, & Peterson, 2005, pp. 715–719)

2.6.2. Maslow's Pyramid of Needs

The American psychologist Abraham Maslow was trying to understand the human motivation. First published in 1943, he claimed that the human motivation is dependent on several basic needs that must be fulfilled. These needs are ordered like a pyramid – the next stage of needs cannot be reached until the previous stage has been satisfied (see Image 9)

The most important stage of needs is the physiological need. Maslow explains it with a person being hungry. As long as the person is hungry, he/she will only concentrate on the feeling of hunger. No matter what else is happening – the whole body and mind will focus on being hungry. This person will dream about food, think about food, and search for food unless they satisfy the feeling of hunger. It does not automatically mean that this person has to eat plenty of food; this need can also be satisfied by drinking a big bottle of water. Satisfying this need depends on the person and its circumstances. (Maslow, 1970, pp. 35–38). Maslow also points out that these stages are not independent. Satisfying the feeling of being hungry does not only satisfy the physiological need, it could also satisfy the need for comfort. Once the physiological stage is satisfied the next stage is in the focus. Following Maslow, the next stage is the need for safety.

Safety can be understood very differently, depending on the social environment; it can be the need of security and stability, but it could be simply the freedom from having fear. Stability could be reached by having a certain structure and order, or just by having limits

and laws that regulate our daily life. If the physiological needs are satisfied, the whole organism will focus on feeling safe. Maslow gives a simple example with children and their need of safety. Children will feel safe, if, among other things, they have a rhythm or structure in their daily life. They rely on their parent's ability to create a safe and ordered world. Even adults rely on daily routines and do not expect any unpredicted occurrences. As long as the world acts as we expect it, we will not feel the need of safety. However, the need for safety can appear very urgent, for example when we hear about terror attacks. And if the need for safety is not satisfied by any authority, it will not be possible to focus on anything else. (Maslow, 1970, pp. 39–43)

The next stage to reach and to satisfy is the stage of belongingness and love needs. The person will feel loneliness and has a strong desire for being part of a family or group. Should someone be missing loved ones they will focus completely on satisfying this need. But this need is not only about meeting loved ones, it is also about overcoming the feeling of loneliness or strangeness or simply the need for intimacy. Even if the feeling or need of belonging is a very omnipresent topic, there are still a lot of open questions in science. Maslow believes that the satisfaction of belonging can be resolved in many different situations. Is it just the feeling of being part of the neighborhood or a certain clan or simply being socially part of a group of colleagues in the workplace – it is strongly dependent on the personality of the individual. Maslow also emphasizes that the need for love is not only receiving love but also giving love and it must not be put on a par with the need for sex. (Maslow, 1970, pp. 43–45)

A very important stage to reach is the stage of esteem needs. At present, a wide range of literature is available to help reach a certain level of self-esteem. With *A Theory of Human Motivation*, Maslow already recognized the importance of (self-)esteem in the early forties. He separated the esteem into two categories: On the one hand we have the self-esteem with the desire of feeling strong and having the self-confidence to achieve and mastery of everything. Moreover, it is the wish to be independent and having reached the feeling of freedom. Missing this confidence leads to the feeling of being lost and helpless, like being overwhelmed by the whole world. On the other hand there is the esteem from other persons, from the boss, spouse, colleagues, family or friends. Gaining the respect from

others, especially if the respect is deserved (for example by doing a good job), will also raise the self-esteem. (Maslow, 1970, pp. 45–46)

Finally, there is the need for self-actualization. If all other stages of needs are accomplished, the person is at a stage where he/she will have a very strong desire for self-fulfillment. Maslow explains it as the following:

What a man can be, he must be. He must be true to his own nature. This need we may call self-actualization. (Maslow, 1970, p. 46)

What self-fulfillment looks like can be very different and is strongly dependent on the skills of each and every individual. The fulfillment for a musician might be to compose the perfect symphony but for an athlete it might be to win a certain prize. (Maslow, 1970, pp. 46–47)

As one can see, the reason for being motivated is strongly dependent on which needs are fulfilled or rather which needs still need to be fulfilled. Building the bridge to the motivation behind playing games, it can be assumed that the reason people play games is dependent on the stage of need. If someone is on a lower stage it could be the stage of the need for safety. Playing the game could create the feeling of safety because the virtual world follows rules and the player has the feeling of having everything under control. Or perhaps it is the need for belonging, the desire of being part of the game's community or simply having contact with people of one's kind. It could also be the need for esteem – being an excellent player with noteworthy skills and the ability to achieve even the hardest end bosses, which might result in esteem and respect from other players. It could even be the possibility to reach self-fulfillment when playing the game (being the hero in the game, if it is not possible in real-life). No matter which stage provokes the motivation to play a game, one should never forget that it's depending on the individual and its environment.

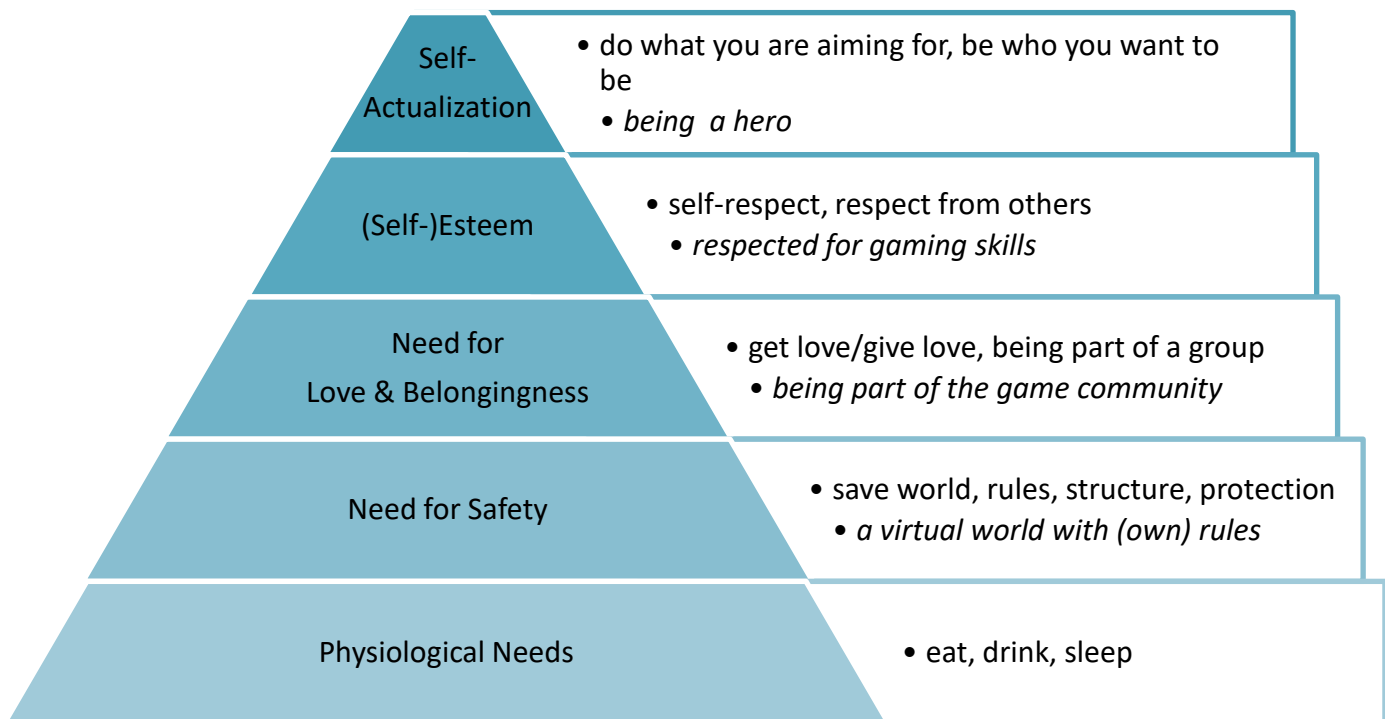


Image 9: Maslow's pyramid of needs and possible examples for how to fulfill needs by playing games

2.6.3. Flow Theory

Those who have engaged in gaming would have experienced the sensation of playing a game and completely losing the sense of time. The Hungarian psychologist Mihaly Csikszentmihalyi was studying this phenomenon and described it as *Flow Theory*.

Csikszentmihalyi questioned himself on which actions produce enjoyment. He criticized the society's attitude that work cannot bring enjoyment. There is a perception that only external rewards like earning more money, or external punishment can motivate people at work. Furthermore, the assumption is made that only money and status can satisfy our needs and make us happy. There are however, many who are engaged in activities in which they do not receive any of these rewards, but nonetheless portray contentment. Csikszentmihalyi believes that there are more drivers such as money and status. He claims that the activities which bring the most joy are not connected with our survival-needs, on the contrary, what brings joy is connected with creativity, religion and other tasks. He understands joy as a

running process which is bringing us the experience that we are longing for. (Csikszentmihalyi, 1975, pp. 1–10)

There already existed a concept which is similar to the flow theory. It's called *autotelic activities*, from the Greek words *auto* which means self and *telos* standing for goal or purpose. It describes activities that require a lot of energy but people are not receiving or expecting external rewards for it. Csikszentmihalyi was wondering, why people would do that and took this as the starting point for his study and the invention of the theory called the *flow experience*. (Csikszentmihalyi, 1975, pp. 10–12)

Csikszentmihalyi asked people like chess players or composers why they invest so much time into their activities despite not getting big rewards. The answer was always the same – because they experience something special that they cannot achieve in everyday life. Csikszentmihalyi explained this autotelic experience the following

[...] the autotelic experience is one of complete involvement of the actor with his activity. The activity presents constant challenges. There is no time to get bored or to worry about what may or may not happen. A person in such a situation can make full use of whatever skills are required and receives clear feedback of his actions. (Csikszentmihalyi, 1975, p. 36)

As Csikszentmihalyi described it, there is no time to even think about anything else. The status of flow comes so quickly that one action follows the other. The barrier between you and your surroundings disappears and the feeling of time is lost. Specific aims are usually followed (win the tournament, compose a song, etc.) but in these aims are not necessary to get into the flow and feel enjoyment. The aim is only important to prove that something has been done and this is the result, but it is not required to achieve fulfillment. (Csikszentmihalyi, 1975, pp. 36–38)

These are findings that many might recognize when playing an entertaining game and allows players to forget about space and time. The following sections will delve deeper and explore the elements of flow.

2.6.3.1. Elements of flow

There are five elements that must apply to reach the status of flow. The most significant element is that activity and the consciousness are merging. When one does not consciously think about what happens in the moment, this merge takes place. As soon as you think about what is taking place and begin to reflect, the feeling of flow is lost. Usually these periods of full merger last only a few moments and only as long as the mind is disengaged. Nothing else enters the consciousness, you just do what gives you a good feeling. If this is transferred to the situation of playing a game, one is solely focused on playing the level, not thinking of anything else other than jumping or shooting or whatever action needs to be carried out within the game. (Csikszentmihalyi, 1975, pp. 36–39)

The second element is the concentration on a selected environment; Csikszentmihalyi calls it a limited stimulus field. When playing a game, this focus can be reached by defining and following certain rules. Additionally, there are incentives to strengthen the focus, for example the feeling of being in a competition or winning a prize. However, participants of Csikszentmihalyi's study argued that it is rewarding to get a prize or money when winning the competition, but what invokes the feeling of contentment and the flow experience is the game itself. It is playing the game without thinking about results or anything else outside the game because once incentives like winning the competition or getting more money are introduced, the better the results. Becoming overly conscious could result in a feeling of pressure during the game and flow will not be attained. (Csikszentmihalyi, 1975, pp. 40–42)

The third element is to have everything under control. Usually the gamer doesn't know that he or she has everything under control, but he or she feels comfortable in the situation and that there is nothing to worry about. In a competition, the control function can be seen in realizing that the player's own performance level is high and being able to use these skills to beat the competitor. As previously alluded to, the moment you start thinking about relationships, career or anything else that has nothing to do with the game, control will be lost.

Having control also means to fulfill certain requirements because when you do not possess the required skills, you will not be able to cope with the situation. Csikszentmihalyi uses the example of climbing. You should have the skill to go climbing, because even if it becomes

dangerous, you know that you can foresee it (because you have knowledge and the skills to understand the situation) and you are able to cope with the situation. Csikszentmihalyi believes, that having the situation under control is the most important element for achieving flow, because when you have the feeling of control you do not think of anything else. As soon as you are worried, because of the feeling of not having control in the situation, you will not reach flow. (Csikszentmihalyi, 1975, pp. 44–46)

Comparing it with playing a game, you will need to have the skills (mentally and/or physically) to be competitive and have a chance to beat other players. For example, if you are not able to operate in a first-person shooter game, because you might be used to a third-person view, you might feel lost and miss the feeling of having the control in the game. You might feel weary of the competitors or overthink about controlling the player's view. Too many thoughts and too many concerns results in no flow experience.

The next element is to have actions that are logical, that are clear and that are not contradictory. In the flow status the player knows automatically what is good and what is bad. It can be described as a “gut feeling”, where a player follows their instincts and does what feels right, in comparison to daily life where situations are faced that are incompatible with each other. This gut feeling can also be reached through actions that we have done numerous times, we automatically execute them without thinking too much about it (unlike the player who is playing first-person shooters for the first time). When skills and routine converge, successful execution can be achieved so no other thought is needed. Once a contradictory action or situation emerges, the brain will start working again, for example when another gamer is cheating. This is something that goes against what is expected and furthermore, it revokes us our control. (Csikszentmihalyi, 1975, pp. 46–47)

The final element is the autotelic nature. As already mentioned in the earlier parts of this section, autotelic people might have a certain aim to start with, but in the end the goal does not play a significant role. Moreover, these people do not need any external rewards to feel happy and to reach the flow status. A composer who was part of Csikszentmihalyi's study said that it is not important to reach any big goals or to experience certain highlights, it is more important to stay in the flow and to do what feels right. Incidentally, this was the key interview to call the model flow experience. (Csikszentmihalyi, 1975, pp. 47–48)

2.6.3.2. Structure of Flow Activities

After determining that the flow experience requires five elements; namely to merge activity and consciousness, center your attention to the activity, having control, knowing what to expect and its autotelic nature, Csikszentmihalyi attempted to devise a (graphic) model of achieving flow (see Image 10).

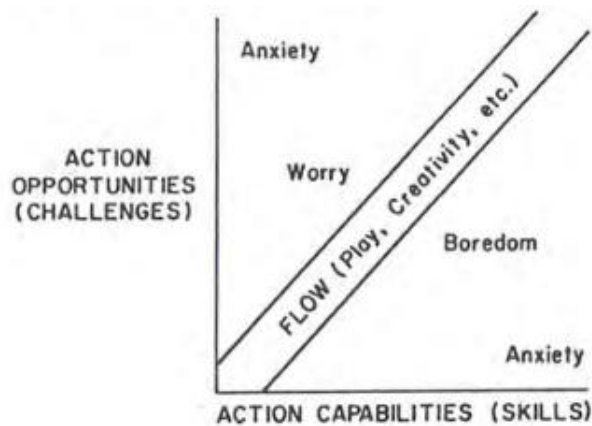


Image 10: The model of flow status by Mihaly Csikszentmihalyi (1975)

Csikszentmihalyi notes that this model can be useful to understand why and when people do reach the flow status, but is not valid at all times. The point when reaching flow is dependent on a multiple factors. Some are based on the subjective perception of the personal skills and activities. The model is based on the assumption that people are aware of their possibilities and possess the skill to cope with the environment. If a person is in the situation where he or she confronted with requirements that are considered too challenging, he or she will feel anxiety. If the requirements are less challenging but still difficult to handle, the person will be worried about it. If the requirements are below the personal abilities, the person will feel boredom. As one can see, the relation is always between the personal skills and the challenge (see Image 10). And when the skills meet the challenge, the person gets into the flow status.

Chiapello (2013, p. 8) has made a study on hardcore games and casual games and came to similar conclusions. Notably, that the player's tolerance for casual games is lower than for

hard core games which means that casual game's designer requires a more intense effort to meet the perfect balance of challenges and skills (see Image 11).

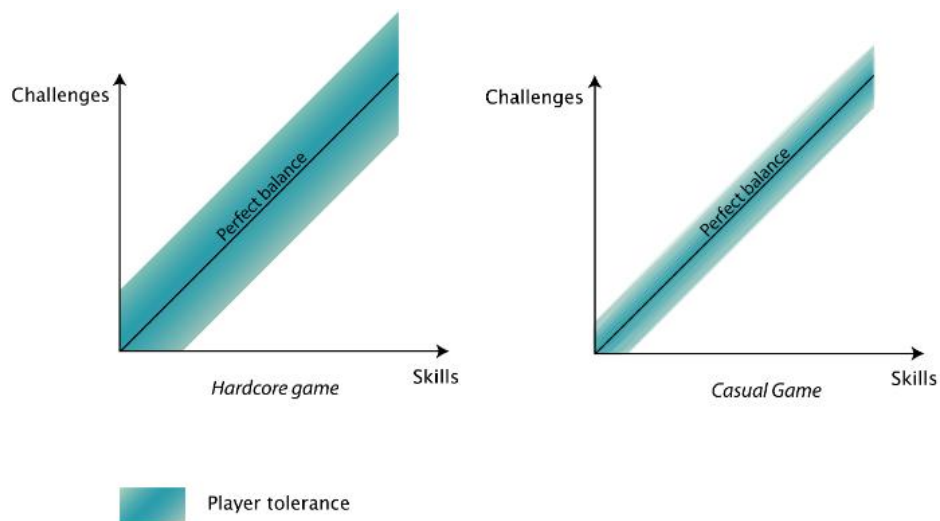


Image 11: Player tolerance to unbalanced challenges (Chiapello 2013, p. 8)

To sum up, in order to achieve the best experience during gameplay, the player has to completely focus on the game itself, has to have the ability to control the situation and to have certain skills. Moreover, the player is motivated by internal rewards, such as the feeling of contentment, instead of external rewards such as money or status. Only when the player loses the feeling of time by merging the activity with the personal consciousness, and meeting the aforementioned elements, he or she will achieve success within the flow experience.

2.6.4. Nostalgia

In the present day and gaming culture, older video games and even older consoles such as the Nintendo NES, are experiencing a revival on the video game market. Some of the games were given a facelift, while other games such as *Crash Bandicoot*, were adapted for the Switch console without changing the challenging levels or save points. However, people buy and play because of the nostalgia behind it. *Pokémon GO* is another example of nostalgia coming to the fore. But why are older games so popular, or rather why is nostalgia such a successful selling point in today's market?

The word nostalgia comes from the Greek words *nóstos* which means the return, and *álgos* which means the pain. Sedikides et al. explain nostalgia as the following:

At present, nostalgia is considered an emotion, and a predominantly positive one at that. It is also deemed a vital intrapersonal resource that contributes to psychological equanimity, and that has potent implications for motivation and behavior. Moreover, nostalgia is prevalent, universal, and experienced by persons of virtually all ages.
(Sedikides et al., 2015, p. 194)

He believes that nostalgia has a positive impact on emotions, motivation and behavior. Taylor and Whalen state that nostalgia is the connection between the past and the future. In terms of games, nostalgia is based on the memorized gaming experience – gameplay, tricky levels, etc. Nintendo in particular releases games that remind the user of their childhood, like *Super Mario* or other classics, for modern Nintendo game consoles. The basic gameplay is mostly the same, only the technology has changed, that it is mostly only necessary to get used to the newer controllers (Whalen & Taylor, 2008, pp. 2–10).

Conversely, Wulf et. al. (Wulf T., Bowman N.D., Rieger D., Velez J. A., Breuer, J., 2018) claim that nostalgia can also have negative effects, as negative experiences might also be remembered. For example, the frustration in that one challenging level or unfair save points. Madigan believes that positive memories are more evidently present because these fade more slowly than negative memories. (Madigan, 2010).

But not only bad memories are an issue. Many older game titles are already artifacts and some of them are even lost because they were never archived. And, if games are still available, there is a small chance to play them because technical infrastructure has changed, computers and consoles use different mediums, beside the different operating systems that are not able to install old games. (Felzmann, 2010, pp. 98–106)

However, Fenty states that many people have older games in their personal top ten list and most of them would do everything just to have a chance to play one of the old games again. Although people hope that playing old games evokes the same feelings as before, it can never be the same again. Remakes in particular cannot re-establish the old game experience,

as screens, controllers and sounds have changed due to the technological progress. Felzman underlines that many nostalgic memories are connected with certain situations or people. Maybe the game was played while being broken-hearted; these emotions and situations turned the game into something special to the player. Hence, playing the favorite game from the player's teen years cannot be the same again as circumstances have changed. (Felzmann, 2010, pp. 98–106). Moreover, the users themselves have changed, as most of the former gamers were children or teens when they played their very first games. Fenty believes that those games might also have influenced their personal development. (Fenty, 2008, pp. 20–30).

3. *Pokémon GO*

In summer 2016, seemingly over night, a mobile app called *Pokémon GO* was making significant strides across all app stores. Suddenly hoards of people were seen outside with their smartphones, traveling distances through entire cities and its surroundings just to catch some virtual creatures called *Pokémon*. But the initial hype started in 1996 when Nintendo released the games *Pokémon Red* and *Pokémon Green*. The inventor of the idea was Satoshi Tajiri who loved to catch bugs when he was a child. When he was an adult he thought about making a video game where players had to catch small monsters. He went to Nintendo but they were not convinced of this idea until he talked with Shigeru Miyamoto, the inventor of *Super Mario* and *The Legend of Zelda*. However, it took a while until *Pokémon* was released, loads of small changes and adaptations devoured time and money. But in February 1996 the first two editions could have been released for the Nintendo Game Boy. It took nearly three years until *Pokémon* was released in Europe, but it was a huge success. (Copperman, 2016, p. 230)

During that time, *Pokémon* also launched mangas, a TV series, a trading card game and numerous fan articles. The *Pokédex*, some kind of *Pokémon* lexicon, started with 151 different *Pokémon*s. Due to its success, Nintendo has raised the number of *Pokémon*s from one year to the next, so that in 2016 the *Pokédex* listed 721 different *Pokémon*s. (Copperman, 2016, pp. 234-235). Additionally, the TV series is still running and is in its 20th season (Pokémon, 2018). During that time, Nintendo has released more than 70 different *Pokémon* games, from the classical *Pokémon* game (mostly parallel to the TV series, such as the current edition “Sun and Moon”), but also trading card game for the Nintendo Game Boy, Pinball, Puzzle and many more (Poke Wiki, 2018).

In 1999 Nintendo once again pushed the handheld market back to the top through its release of the Game Boy Color. The combination of the Game Boy Color and *Pokémon* rescued the Japanese video game industry from a drop in sales. With finally launching the game in the United States the handheld games represented 18 percent of the video game market. (Kent, 2001, pp. 566–568)

Although *Pokémon* is a Japanese game, the game itself was designed to be as generic as possible. There are just a few Japanese elements in the game like the master-student-relationship (in Japan it's called *sensei-deishi*), until the student becomes a master himself. But the world itself is truly fictional and has no obvious references to any specific country. The inventor of *Pokémon*, Tajiri Kojiro, said his intention behind the game simply was to bring young people closer to nature, as collecting *Pokémons* is simulating Kojiro's favorite leisure activity in his childhood: the collection of bugs. (Tobin, 2002, pp. 56–58). Beside the cuteness factor that most of the *Pokémons* have, Tobin came to a very true conclusion:

Pikachu himself/herself seems to have reached a level of fame and affection that will allow him/her to live on for many years to come, if nothing else than as an item of nostalgia. (Tobin, 2002, p. 66)

Nearly twenty years after the launch of *Pokémon*, *Pokémon GO* was released for the smartphone and tablet. And Tobin was proved to be correct, as *Pokémon GO* skyrocketed within the mobile games market with around 45 million users in summer 2016 (Die Presse, 2018).

3.1.Criticism and Legal Issues with *Pokémon* (GO)

Although *Pokémon GO* is widely popular, the game has also received criticism over legal and security aspects. Before *Pokémon GO* started to gather momentum within the European market, many users downloaded illegal versions of app from the internet. On the one hand it was beneficial for Niantic, as this was the inadvertent yet ideal marketing booster for the game as it became popular virtually overnight. However, on the other hand it was the users' own risk to download it from unofficial websites, which was risky in terms of data mining, spyware, etc.

But the user agreements from Niantic for the official app was also criticized. When users want to play *Pokémon GO* they needed to create an account or use their Gmail (email account from the email provider Google) accounts. Therefore, when installing the app, besides giving permission for the app to access the user's camera (because of the augmented reality feature), location (because the game is based on a user's location and the *Pokémons* that surround you) and mobile phone storage, user's also gave permission to their Gmail accounts and all information that is connected with the account. Niantic assured that they used an older, basic Google app setup which caused the permission request and that they aim to address this with Google as they did not require any additional data.

The consumer advice center (Verbraucherzentrale) in Germany served notice to Niantic in eleven clauses with regards to contract agreements, corporate veils and others, and four clauses that are in conflict with the data security law. The problems with the user agreements starts with the clause that says that the contract underlies the law of the state of California, USA, which is incompatible with European laws. Another issue in the agreements was that Niantic was allowed to change the contract at any time. The user agreement stated that Niantic would be allowed to disable or recall their services without any prior notice. This meant that there would be no chance for users to recoup payment for in-app items, even if the customer did nothing wrong. Furthermore, Niantic claimed that they are not liable for any accident, damage or harm caused by the game. The consumer advice center also questioned the exposure of the user data, as the user agreements says that all collected and stored data belongs to the company, Niantic. Therefore, if Niantic should get bought by another company, all data would also be transferred in the sale. Also, Niantic had a clause saying that any user data can be used, copied or even modified.

Moreover, Niantic would be able to share data with private shareholders to process them so that it can be used in case of any legal actions or to protect the company's own property or security. The consumer advice center stated that Niantic was very responsive to this pressure and duly changed their user agreements, that to date, the user agreements should be in compliance with the law. (Verbraucherzentrale, 2016a, Verbraucherzentrale, 2016b).

Krüger et al. (2016) revealed a couple of legal issues caused by the users themselves. *Pokémon GO* users are paying less attention to their environment; people caused car crashes because they played the game while driving their car, because *Pokémon*s appear with every single step that you move forward. Niantic tried to limit the risk and added a technical constraint in such way that the mobile phone recognizes the velocity of the user. But there were still many accidents, some of which were fatal, while people tried to catch *Pokémon*s at dangerous locations such as cliffs²(Cockburn, 2016). There were also cases where *Pokémon* users fell victims to robbery and other crimes, which resulted in its own law in New York, prohibiting sexual offenders from playing the game. (Bayerl, 2016; Krüger et al., 2016, pp. 429–433)

Many *Pokémon* users assaulted private and public estates, like churches, military property and even cemeteries in the hope of catching rare *Pokémon*s. From a legal perspective those agitations caused not only noise disturbances but also domestic disturbances (especially when entering private gateways or gardens).

In addition, gameplay was and is lacking. Adults in particular that played *Pokémon* as kids expected a similar gameplay concept to that of *Pokémon Red* or *Pokémon Blue*. When you see a *Pokémon* you are not able to fight against it and there is also no possibility to fight against each other while catching *Pokémon*s along the way. A certain level needs to be reached before you can fight, and to do so, users have to go to *Pokémon* arenas. Therefore, the gameplay became tedious relatively quickly. It also took two years before crucial features such as trading *Pokémon*s was possible (Pokémon Go Live, 2018)

As quickly as *Pokémon GO* rose, so quick was its decline. After one year, less than a quarter of the original 45 million active *Pokémon GO* users are currently playing the game. (Die

²Here I want to point out, that there is a page called <http://pokemongodeathtracker.com/> that tracked (deadly) accidents caused while playing *Pokémon GO* (until November 2017). There is a list with all happenings and the publisher also tried to give proof by linking to online news articles.

Presse, 2017). The game had several bugs including game crashes and many severe issues due to the large number of players. One of the main reasons why the number of *Pokémon GO* users dropped significantly was the poor quality of the updates. One of the first updates removed an important feature for users – footsteps indicated the distance to the next *Pokémon* in your area, so you knew if they are nearby or a further distance away (Griffin, 2016a; Griffin, 2016b). This major update also caused a technical issue with the major consequence that *Pokémon GO* users' player level got set back to level one (Newcomb, 2016). But beside those poor updates, users were annoyed at the lack of features, such as before mentioned ability to fight against friends or *Pokémon*s directly. Although certain *Pokémon GO* events (called raids) created some additional peaks in the user experience, users became bored with the daily gameplay, like the study from Götz et. al. has shown. (Götz, Mendel, & Bulla, 2017, pp. 260–261)

3.2. Positive Aspects and Success of *Pokémon GO*

Despite the issues there are also many of positive aspects that need to be mentioned. Premchan et al. (Premchan, Wakeman, & Devasagayam, 2017) claim that *Pokémon GO* has changed the perception of (video) gamers. Gamers are usually associated with people who are sitting in front of their computers for several hours, with little or no social interaction. *Pokémon GO* proved that there are more aspects to gaming and made it possible to debunk this stereotypical view by proving that games can be also played outside and support interactions with other people and players. Moreover, *Pokémon GO* has shown that anyone can play (mobile) games, in spite of gaming experience, age or gender. Some believe that gaming also has the potential to help people with depression and social anxiety, as users need to go outside and could encounter someone else also playing the game. (Tobin, 2002; van Ameringen, Simpson, Turna, Patterson, & Pullia, 2017; Wei, 2016)

Tang (Tang, 2017, pp. 726–727) argues that the success of *Pokémon GO* is influenced by nostalgia, as many of the users would have already played a version of *Pokémon* or engaged with the series in their childhood. Her research found that more than two thirds of users played the game because they have watched the TV series. Moreover, Tang claims that more

than a half of the users play *Pokémon GO* because their childhood dream to catch *Pokémon*s in the real world finally became a reality.

Newzoo claims that the older *Pokémon GO* users could have played the very first *Pokémon* editions, whereas younger users played the older editions like Ruby or Sapphire. The study revealed that more than 70% of *Pokémon GO* users played *Pokémon* before the release of the app. (see Image 12, Newzoo 2)

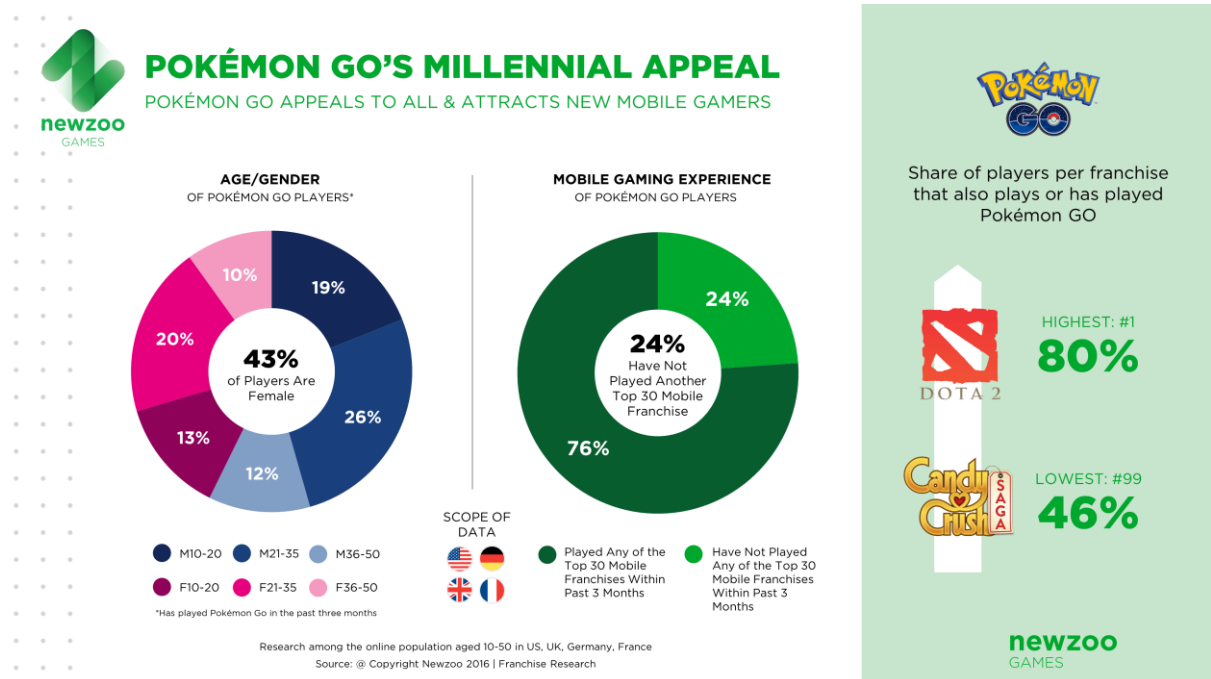


Image 12: Very significant to see that people raised up with *Pokémon* (Age 21-25) are the main users today (Newzoo 2)

Another positive aspect of *Pokémon GO* mentioned by several authors, (Griffiths, 2016; Tang, 2017, and many others) is the usage of augmented reality, that allows users to play the game while still being connected with the real world. This adds an additional element of excitement to the gameplay as *Pokémon*s can appear anywhere – as long as you have this function enabled on your phone.

Besides the augmented reality, Griffiths (Griffiths, 2016) says that the game has the advantage that it is easily accessible by downloading it for free in the official app stores. Furthermore, as it is played on a smartphone users can play it in any location at any time. He believes that *Pokémon GO* is motivating users to play not only because it has simple

gameplay, but you can achieve certain goals and items within the game. For example, if you come into possession of an egg and you have achieved a certain number of kilometers, the *Pokémon* in the egg will evolve – this not only motivates a user to cover a certain distance, it also motivates a user to continue playing and collect more *Pokémons*, game items, etc. (Griffiths, 2016). With this idea, Griffiths underlines Russel W. Belk's idea during an interview with Forbes magazine, where he says that people love to collect things. In former times people collected items such as stamps or coins, whereas today people collect digital items, as in this case the *Pokémons*. (Chamary, 2016)

In their study, Alberico et. al. (Marquet, Alberico, Adlakha, & Hipp, 2017, 7-8) found out that there are essentially two different purposes to playing *Pokémon GO*. The one being that users enjoy the physical activities that the game requires, the other to enjoy the possibilities of discovering their surrounding and new places, while searching for places where Pokéstops or battle arenas are located. Usually the *Pokémon* arenas are located at areas of significance such as city landmarks, museums or other public places. Due to these movements *Pokémon GO* users met many other users and enjoyed meeting new people and to play together with them or rather battle against them.

However, different research revealed that the physical and social benefits are not as strong as initially believed. Nikou et. al. (Nikou, Tarvoll, & Öörni, 2018, pp. 1910–1911) found that the most significant benefit of *Pokémon GO* is the emotional wellbeing as a result of playing the game. It seems that users enjoy the game in addition to experiencing positive emotions while playing the game.

3.3. *Pokémon GO App and Gameplay*

As already mentioned the basic idea behind *Pokémon GO* is to catch all *Pokémon*s that are available. With the launch of *Pokémon GO* in 2016 it was only possible to catch *Pokémon*s of the first generation (or rather *Pokémon*s that were available in the Game Boy edition *Pokémon Red* and *Pokémon Blue*). Since June 2018 it is also possible to trade *Pokémon*s with friends.

After installing the game the user needs to add their date of birth and then login either with their Facebook or their Google account. There is also an option to create an account of the *Pokémon Trainer Club*. When choosing Facebook you allow the app to get access to your profile data but not necessarily to your email address.

The next step is to agree to the terms and conditions (last update is dated with July 2016) of the game. The first step states that if the terms have been accepted, the user disclaims to be part of any class actions. The next paragraphs state that the user agrees to not emotionally hurt other people, playing on private properties or similar. Also, Niantic is not liable for any injuries or in the case of death. Niantic has no rights to own any of the user contents. In the current app version *Pokémon*s can be traded, therefore, Niantic added a section in their terms saying that trading objects are simply objects, with no additional value; therefore, they cannot be sold for virtual or real currency. Also, virtual goods (in-app items) cannot be changed back to real currency. Niantic is allowed to serve notice of virtual goods, trading objects or even the account of the user if they are not active for one year, disregarded the terms and conditions, misused objects for example by selling them, another illegal activity happened or if Niantic has to protect its or the user's reputation. If a serve of notice should happen, Niantic will warn the user 60 days in advance. The user agrees that they act in conformity with the community guidelines (no racism, hate, etc.).

When accepting these terms and conditions a pop-up tells the user to read the updated data security policies, dated with June 18, 2018³. They offer two email addresses and a postal address, for the case that the user has questions about the policy. Niantic states that the user needs to use a login service (they call it "Single-Sign-On-Service"; Facebook, Google) to

³ <https://www.nianticlabs.com/privacy/de>

guarantee a user identification. Using the Facebook account allows them access to certain information but there are no further details as to which data. Niantic is not only checking the user's position via the GPS or Wifi, they also collect data about the gameplay; which mobile phone has been used, which settings have been made, which other apps are installed to ensure a fair game experience. They also use the data to offer customer and technical support. Niantic ensures that Facebook friends list will be only accessed if the user gives their consent.

The data will not be shared with third parties, with the exception of their service provider that they use for the app to ensure that the provider can fully offer the service to the user. The service provider supports them in maintaining the app, moderating content, e-mail campaigns, game and marketing analytics, organization of live events as well as customer support. If the purpose is reached, for example the user stops playing; the data gets either deleted or anonymized. Also, Niantic underlines that the user can request which data has been stored, that the data gets updated or deleted, raise a plea about the data processing or that the user can lodge a complaint to a regulatory authority. The game can then finally be played.

Another point of interest is, that on each occasion the user returns to the game they receive a note saying that the game should not be played while driving a car or the user should not enter private property. The game starts with a professor asking the user for help with finding *Pokémons*, which is the primary storyline that leads the game. The user is able to make edits and customize their avatar – choosing if it should be a boy or a girl, hair color, shirt, hat, shoes, etc. Before selecting a name the user receives Pokéballs and can immediately begin to start catching *Pokémons*. Giving the avatar a name was not straight forward as the favorite names were no longer available. I was fortunate that the first *Pokémon* appeared in my own house – it was a *Glumanda*, one of the first *Pokémons* when I played *Pokémon* in my childhood (fortune? See discussion in chapter 6.2). I was later informed that it is normal that three legendary *Pokémon* appear at the very beginning and that you can catch just one of them – this is the same process as with the original *Pokémon* games.

When walking along the streets the smartphone vibrates if a *Pokémon* appears. There is, therefore, no need to continuously stare at the screen. When a *Pokémon* appears, the user can switch to the augmented reality view, although this feature does not work in low light



Image 15: generic view



Image 14: details about the caught *Pokémon*



Image 13: *Pokémon* nearby

conditions.

Catching a *Pokémon* is very easy as the user just needs to throw the Pokéball into the direction of the *Pokémon*. Once it stays inside, it shows an overview of what *Pokémon* it is, which level it has and what the user needs to evolve it (for example special bonbons, see Image 14).

On the generic view (see Image 15) the user can see a map of their surroundings, the level of the user as well as a small icon showing the current weather conditions. There is also a note which *Pokémon*s appear and are stronger than usual, for example when the weather is cloudy. There is also a small menu bar showing *Pokémon*s in the nearby surroundings close to significant locations such as the portal of the cemetery, a private house with a special painting on the wall, etc. (see Image 13). It does not indicate the distance or a detailed

description, but if a user is familiar with the location, they will know where to go. In the menu (which is hidden in the Pokéball of the basic view, see Image 15), the user can get to the Pokédex (= index of all *Pokémons*), to the shop, his/her *Pokémons* and Items. There is also a hint, a news and a setting section available.

There is no advertisement in the game, whether from third parties or other games from Niantic, nor from *Pokémon Go* itself. In the store the user can buy items for the avatar, it is called “Style Shop”, for about 100 to 400 *Pokémon* coins. Ten Pokéballs can be bought for 100 coins which has the value of about one Euro.

4. Hypotheses

The following hypotheses should be used to find an appropriate answer to the research question –

What are the reasons or rather the motivations of users for playing casual mobile games?

The first hypothesis is about the emotions or feelings that user experiences while playing. As is widely observed in social settings, many people are engaged on their smartphones, performing input gestures such as swiping, especially while waiting for a bus or sitting in a café. It can, therefore, be assumed that some smartphone owners use their device to play games as a means to alleviate boredom. It can also be assumed that casual mobile games do have a positive influence on mood, as the nature of casual games are designed to elicit the feeling of fun. Therefore, the first hypothesis is divided in two parts:

H1a) People play casual games because they are bored and/or want to get into a better mood.

H1b) People play casual games because they want to get into a better mood.

The second hypothesis is about the general reason why or rather when do users play casual games. Like the first hypothesis, it can be assumed that people are playing mobile games because they are waiting for something or someone:

H2: People play casual games to kill time for example while waiting at the doctor or while parents watch their children.

These hypotheses will be investigated in detail by executing interviews, doing a participative observation and an arousal and valence experiment, where participants have to indicate their emotional and activation level before and after playing *Pokémon GO*.

5. Methodology

5.1. Grounded Theory for Data Analysis

The Grounded Theory is a qualitative method that has been developed in the 1960s by Barney G. Glaser and Anselm L. Strauss. It combines different methods and instruments to create a realistic theory. One of the analysis instruments is the encoding which aims to filter out a main category with additional sub categories. With the main category it is possible to identify and describe the phenomenon in the content. (Lampert, 2005, p. 516-520)

The encoding procedure can be divided into three phases (Lampert, 2005, pp. 520):

- Open Encoding

The open encoding is the first phase, which tries to create a first concept. In this phase the data is divided into first categories.

- Axial Encoding

Categories which have been selected in the first phase are compared and divided into new categories.

- Selective Encoding

In the last phase a main category will be selected out of the categories (of the axial encoding phase). This main category describes the phenomenon most accurately. The remaining categories are compared with the main category and if necessary re-defined. These categories act in addition or at times as contrary to the main category.

All these steps are necessary to question the content as accurately as possible to create a truthful theory, which correlates to the reality. It is not obligatory to follow the phases in this order - these steps can be executed parallel or sometimes they also gear into each other. Most important is to reflect, question, compare and to be open towards the content in order to achieve a sound, academic result. (Lampert, 2005, pp. 522)

5.1.1. Development of the Interview and Selection of Participants

As there are different generations in the *Pokémon* games, it was interesting to find out if there are any differences due to the different ages. Therefore, two of the interviewees are around 20 years old whereas the other two interviewees are around 30. This means that the older interviewees were children when *Pokémon* was launched in the mid 90's. The criteria to take part in the interview was that the participants must have played or still play *Pokémon GO*. There were no criteria for them to have previously played or knew of *Pokémon* before *Pokémon GO*.

After selecting the interviewees the qualitative interview was set up. The interview itself is subdivided into four categories and is in German, as the interviewees were not entirely comfortable with English:

- General questions about games to figure out why the participants play games in general, how often they play, which kind of games and if they play on a smartphone or tablet. Additionally, there is one question about what they think makes a game a game.
- The second section is more specific about games and trying to keep a closer focus on the terms *casual* and *hardcore*, as well as a question about the feeling of time and space during the play.
- The third question is getting closer to *Pokémon GO* in asking about the knowledge of augmented reality and its potential to make mobile games more interesting to play.
- The final section asks questions about *Pokémon GO* itself, such as the reason behind playing this game, which emotions are elicited while playing, why participants think that the game is or was successful and what they think about in-app purchases in general and if they made use of it in *Pokémon GO*.

To underline or rather to provide an element of proof about the answers related to the question about how the participants feel while playing *Pokémon GO*, an element of participative observation was introduced. Participants were asked to go outside and play *Pokémon GO*, on a route that takes about 15-20 minutes and includes a Pokéstop. Before playing the game, they received the arousal and valence graphic and an explanation about the idea behind this concept. To make sure that everyone gets the same level of

information, the explanation text was standardized, and the participants were asked if they understood the concept (everyone indicated that they understood). They were asked to plot their arousal status and their valence status, so that in the end there was a certain point or rather a certain emotion that could have been assigned to this position. After the walk or rather the play session, the participants were asked to repeat the procedure in order to determine whether their emotional and activation status had changed in a positive or negative way.

The interviews were transcribed and analyzed with the grounded theory (see chapter 5.1). A first perusal revealed some first rough categories. It was attempted to build the categories in a very objective way, to allow the data to reveal unexpected as well as expected results. The following section will present the findings or rather the found categories from the interviews. A deeper analysis and discussion can be found in chapter 6. On the following pages the interviewees will be named with letters instead of their full name: A., H., F. and M.

5.1.2. Findings Interview (Categories Grounded Theory)

The grounded theory revealed six main categories, shortly summed up:

- **Motives to play:** The main reasons to play games like *Pokémon GO* are killing time (while waiting for something or someone) and a certain nostalgia effect. But also, the easy handling and the short play sequences that casual games offer, attract the users to play. Other reasons such as escaping reality and simply playing because it is fun, have also been mentioned in the interviews.
- **Pokémon Go:** The game *Pokémon GO* seems to be a successful game because in certain ways it connects with the previous *Pokémon* games. It connects people and can be played with others or alone. However, the user experience is limited and does not meet expectations, which makes the game boring when a certain point is reached.
- **Social:** *Pokémon GO* is not only a game to be played alone, the big hype in 2016 connected people throughout all social levels and ages. While meeting friends, users met new people at crowded places. Even parents or older people aged 60+ played

Pokémon GO. The interview participants were fascinated by how *Pokémon GO* connected people. But at the same time, this hype and its presence across all media channels created a certain pressure to play it, whether to find out why everyone is getting crazy about this game or just to be part of the hype.

- **Casual:** While the participants think that computer games can be complex and need a certain commitment, especially when talking about time, they appreciate the simplicity and the entertaining character of casual games. These games can be opened and closed at any time, and levels are completed quickly, while also achieving a quick success.
- **Technical Limits:** Like every coin has two sides, mobile games also have limitations. Although smartphones are exceptionally powerful, mobile games are limited by battery life and most also require substantial internet volume. Moreover, many of the mobile games are on a Free2Play basis and earn revenue through in-app items, which is a negative aspect for all interview participants. New technologies like augmented reality seem to be interesting; however, they suffer from the aforementioned limitations.
- **Expectations on Games:** The participants shared their expectations on games. It was interesting to note that nearly all interviewees held the same expectations –the technological standard should be as high as possible (e.g. graphics of the game), the gameplay or rather the handling must be good (this also includes skills that can be learned, improvements from one level to the next, complexity and challenge of tasks) and the story must be compelling.
- **Time & Space:** The interview revealed that time and space are still very present while playing *Pokémon GO*, because firstly you see the daylight and approximately know what time it is, and secondly due to the fact they have to check the battery status, they always see the clock on their smartphones.

Although two of the interview participants were about ten years younger than the others, the answers were very similar. The detailed results will be presented on the following pages, whereas the discussion on the results can be found in chapter 6.

MOTIVES

It turned out that there are several motives to play games. The first motives are generally about the reasons to play (casual) games: Waiting & Kill Time seems to be the strongest motivation to play casual games, followed by the nostalgia factor, which has a very high impact on playing *Pokémon Go*. Another reason that the interviews revealed is the mechanics or rather the characteristics of casual games themselves - they are uncomplicated and developed to be played in short sequences (casual has been outlined as a category by itself). All of these frequently mentioned motives shall be described in detail in the sections below.

- WAITING & KILL TIME

By far, the most commonly mentioned reason for playing games was to kill time. This was particularly true for the two younger participants, one having recently left school, the other currently studying, said that they play games to pass time, or when they are bored. However, both pointed out that they play less when they need to invest time into studying (at that time one participant was preparing for their final exams). H. stressed several times that he plays casual games simply because he has nothing better to do other than playing games.

The phenomenon of passing time appears especially when participants are required to wait for someone, for example waiting for the doctor or for a friend. Travelling is also a time, where the participants are in the need to pass time and play games, such as travelling by train or bus. For F. walking from A to B also offers an opportunity to play games. Waiting for people and travelling are not the only reasons for playing, waiting at home also seems to be an acceptable reason to play, for example while waiting for dinner or even while using the bathroom.

- NOSTALGIA

An intense motivation to play *Pokémon GO* is a certain nostalgia factor. During the interviews it could be observed that the participants have positive memories of *Pokémon*. All of them had played *Pokémon* in previous years, most of them mentioned that they played it

with their friends or siblings. Some also played *Pokémon* in the early stages of the game. M. said playing *Pokémon GO* felt like playing *Pokémon* on the Game Boy long time ago:

Es war dieses Pokémon selbst, war ein Spiel aus meiner Kindheit, das habe ich am Gameboy gespielt. Es war wieder ein bisschen dieses Retrofeeling.
(M85-M86)

A. was particularly fascinated that Nintendo is re-inventing their old game titles and also publishing new games, like *Zelda* or *Super Mario*. He underlined, that Nintendo is publishing a lot of games for “old” fans:

Aber trotzdem, Nintendo hat halt oft oder meistens diesen Nostalgiefaktor, also das finde ich bei Nintendo sehr interessant, dass sie immer alte Sachen neu ausrollen in allen Bereichen - bei Mario, bei Zelda, bei keine Ahnung, die ganzen alten Figuren, die sie halt haben. Dann die, keine Ahnung wie lang es die Smash Bros Reihe schon gibt, diese ganzen Sachen. Also die machen halt was für die alten Fans, sagen wir es so. (A175-180).

But Nintendo was not only successful in re-activating “old” fans, they also reached a large group of new fans, like M. said impressed:

Die Stärke ist, dass sie es definitiv geschafft haben dieses alte Feeling wieder aufleben zu lassen und damit quasi auch wieder diese alten Gamer die es früher am Gameboy gespielt haben wieder herzuholen, dass die das auch spielen. Und gleichzeitig es geschafft haben, die neue Generation anzusprechen. (M111-114)

Although nostalgia is one of the main reasons why people play *Pokémon Go*, it is also one of the reasons why people stopped playing it. Nearly all participants claim that their expectations have not been fulfilled. The game experience is very limited as users can only throw Pokéballs and fighting is only possible against other users when entering an arena. F. also mentioned that he was seeking for a game like *Age of Empires* because he played it when he was a teenager. When he started playing *Clash of Clans* he was hoping to have a

similar strategic game but noticed quite quickly that you are able to build whole villages, but it is not possible to build an army and to fight against other enemies like in *Age of Empires*. Therefore, he lost his interest in the game fairly quickly.

- OTHER MOTIVES

There are also other reasons to play games. They do not seem to have as strong an impact as killing time and nostalgia, however, they are still important enough to be mentioned. Some participants said that they use games to escape from reality. H. said, although he appreciates playing together with friends, he sometimes enjoys escaping reality and also escaping from his friends:

Ja, weil man gerne mal aus der Realität verschwinden will. Das ist zumindest bei mir der Fall. Wenn mich etwas nervt dann spiele ich eine Runde irgendwas, irgendwas anderes. (H13-14)

Also generell auf dem PC spiele ich gern Rollenspiele, die dann Singleplayer-Spiele sind, wo ich mich selbst in einer Welt vertiefen kann, wenn ich grad nichts zu tun haben will mit meinen Freunden und keinen Bock drauf habe mit denen zu reden. (H69-H71)

It also seems that playing games helps him to escape from negative feelings, as he also plays when he is frustrated with something (or someone). Another motive that has been mentioned several times is that games create the feeling of having fun. H. mentioned that the interesting thing about mobile games is that they create the feeling of having fun and are quite good, whereas free PC games are for the most part, not as good. Conversely, he also said that most mobile Free2Play games do not make it possible to play with the same intensity as purchased PC games:

Und die Free2Play Titel und teilweise Pay2Win die sind halt mehr so auf "ich hab jetzt mal irgendwas rausgebracht und vielleicht krieg ich da ein bisschen ein Geld" und das sind halt so Casual Games. Manchmal machen sie ein bisschen Spaß, aber ist nichts wo man richtig reinsüchteln kann. (H175-H179)

In particular with regards to *Pokémon GO*, it seems that the media and others who play the game or simply talk about it, have a strong impact on the user's motivation to play a game. Also A. is of the opinion that the media was a strong influencer and that people wanted to give it a try:

[...] es war einfach weil es dann in den Medien auch war, und keine Ahnung, es war einfach präsent, das hat viele Leute dazu gebracht es zumindest zu probieren, es sich anzuschauen und viele sind dann sicher eine Zeitlang dabei geblieben [...](A383-A386)

M. also said that the children were curious about this game because they have seen their parents and other children playing it. The last subcategory of *Motivation* is the challenge or rather the feeling of success that players experience during the game. F. said that the quick success in mobile games might be one of the main reasons to play. A. mentioned that on the one hand *Pokémon GO* was frustrating because rare *Pokémons* were hard to catch but although he felt like he needed to complete the challenge of catching all *Pokémons*.

POKÉMON GO

The category *Pokémon GO* is a combination of catch, battle, meeting (new) people (more is outlined in the category SOCIAL), nostalgia and weaknesses of the game. Firstly, it must be noted that this category can also be seen as a part of the *Motivation* category because all of the participants were excited to play *Pokémon GO* because they played it in previous years.

The interviews indicated that there are two types of *Pokémon GO* users. The first group of users is mainly focused on the *Pokémon* slogan "Catch 'em all". It was mentioned several times that the primary intention of playing *Pokémon GO* was to expand their collections of *Pokémon* in the so-called Pokédex (= an index of all available *Pokémons*). Finding rare *Pokémons* seems to be the greatest attraction, and at the same time one of the frustration drivers in the game, as finding rare *Pokémons* can be time consuming and they can only be found at special places, some of them only during a certain time of day or night. Participant F. describes his fascination and frustration with rare *Pokémons*:

Und das interessanteste war auch tatsächlich am Anfang noch seltene Pokémon zu finden. zu merken ah da taucht jetzt eines auf das hab ich noch nie gesehen, ich spiele das jetzt seit Wochen oder Monaten und das hab ich erstmal gesehen und dann versuchst du das zu fangen. Und wenn du das dann hast und möchtest es entwickeln merkst du dann wie schwer es ist weiter zu kommen, weil diese Pokémon so selten auftauchen und denkst du dir boah ist das zäh [...] (F203-2018)

However, participants also used the number and the diversity of *Pokémon*s caught as some kind of competition and a possibility to play *Pokémon* with or rather against friends and family, like M. said twice:

Und was wirklich Spaß gemacht hat und wo wir es damals mit meiner Frau gemeinsam gespielt haben und wo es darum gegangen ist, dass es ein kleiner Wettkampf ist. Wer hat jetzt mehr Pokémon gefangen. Und wo hast du wieder das gefunden, da musst du jetzt hin [...] (M86-M89)

Naja einfach dieses Ding, du willst jetzt weiter kommen, du willst mehr haben als der mit dem du dich misst, z.B. der Partner, was auch immer. Und du willst einfach immer die Herausforderung und immer neue Pokémon haben und immer bessere Pokémon haben. (M98-M100)

But M. also said, similarly to F. that catching *Pokémon*s was also very frustrating because very often the “new” and stronger *Pokémon*s are very hard to catch and you are wasting a lot of Pokéballs until it is captured.

Although the media celebrated *Pokémon GO* because people had to go outside to play it, which seems to have a positive influence on their health, the four participants only briefly mentioned this. H. said he appreciates the idea of playing it outside and that he loves to take a walk, but he would never have had a reason to do so until he started playing *Pokémon GO*. On the other hand, F. criticized that you need to take long walks to reach Pokéstops, to get items, or to develop the caught *Pokémon*s. He said, that he was in the fortunate position of having a Pokéstop close to his home so there was no need to leave the house.

Other than the previously mentioned limitations, participants missed the excitement in the game. They said that the gameplay was too easy as you only had to throw the Pokéball and that the chances (with exceptions of the rare *Pokémons*) to catch it were not that bad. F. was complaining that due to the missing game mechanics (fighting against other *Pokémon* to catch them) the game experience is very limited. However, despite this, he has not really stopped playing it. He said that the reason for this phenomenon could be that you feel like you need to continue, although you are no longer interested:

Naja, zum Schluss war es echt nur noch langweilig. Also Emotion - Gleichgültigkeit. Zum Schluss war nur noch Gleichgültigkeit und ja, ich mach es halt, weil naja, dann geht es halt irgendwie weiter. Also so ein "Kontinuitätsgefühl" irgendwie. (F195-F197)

A large part of the users are former *Pokémon* fans that played *Pokémon* years ago, most of them probably in their childhood, like the interview participants. Some participants were curious if the gameplay will meet their expectations – and it must be mentioned once more, their dream of fighting against *Pokémon* and catching them was not fulfilled. However, the participants still had the same feelings as when they played it many years ago. More details about *Pokémon* and Nostalgia can be found some sections above.

SOCIAL

Participants observed a wide target group of *Pokémon* users – from previous *Pokémon* fans, young children with their parents, and even elderly people who played it. A. remembered that the older people aged between 60 and 70, had no knowledge of *Pokémon* before and also spelled the names incorrectly, however, they were really good at the game and at times even had higher levels than others:

[...] da war es teilweise ja so, Minimundus ganz am Anfang da waren Massen, da waren so viele auch so ältere Leute, also wirklich 60, 70 plus sogar, die haben gespielt und waren vom Level her weit über allen anderen, die das halt wirklich total intensiv gespielt haben [...] Das hat mich ein bisschen fasziniert. (A375-381)

There could be many reasons why so many people, especially unexpected target groups like people aged 60+ or parents played *Pokémon GO*. One prominent reason seems to be the

high media saturation within society. A. also believes that it is only a matter of time until someone gets in touch with *Pokémon GO*, because it is in the media.

A part of the participants was also interested in competing with others in arenas. It must be noted that battles against others are only possible in arenas, which can only be found at highly frequented places, such as monuments or museums. While battling others, H. highly appreciated the possibility to get in touch with other users and to get to know new people, while meeting his own friends:

Weiters war es halt quasi ein Pokémon im Multiplayer-Modus, weil ich mich halt mit meinen Freunden getroffen habe und dann haben wir geschaut, wer jetzt die besseren Pokémon findet und wer die Arena zuerst einnimmt und so. Es ist auf jeden Fall Kontaktbasiert mit anderen Leuten. Bei manchen Expeditionen im Europapark z.B. hab ich auch Leute kennengelernt, das macht schon viel aus, finde ich. Das war ein cooles Erlebnis da mit anderen Leuten sowas zu spielen.(H237-242)

CASUAL

The interviews revealed that the characteristics of casual games seem to be the key why people play games. The participants described casual games as games, which are easy to learn. The rules and the whole gameplay are quite easy, and it does not take that much time to learn how the game works. Additionally, casual games consist of many short levels. Whether you have to collect a certain number of points or the time is limited, casual games are designed so that you can play levels for only a few minutes, for example while waiting for something. Moreover, although or because of the short levels, the participants said that casual games enable a quick success.

However, the participants criticized the limited input options of these games, as a mobile phone is not as practical as a controller. Therefore, the gameplay and the level of entertainment are also limited by technical boundaries. All participants said that new mobile games are interesting to try. One participant also mentioned that most of the games are also quite good although they are essentially free. Although the games can be learned very easily

and promise of quick success, the technical limitations become frustrating relatively soon as the tasks and the game mechanics are always the same. H. also said that it is nearly impossible to play these games until the end and cites *Clash of Clans* as an example. He claims that levels are always the same and just the skills and items change:

[...] ich meine Clash of Clans kannst du nicht durchgespielt haben, aber ich meine es ist halt immer das Gleiche, keine Abwechslung. Du wirst nur irgendwann stärker und hast neue Tiere aber es ist trotzdem noch das Gleiche. (H177-179)

A. also said that he is not able to play these kind of games for a long time because he loses interest in them. F. said something similar but underlined that although games become boring he can barely stop playing them, also mentioning *Clash of Clans* and also *Pokémon Go*:

Nein, ich hab halt jetzt zuletzt lange Pokémon Go gespielt und das war eh schon mehr nur noch so zum Weitermachen, als dass ich da jetzt überzeugt war. (F14-F15)

Deshalb fand ich Clash of Clans dann eigentlich auch schnell wieder langweilig und hab's dann trotzdem weitergespielt. (F54-55)

EMOTIONS

At its core, this master thesis aims to find out whether or not (mobile) games have an impact on the participant's motivation. To this end, the participants have not particularly answered how they feel while playing games or how they feel afterwards:

Spezielle Emotionen hatte ich dabei nicht. (A342)

Gute Frage, ich glaub ich hab mich nicht besonders gefühlt. (H281)

Only F. and M. said that they often felt frustrated or bored while playing *Pokémon GO*. When asking F. if he had only negative feelings about *Pokémon GO*, he said that at the beginning he felt a certain excitement but over time it became frustrating because the success in the game slowed down and catching rare *Pokémons* became harder. A surprising note came

from H. who said that he was never ashamed of himself while playing the game. He thinks that a few people feel ashamed:

Geschämt habe ich mich sowieso nie. Vielleicht, dass manche sagen könnten, dass sie sich schämen könnten, das hatte ich nicht. (H281-H279)

The participative observation and the arousal and valence experiment revealed more about the participants' feelings (see chapter 5.2. Arousal and Valence Experiment)

TECHNICAL LIMITATIONS

Most of the negative comments are about the technical limitations that casual games in general, but also *Pokémon GO*, have. Although new generations of smartphones have a good performance (speed, graphics, capacities) all participants complained that the batteries drain too quickly while playing a mobile game. Moreover, most of the mobile games require an internet connection while playing the game, which causes troubles with the available data volume of the users.

An unexpected finding was that the participants generally like the idea of augmented reality, but at the same time they are very skeptical about it. On the one hand, participants believe that augmented reality has some potential to invent a new way of playing games, but none of them were confident about it. One participant said he likes the "game idea" ("Spieleidee") of *Pokémon GO* - seeing *Pokémons* in your real-world environment is an exciting idea. But on the other hand, participants said that the first experience with augmented reality has not fulfilled their expectations. A. claims that augmented reality is neither virtual nor real.

Ich glaube es ist nur eine Spielerei. Ich kann mir das jetzt nicht so vorstellen, dass es so irgendwie Zukunft hat. Ich glaube, dann schon eher das richtige Virtual Reality wo du dich dann quasi so bewegst, mit Brille auf. Also ich glaube, dass das dann eher die Zukunft sein wird. Also dieses halb halb kann ich mir jetzt nicht so vorstellen. (A296-A299)

A. believes that the main problem is that the user is neither that involved in the game that you are able to escape reality, like when playing “traditional” PC or mobile games, nor is it possible that you are a part of the game itself. For example like in a virtual reality game where users wear glasses and have the actual experience (feeling of of sitting in a real roller coaster). Although the participants had a clear opinion about augmented reality, it was surprising that the participative observation revealed that none of them used the augmented reality function while playing *Pokémon GO*. One said he had only seen it on a friend’s phone, but never activated it on his own phone because he was not able to find it. The others said that the battery life suffers from activating the augmented reality function - the reason therefore is, that the smartphone requires more computing power because the smartphone also needs to activate the camera while rendering the digital *Pokémons* onto the screen in camera view.

Another limitation that participants see in mobile games are in-app items. All participants criticized that users who pay for certain items have an advantage over users that are not willing to pay. However, all participants argued that in today’s climate most of the Free2Play games are still playable without paying for digital items, but you need to consider that you need to invest significantly more time into the game to reach the same level as the user who opts to purchase in-app items. It appears that *Pokémon GO* is also playable without in-App purchases. One participant reassured that you need a bit more effort and time without in-app items, but that it might make a difference once you reach a very high level in *Pokémon GO*. In general, M. criticized that the price of the items is simply too high, while another participant said that he understands that games offer in-app items because they need to break even. H. said, as long as the items are not influencing success in a game, for example if you can just buy a new outfit for the avatar, it can be generally accepted to sell those items.

EXPECTATIONS

One question in the interview was about the general expectations that the participants have when they think of games. It was generally agreed that a game must not only fulfill technological standards such as good graphics, but a good game must also have a good

story⁴. H. said, that games are also interesting when they have a good side story with small quests, that are not necessarily connected to the main story. As for the technological fulfillments, A. said that games should be designed in such way that they use the highest possible standards. And although he mentioned that he likes that Nintendo publishes remakes, he believes that it is not as up to date as Playstation or Xbox titles are.

Another important criteria is the level of challenge and the complexity of games, and for some of the participants the competition factor is also quite important. F. also believes that it is important that the game or rather the story has nothing to do with the everyday life

Also es muss eine Beschäftigung sein, bei der man eine Tätigkeit macht, die vielleicht nichts mit dem Alltag zu tun hat. Auf die man sich konzentrieren kann und die zumindest eine minimale Herausforderung darstellt. Und wo man danach irgendwie ein Ergebnis hat, vielleicht sogar ein messbares Ergebnis.(F89-90)

As already mentioned previously, *Pokémon GO* fulfills this criteria to an extent, but in this game throwing a ball is neither a challenging nor a complex task. The participants also criticized that mobile games are unable to match the standards of PC games, particularly in terms of the handling/control of the game. However, fulfilling tasks or opportunities to battle against each other are also the participants' requirements, and are also positively mentioned in relation to *Pokémon GO* (see section *POKÉMON*).

The desire to have a game where the user has a learning curve in the sense that you learn different skills and improve throughout the game was mentioned by a single participant. H. said games that also offer the possibility to learn skills at a later stage in the game or rather at a higher level are the best ones, he appreciates the gimmicks:

Kniffe, irgendwelche Kniffe [...], also irgendwas, dass du so als Anfänger nicht brauchst, was du aber wenn du Fortgeschritten weiter kommst und immer besser wirst, dann kommst du immer wieder drauf [...], dass ich noch ein bisschen besser bin. (H129-134)

⁴ It must be noted that the definition of "a good game" has not been further investigated in this research.

TIME & SPACE

The answer on the question whether the participants lose the feeling of time and space while playing mobile games, was a bit ambivalent. It was generally agreed that users lose the feeling of time while playing mobile games. H. believes that the reason for this is that you are focusing on the screen and it just feels like making a few clicks in the game, while time passes. M. also said that playing casual games often feels like just playing for a few minutes.

But on the other hand, participants mentioned that in *Pokémon GO* the feeling for time is still available for a completely unexpected reason – they have to check the battery status every regularly and next to the battery symbol, the current time of day is generally displayed. However, A. admits that there is the perception of time running a bit quicker:

Wenn du dann viel herum gehst vergeht die Zeit schon schneller, wahrscheinlich schneller, weil du nicht so drauf achtest, aber....so, dass ich mich darin verlier war es eigentlich nie, weil ich halt immer irgendwie, du bist ja trotzdem in der Umgebung.(A269-A271)

Also, because *Pokémon GO* is played outside, the participants notices the daylight and is able to estimate how much time has passed while playing. With regards to space, one participant said that it was nearly impossible to lose the feeling of space because you were actively playing outside. Additionally, he said that the augmented reality function allows you to stay connected with the environment – although it must be mentioned here, that he has not used this functionality because of the heavy strain on the battery.

H. believes that time passes more even more quickly when the game is a Single-Player-Game, while Multi-Player-Games are temporal and limited:

Also generell bei Singleplayer-Spielen verlierst du viel mehr das Zeitgefühl, als bei Multiplayer-Spielen. Bei Multiplayer-Spielen weißt du halt, eine Runde dauert 10 Minuten oder eine Stunde durchschnittlich oder sowas und Singleplayer das ist nicht Rundenbasiert, da spielst du einfach durch. (H196-H199)

5.2.Arousal and Valence Experiment

As already mentioned, the participants were asked to define their activation and emotional level on the circumplex model. The original model of Russel (see chapter 2.6.1 Arousal and Valence) is a very simple model.

The participants received a short, standardized introduction into the circumplex model and were also asked if they understood the concept. They were then asked to plot their level of activation – more active or more passive - and how they feel – more positive or more negative. They were told not to read the emotions outlined on the model and to only follow their current feeling. The participants then played *Pokémon GO* for about 20-30 minutes. The route was the same for all participants and included a Pokéstop. They were then asked to once again plot their level of activation and if they felt positive or negative. The red marks represent the result before, the blue ones the result after playing *Pokémon Go*.

Three of the participants showed a positive change after playing *Pokémon Go*. Participant A. showed a significant change on the activation scale and also felt more positive (see Image 16). Following the labeling of the model, the emotions changed from “confident” to “delighted”.

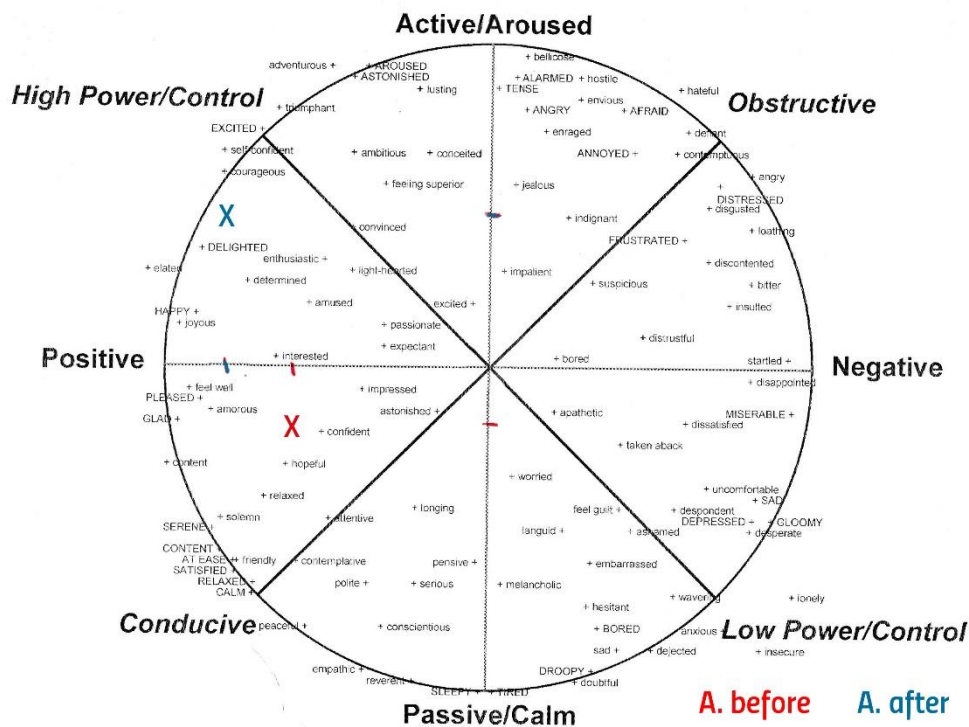


Image 16: A showed the most significant change

The participants H. and F. showed very similar results (see Image 17 and 18). The starting point showed that they were positively interested and a little bit aroused. After the play session the activation level was higher, but the valence was nearly the same and only slightly decreased. It must be said that this was an unexpected result from F., as the app broke down during the experiment and caused a temporary frustration. The emotions changed from “amused” to “convinced”.

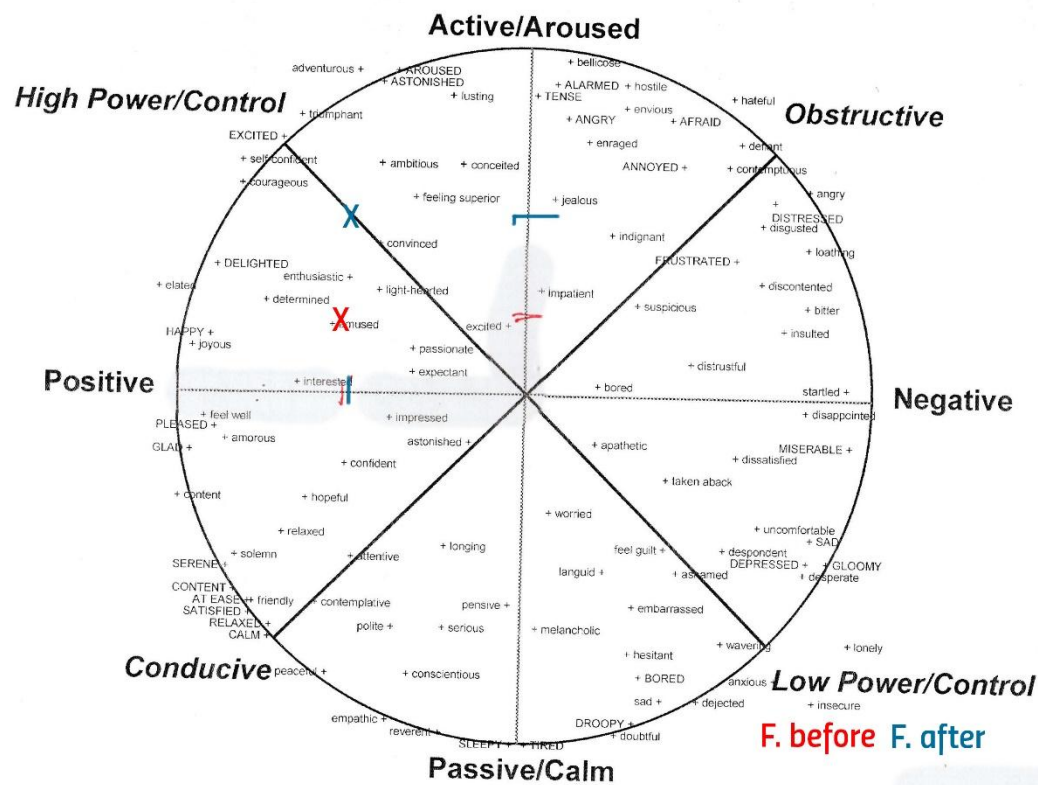


Image 17: Only the activation level of F. showed a change

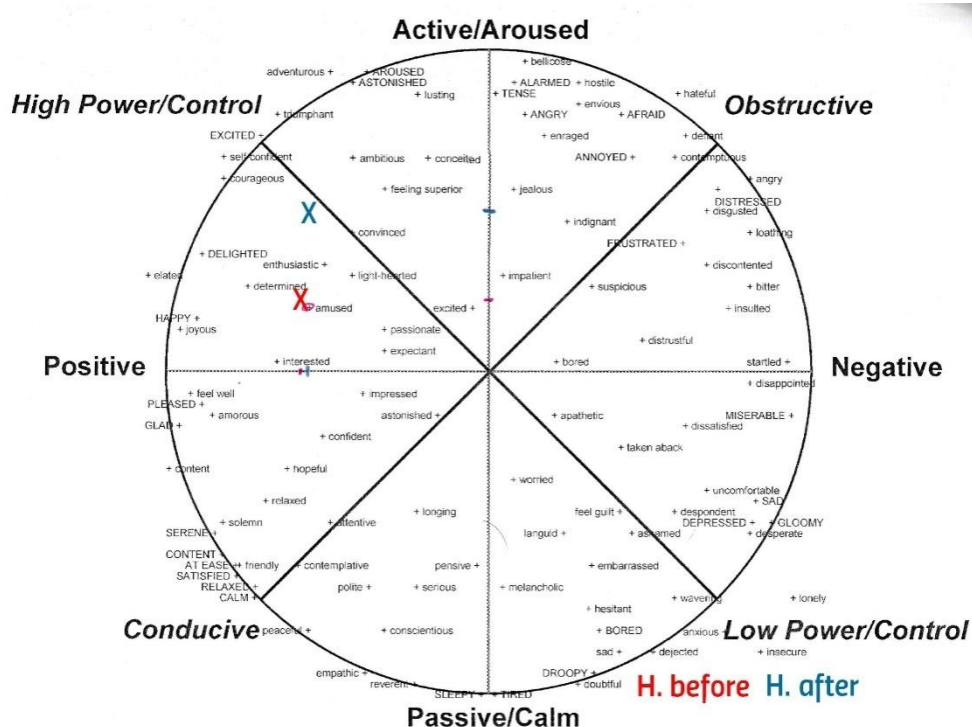


Image 18: H. showed a similar result than F.

Only participant M. showed a positive and negative result after playing *Pokémon GO* (see image 19). Although the value of valence increased, the level of activation dropped. The emotions changed from “amused” to “interested”. As it seems that the game had a negative impact on the participant’s arousal level, he was asked why he felt this way. Although the participative observation showed that he had fun, he claimed that the game started to get boring, which is why the activation level dropped.

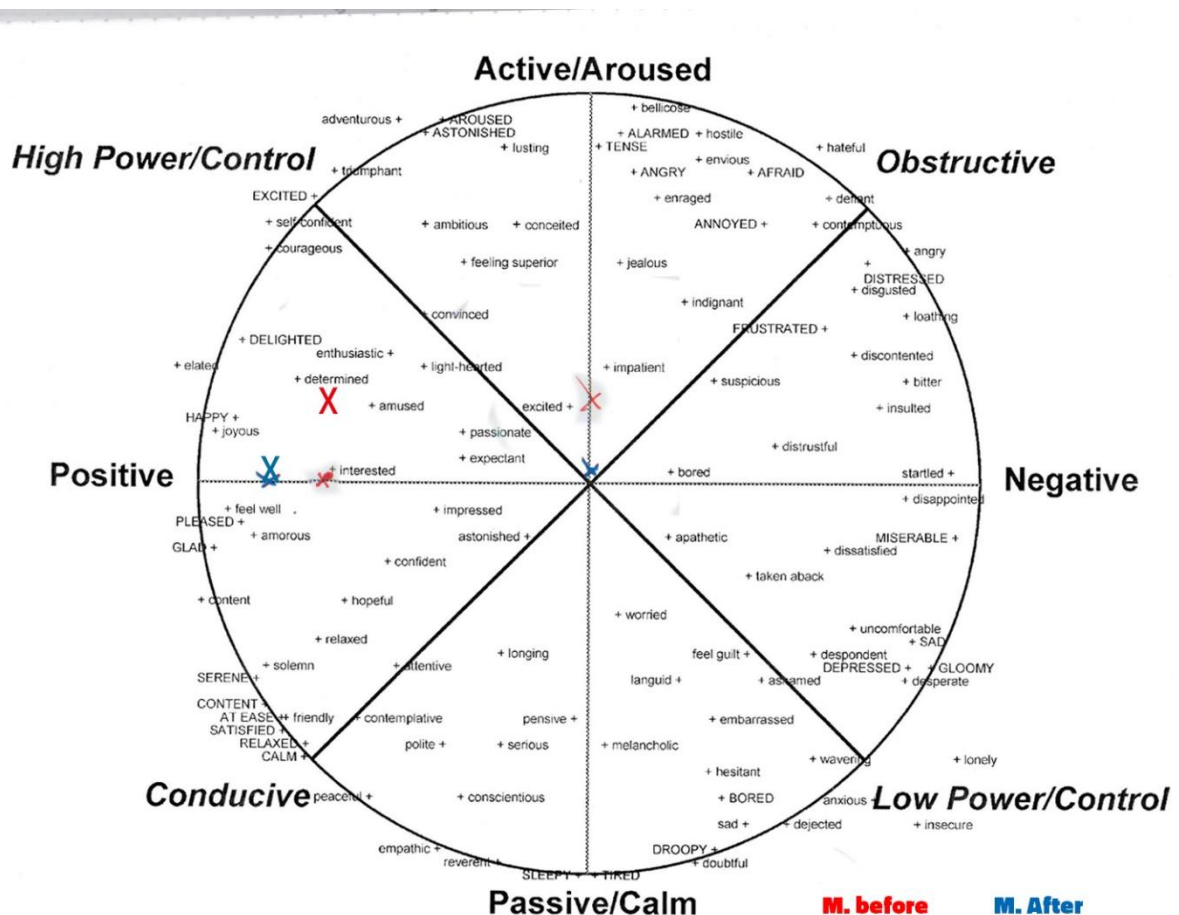


Image 19: M. felt better, but he was kind of bored so the activation level dropped

6. Discussion

The next pages will discuss the findings of the interviews, the experiment and the participative observation based on the concept of Maslow and the flow theory, before having a general discussion on the results.

6.1. Discussion based on the Theoretical Framework

Firstly, following Juul's classic game model, is *Pokémon GO* a game? The answer is yes. *Pokémon GO* is based on rules. At the beginning some users tried to break the rules by spawning (means that the *Pokémon* appears) at home while using servers in other parts of the world or using the car to develop the *Pokémon* much quicker. Niantic reacted strictly with blocking user accounts that used foreign servers. And a new update tracked the speed of the user so *Pokémon*s were only developing until a certain speed limit. More details on the basic rules can be found in the chapter 3.3 about the gameplay.

The outcome in *Pokémon GO* is variable, as throwing a Pokéball doesn't guarantee that you will always catch the *Pokémon*s. Moreover, *Pokémon*s are spawned by following a certain algorithm that offers on the one hand, that users find different *Pokémon*s, while on the hand other, users also have the chance to find the same (rare) *Pokémon*s in the same environment. The outcome is also quantifiable as you can collect items at Pokéstops or develop your *Pokémon*s while playing. The valorization is also given, as using special items raises the chance of catching the *Pokémon*, so the outcome might be a different one then throwing a common Pokéball.

Another criteria was the effort and the attachment of the player that influences the outcome of the game. *Pokémon GO* depends on the player's attachment, as players will only find and develop *Pokémon*, if they are walking around. This is the basic idea of the game. Unless a player lives near a Pokéstop like in the case of F., where he is not required to leave his residence in order to get new items, a player must go outside to play the game.

But does *Pokémon GO* have negotiable consequences? This question must be answered with yes and no. If you want to play *Pokémon GO*, you need to go outside, so there is a certain

kind of risk wherever you go to play it. Certainly, there are known cases where users of common PC games were starving or died of thirst because they did not stop playing, but with *Pokémon GO*, negotiable (or rather not negotiable) consequences reached another level, as users played the game while driving their car, causing (deadly) accidents, walking on forbidden or even risky properties and more. Particularly until the “car” update, instances of people dying while playing *Pokémon GO* (see chapter 3.1) were recorded. It is a broader case, as it is completely dependent on the user’s personal responsibility where the game stops and real-life begins.

After having clarified that *Pokémon GO* is a game, it should be discussed whether the game fulfills needs of Maslow’s pyramid and if it is possible to get into the flow. The results of the interview revealed that the concept of Maslow’s pyramid seems to be a valid concept to understand the motivation behind playing games. Firstly, it is assumed that the physiological needs, sleep, hunger, etc. are satisfied. However, it seems that the next stage, the need for safety or rather the longing for safety, could be satisfied by playing games. Some participants said that they play games because they want to escape from reality. However, this research did not reveal that *Pokémon GO* is the ideal game to escape reality and to be a safer place. Contrarily, some participants criticized that *Pokémon GO* leads to carelessness and security risks. It seems that *Pokémon GO* is able to satisfy this need, as many users have been seen to be considered careless when trying to catch *Pokémon*, so they seem to feel safe while playing.

Belongingness is a strong motivator for playing games like *Pokémon GO*. Participants loved the possibility to play the game with and against other people. H. was excited that he could not only meet his friends but also meet previously unknown players with a common interest. It was also mentioned that people of different ages played *Pokémon GO*, which is further proof that their need for belongingness is satisfied by the game. Older people in particular have the chance to be part of the society, as the game is available for free and can be easily learned, without having ever heard of *Pokémon* before. A. also mentioned that the game was ideal for parents to spend time with their kids:

Es war auch für viele, ich glaub für Eltern war es irgendwie eine Möglichkeit mit den Kindern draußen Zeit zu verbringen[...] (A387-A389).

The strongest motivation to play *Pokémon GO* seems to be satisfaction of Maslow's stage of self-esteem. While the early *Pokémon* games offered only an avatar to catch *Pokémon*s, *Pokémon GO* makes it possible to feel like the main character and to catch *Pokémon*s as a real person. This allows the users to feel strong, because they have the power to catch the *Pokémon*s and to feel confident when catching especially rare *Pokémon*s. Moreover, some of the participants said that collecting all of the *Pokémon*s is their main goal. This has also been reflected in the interviews (see chapter 5.1.2). Fighting against others, as well as having more, better or rare *Pokémon*s also offers the opportunity of feeling strong and earning some kind of esteem, like M. said, that he wants to have more or better *Pokémon*s than his wife (see chapter 5.1.2).

Finally, *Pokémon GO* has the ability of fulfilling the highest need in Maslow's pyramid – the need of self-actualization. Many of the early *Pokémon* fans as well as people who played the game on the previous handheld devices, were dreaming of catching *Pokémon* in real-life. With the augmented reality, Niantic made this dream a reality. Being a real *Pokémon* trainer, like the main character Ash, was in a certain way possible. F. also believes that this was a motivation to play *Pokémon GO*:

Die Stärken sind, dass eine bekannte Geschichte die sehr reizvoll ist aufgegriffen wird und man gewisse Aspekte die man schon immer ausprobieren wollte, nämlich ein Pokémon selber zu fangen, zu trainieren und zu entwickeln auch mal ausprobieren konnte. (F225-F227)

The only limiting factor in the realization of this dream was the missing feature of fighting against *Pokémon* before catching them and fighting against other players at any place. If this feature would be added, it is reasonable to surmise that more people will start to play *Pokémon GO* (again).

Although it was expected that the experience of being in the flow status will be discussed in the interviews, by asking for the feeling of space and time, or during the experiment of playing *Pokémon GO*, it was not easy to determine whether *Pokémon GO* fosters the flow. Unfortunately, the interviews did not divulge enough information to give proof of the five elements of flow in relation to the game. The participants said that they had a feeling of time because they had to check the battery status, and the clock is next to it, so they always knew

how late it is. Moreover, having the need of checking the battery interrupts the activity of playing the game. But one of the participants seemed to be completely focused on the game or rather on the small smartphone screen, which meets the second element of flow – concentrating on a selected environment – as he crossed the street without checking whether a car was oncoming. This could have happened for two reasons – reason one, he was in the flow. Reason two, he trusted me as a person to check whether a car was oncoming. But it could also be that the third element – having everything under control – was met.

F. also said that the environment was not the focus anymore because users stared at the screen, but claimed that this was a negative aspect on the game:

*Im Endeffekt konnte man die Umgebung um sich herum nicht so gut wahrnehmen, weil man die ganze Zeit auf diesen Bildschirm fokussiert war.
(F237-F239).*

The element saying that clear actions that make sense and are not contradictory seem to be not fulfilled, as M. claimed that very often *Pokémons* did not remain in the Pokéball for no reason:

*Und du bist schon ganz frustriert wenn du das Pokémon zum 300. Mal fängst und es bleibt noch immer nicht in deinem Scheiß Ball drin.
(M101-M102)*

All participants agreed that the concept of the game was exciting at the beginning but criticized that after playing it for a while revealed that it was became too easy to play it. Thus, it was only possible to fight in arenas and not while catching *Pokémon*, and just simply throwing the Pokéball with having a low level of special skills or practice, the game became boring relatively soon. The result is that the challenge was not meeting the skills. From this it follows that it is hardly possible to reach the flow status (see Image 10).

6.2. Discussion Participative Observation

The participative observation confirmed the results of the arousal and valence experiment. While M. and A. showed less interest in the game, H. and A. had fun while playing it. It was interesting to see that M. played it without really focusing on the game and seemed to be more interested in talking about other things. Although he was able to catch a special Pikachu in Santa Clause style, he showed a very restrained reaction towards it. He also claimed that he misses the original idea of fighting against *Pokémon*s before catching them and expressed that the *Pokémon* arenas are annoying. During the gameplay there was also confirmation on the criticism that *Pokémon Go* is too easy – he was throwing the Pokéball off target, however, the *Pokémon* was still caught in the ball.

It was also very eye-catching that the two older participants mainly saw *Pokémon*s of the first generations (e.g. Pikachu, Pummeluff), while the two younger participants found *Pokémon*s of the *Pokémon* generation that was on-going when they played it on the Game Boy / Nintendo DS.

In terms of technical features and limitations it seemed that the augmented reality view is a nice-to-have, but nothing more. No one of the participants used this functionality. H. just said that using augmented reality in the city makes less sense (presumably because there is so much traffic and so many people around, so the user needs to be more attentive). But he thinks that using it in the mountains or on the country side would be a better served. H. also mentioned that in the interview. A. said that he used the augmented reality only for taking funny pictures, for example when his sister was “holding” a *Pokémon* in Mallorca. But the augmented reality feature does require a lot of battery power which is why he does not use it. It also seems that most of the participants store their smartphones in their pockets. This might be the case because on the one hand, they don’t need to stare at the screen and can focus on their surroundings, while on the other hand it saves battery life.

H. and F. also mentioned that the game very often caught the full attention of the users with negative results. H. mentioned that he heard about one player who fell down a cliff while playing *Pokémon Go*. He admitted that sometimes he also drifted away with his thoughts and was concentrated on the game, but assured that there was never a risky situation like

crossing the street without checking whether there were oncoming cars. But it must be said, that both H. and A. crossed the street while playing, without checking their environment, although the reason could be that they fully trusted me to take care of them and to warn them if a car should arrive. F. also said he had a case of parents being completely focused on *Pokémon Go* that it was difficult to get their full attention. He once observed parents in a coffee shop and both of them were staring at their phones, giving no attention at all to their child sitting next to them in a baby buggy. F. believes that especially “simple” people are easily caught up into such games and sees the issue that they struggle to draw a clear distinction between the *Pokémon* world and the real world.

In terms of technical limitations, it must be noted that the battery of F. dropped completely in the 30 minutes of the gameplay from 100% to 1%. Additionally, the app broke down and F. had to restart the app. It took a while until the app re-loaded again. F. also claimed that the servers slowed down completely so it takes a time until the game is started again, which obviously annoyed him. He also said that playing *Pokémon GO* is exhausting for his eyes because on the one hand he has to stare at the screen, on the other hand he has to look into the distance. F. seemed to be annoyed of playing the game, not only because the game broke down but he also showed no excitement when *Pokémon*s appeared or when he was able to catch them. However, the arousal and valence experiment didn't show a negative change on his emotions, but his activation level increased.

H. showed some excitement when *Pokémon*s appeared, especially when one appeared that he also had in the game *Pokémon Ranger*. He said he had positive memories about it. Also, he remembered another *Pokémon* that he caught during the gameplay, one which he said was difficult to catch in the original *Pokémon* game. One could assume that this is another proof that *Pokémon Go* is too easy.

The most significant and mainly positive reactions came from A., who seemed to be the participant with the most experience and knowledge about the game. He said that if you want to stay on track you need to invest time to know which *Pokémon*s are rare and which ones are not that valuable. A. explained that if you want to catch rare *Pokémon*s you also need to be flexible on your route. There was also one situation where he said that there is a rare *Pokémon* near to us, but that would have meant walking into another direction, but you

never know how far you have to go exactly. He mentioned that the most *Pokémons*, and also rare ones can be found in city parks, like the big Europapark in his home town. Moreover, he knows some websites where one can figure out which *Pokémon* will appear when and on which place. However, he said that the game developers tried to stop those pages to deter people from simply going to those specific places instead of wandering around.

While A. was playing the game, one rare *Pokémon*, which was one of the starter *Pokémons* of the edition that he used to play, appeared on the screen. A. was getting very excited and also used items like berries to catch it. He explained that it was a rare one. Just a few minutes later, the same one appeared and A. was quite surprised about it. At the end of our route it appeared again and A. seemed to be disappointed, as it seemed that it is not as rare (anymore?) as he had thought. However, overall, one could see that A. had the most fun of all participants, showed excitement and ambitions with every single *Pokémon* that he found and caught. It was also obvious that he was feeling better while playing the game, as he started to show after about 20 minutes.

It was also observed that most of the participants did not simply throw the Pokéball straight in the direction of the Pokémon, they used “Special-Throws”, as H. called it. A. explained that if you throw the ball with a special move and catch the *Pokémon*, that you get some kind of bonus. He also believed that the chance that the *Pokémon* stays in the ball was higher. M. also said that in former times on the Game Boy he was pressing a special key because he believed that the chances of catching got better. It therefore seems, this myth is still alive in *Pokémon Go*.

6.3. General Discussion of the Findings

Contrary to the expectation at the beginning of the study, it seems that the main reason for playing *Pokémon GO* is the fascination of *Pokémon* itself that has lasted for decades. It was hard to determine which emotions appeared before, while and after playing. But it was obvious that playing *Pokémon GO* created a certain happiness within the participants. It was also conspicuous that *Pokémon* of the newer generation appeared while the two younger participants played it and *Pokémon* of the very first generation appeared when the two older participants played. It was fascinating to observe that every one of them reacted with some kind of happiness: “Oh look!! A Pummeluff!” or “Oh! This was one of my favorite *Pokémons* when I played it some time ago!” It was also a special highlight (even for me as an observer) when a Pikachu, by far the most famous *Pokémon*, appeared on M.’s phone. It can be assumed that the appearance of *Pokémon* of certain generation is related to the user data or rather the age of the user, to activate the nostalgia effect and to bring back memories.

As already mentioned before, when asking the participants about their emotions while playing games, they were not completely willing to reveal how they feel. A reason, therefore, could be that all participants are all males, although it must be admitted that it is a cliché that men do not like to talk about their feelings. Nevertheless, the participants showed a range of emotions during the interview and while playing the game (see chapter 5.2.1 and 6.2)

Although there was a lot of criticism in the media in terms of data security and other legal issues (see chapter 3.1), none of the participants mentioned it as a negative aspect of the game. Only one participant mentioned that many people played while driving their car and that some people visited questionable places. All other negative comments were about the technical limitations, that the game requires a lot of battery and data volume.

There was one interesting observation during the interviews. It seems that people make a distinction between “playing” and “gaming”, especially in the German language. H. differentiated throughout the interview:

Außerdem, wenn ich meinen PC einschalten, dann weiß ich, ich habe ein paar Stunden Zeit zu zocken. Wenn ich mein Handy einschalte kann es sein, dass ich nur 5 Minuten Zeit habe. Und allein da ist schon ein großer Unterschied ist. Dass ich da quasi dieses Commitment mache, so jetzt wird gezockt und beim Handy ist es mehr ich hab grad nichts Besseres zu tun.(H57-H61)

When asking H. how he would define both words, he said that gaming (“zocken” – literally “gambling”, although the German term has nothing to do with gambling in that sense) is more about investing a lot of time into a game, mostly PC games, while playing (“spielen”) is just playing a game for a limited time or to just play a few rounds. Maybe gaming is also more related to games that are more complex, require skill and experience, and games, where a higher effort is required. This distinction also underlines that casual games are seen more as games to kill time, than games to invest a lot of time. The easy handling of casual games allows it to just play along and can be very entertaining, while other games like PC games require experience to get through the levels or quests (where there is something like levels available).

However, the research has shown that the motivations to play mobile casual games are the same reasons why not to play them. The easy handling of the games makes the controlling very clumsy and is not comparable with a keyboard or a console controller. The gameplay is interesting in the very beginning, but after leveling up quickly, there is nothing new to expect. Participants mentioned that mobile games are more focused on learning it once and then walking through the game the same way as in the very first levels. Although levels might become gradually harder, the game gets boring. Quite the contrary, harder levels might support the user’s frustration about the game. It could be assumed, that people particularly experienced with PC games, soon lose interest in a mobile game, because they have different experiences with games than that of people who have only played mobile games. The participants of this research also confirmed that they are trying new mobile games because they are curious about the game. But as soon as they have discovered every detail in the game, it becomes boring. Like H. said, it is nice to get skill points, new items and other stuff, but if what comes next is predictable, the game is no longer interesting. In relation to the flow theory it can be assumed, that the participants will not be able to stay in

the flow status for a long time, or not reaching at all, as long as their skills improve while the level of challenge in *Pokémon GO* is stagnating or even declining.

Pokémon GO also suffered from being perceived as boring – the mechanism to play it was learned very quickly and then remained the same and repetitive – walking, catching, walking, catching and so on and so forth. Only the *Pokémon* arenas offered a variation in the game. To make matters worse, most of the *Pokémon GO* users were former *Pokémon* fans that have already played the games on Game Boy and/or Nintendo DS, so the expectations were quite high. All participants also said that they were missing the key feature of *Pokémon*; that you need to fight against it before you can catch it. To catch all *Pokémon*s in the Pokédex can still be an interesting target, especially when looking for rare *Pokémon*s, but the missing battles might be one of the main reasons why the number of *Pokémon GO* users dropped so significantly. Over and above this missing feature, Niantic seemingly did a poor job in satisfying the user's needs, as they knew that many people were expecting this feature to come. Niantic also said that they will integrate the possibility to fight before catching the *Pokémon* soon, but as of today, this feature is still missing (Webster, 2018).

What was also an unexpected finding relating to reasons to play *Pokémon GO* was that neither the augmented reality function nor the healthy aspect of the game was decisive for the participants to play it. Participants said that augmented reality is an interesting feature, with the opportunity for reaching the next level of gaming. However, in contrast to the beliefs of other authors (Griffiths, 2016; Tang, 2017), was the tenor that the negative aspects are too strong. Not one of the participants used augmented reality in *Pokémon Go*. One of them has never tried it and saw it only on the phone of his friends. All participants criticized that this feature required so much battery life. It is a nice-to-have, especially when taking funny pictures, but the intention of Niantic, to give the feeling that the *Pokémon* is really in front of you seems to be missing. Like A. said, this feature gives you neither the feeling of being in a game, because it mixes up with reality, nor of being a game where you have the feeling of being part of the game.

When talking about battery life, it must be noted that the user experience is extremely limited because of the important need for battery life and internet data volume. The participants claimed that they always had to check their battery status and most of the

people also had a powerbank with them, so that they could charge the battery. During the participative observation, the battery of F. was completely discharged after just 30 minutes of playing (and he has not used augmented reality). It must be said, that he had an older smartphone, however, this situation was frustrating for the participant and a mobile game should be designed in such way, that you don't have to check the battery every too frequently.

Checking the battery also had the side effect that users saw the current time, because it is usually next to the battery status. So, when asking the participants if they losing the feeling of time most of them said no, because they were incidentally checking the time. As previously discussed, it is nearly impossible to get into the flow as long as users have to take care of things other than the gameplay.

Another motivation to play mobile games is the social component. Although mobile games are usually single-player-games, many of the users play those games "together". *Pokémon GO* is a good example of playing "together alone". As there are special places with Pokéstops or a high frequency of *Pokémons*, like city parks or monuments, many people visited those places. At the very beginning of the hype, those places were very crowded. The participants also said that they visited such places. Therefore, while playing *Pokémon GO* on your own, you met many other people playing it too. One participant said that he really appreciated the possibility of meeting new people, while also meeting old friends. It was also fascinating that not only younger people were playing *Pokémon GO*, also unexpected target groups like old people came to the crowded places to play the game. Like A. said, they had no knowledge of *Pokémon* before, however, due to the casual characteristics of the game, they learned it quickly and were at times on a higher level than other people. There is also a famous Taiwanese man, aged 70, who has 11 smartphones on his bicycle because he wants to follow the official slogan "Catch 'em all" (BBC, 2018). Other users like the arena battles, where you have to fight against other users. Like H. said, a game needs to have some kind of rating so that you can compare your achievements with other users. On the other hand, users like M. don't care about arena battles. He said he is annoyed of walking to arenas and fighting against others, he is already satisfied with the competitive aspect of who has the most rare, strongest or the most different types of *Pokémons* in the Pokédex. However, he is also missing the possibility of fighting against friends at any given location.

After two years, Niantic also released a new update that made it possible to trade *Pokémons*. This update supports this togetherness of playing *Pokémon* even more and it seems, that many people favor this, as to date, the number of active *Pokémon* GO users is higher than ever before. Which brings us back to the previously discussed point – there is a need for variations and exciting new features, to keep a mobile game interesting for a longer period of time. Taking a look at the hypotheses:

Hypothesis H1a that people play because they are bored has been verified by two participants. H. explicitly said that he plays games because he has nothing better to do (see H102, H86-H87, H284-285). Or like A. said he sometimes plays it at home, without waiting for something:

Ich meine schon natürlich auch zu Hause wenn ich nichts zu tun habe, dann spiel ich es auch manchmal ab und zu [...] (A41-A42)

The hypothesis H1b about getting into a better mood when playing games could neither be verified nor falsified, as the sample was too small and the results were not clear enough. Only one participant clearly said that he is playing games when he is annoyed at something:

Wenn mich etwas nervt dann spiele ich eine Runde irgendwas, irgendwas anderes. (H13-H14)

The experiment with the arousal and valence model revealed that playing *Pokémon GO* does not have that high an impact on the activation or the mood of the participants in our study. Two of the participants showed a slightly positive change in their mood, the other two showed a neutral and a negative influence as a result of the game. The negative change in the mood of F. seems to be caused by the technical break during the gameplay – while catching a *Pokémon* the app broke and he was not able to restart it immediately. Additionally, the battery was close to being empty. M. also showed negative results from the game and explained that the game is just annoying and boring the longer he is playing it. However, the participative observation revealed a different result, especially when *Pokémon* of the participant's previous games appeared. This was quite good to see, as the during the gameplay of the older participants mainly *Pokémons* of the first generation appeared, while the younger participants just saw *Pokémons* of the game that they played years ago. It was

also obvious to see, that the participants showed a notion of happiness and nostalgia when known or rare *Pokémon* appeared.

Hypothesis 2, playing to kill time, could be verified for the sample of this study and was the most mentioned reason or rather motivation to play games. As already mentioned, there are many situations where people have to wait. It is not only when waiting for the bus or at the doctor's appointment, travelling is also an activity where the possibilities to do something are very limited. Mobile games have a big advantage over books, handhelds and other time killing items or activities – you always have the mobile phone with you. So, it seems to be reasonable to start a game while waiting. As M. emphasized, the smartphone is easy to handle, and always there, moreover, there is not much effort in starting a game:

Ja eben weil du das immer mit hast und du hast relativ schnell die Möglichkeit ein Spiel zu starten. Du brauchst nichts installieren und gar nix. Wenn du unterwegs bist zückst du es raus, das Handy hat jetzt eh schon jeder mit. (M13-M15)

It was also interesting that none of the participants mentioned using a tablet for playing games. Although tablets are also mentioned in statistics, it seems that it is no longer that interesting to play on it, although the screen is bigger. Maybe that is exactly the reason not to use it - because a smartphone is easier to carry around. M. also believes that tablets are outdated.

Another question that arose during research, notably while checking the current terms and conditions, is which difficulties in relation to the existing data and privacy laws, particularly with regards to the new data protection law of the European Union still seem to be a problem. As presented earlier, at the early beginning of *Pokémon GO* the terms and conditions were not in conformity with European laws. After the consumer advice center in Germany served notice to grievance, Niantic has updated their terms and conditions. As of June this year, the consumer advice center confirmed that there should be no more discrepancies. When comparing the current terms and conditions it seems that everything is in conformity with the General Data Protection Regulation (GDPR); there is an email address where users can make request, ask for correction or even erasure of the data. They revealed that they use an external service processing the user data. Also, they mentioned which data

they use like the user's position, data of the user's smartphone like settings and which other apps are installed. They argue, that they need the data to ensure a fair game experience as well as a good customer and technical support. Nevertheless, it should be seen critical that Niantic has access to so much smartphone data and it should be questioned whether the information which other apps are installed is truly necessary to maintain *Pokémon GO* and its services. Another thing that should be seen critical is that the user needs to use another service to be able to play the game. In this research a Facebook account has been used to login. Shortly before the login a Facebook window pops up where you have to give consent that the app can use your Facebook data, namely general public data like your name and your date of birth, but also your email address. Both options are pre-ticked, the general data is mandatory. With respect to Article 6 in the GDPR, the user must give his active consent that this data can be used – the email address was pre-ticked, although it can be un-ticked. Therefore, it does not seem to be in conformity with the GDPR. However, it must be said that this issue is on the Facebook end, as Facebook offers this service to Niantic.

Due to the augmented reality function, there is still a risk that user's taking pictures of *Pokémons* without taking care of people being on the photo. The right to privacy could be violated, especially in times when these photos get uploaded on social media channels.

7. Limitations and Further Research

The research revealed a lot of open questions that have not been covered by the interview, the experiment or the observation. As previously mentioned, the two older participants got different *Pokémon*s than the two younger ones. Is there a connection between the birth dates and the selection of *Pokémon*s? Was this intended to bring up the nostalgic feelings? Maybe this was just a coincidence, but this could only be proved with a questionnaire provided to a bigger group of *Pokémon GO* users.

This research, statistics and other studies state that most of the *Pokémon GO* users are former *Pokémon* users or at least fans. So, the former users played it because they were curious to see how the game works on smart phones and if it is as it was on the Game Boy or Nintendo DS. But what about parents or older users, aged 50+ or parents that might have never played the game before? Like the participants said, a lot of unexpected target groups played the game. And although older people had no clue about *Pokémon* before this hype, they were quite successful in catching *Pokémon*s and levelling them up. It would be interesting to figure out why these target groups play such games? Is it because they are bored and wanted to try something new? Or because their (grand)children played it and they wanted to do something together or to understand why they are playing it? This research could also be interesting for the mobile games market to understand this target group, as the main target groups are usually younger people.

Another limitation, that has already been mentioned, was the little information about emotions. Probably the approach was not extensive enough. The question in the interview was very direct with asking “Which emotions do you have while or after playing *Pokémon GO*?” Most of the participants reacted surprised about this question and said they have no special emotions. Maybe the question was also not clear enough, but with giving an example the results might have been falsified. The expectations about the results of the arousal and valence experiment also couldn’t be fulfilled. Only one participant showed obvious changes. However, the participative observation revealed the most information about the participant’s emotions. A solution to get better results might be to repeat the arousal and valence experiment with the following participative observation for a couple of times with certain time intervals. This might support the trust between the participant and the researcher, so that participants are more willing to reveal their feelings, and the task might

get clearer as well. Nevertheless, it must be mentioned, that all participants confirmed that they understood the arousal and valence model, so the issue might be somewhere else.

Unfortunately, it was also not possible to figure out if game updates have an impact on the motivation to play *Pokémon GO* (again). But I hazard a guess that significant updates, like the trading function attract the users to try it or to come back.

8. Conclusion

Firstly, it must be said once more that this research is not representative as the sample size was too small, but it gives a first-hand insight into the phenomenon of *Pokémon GO* and mobile games. Although there were many specific questions about *Pokémon GO* it was not possible to figure out how *Pokémon* influences the mood of the participants. But this research revealed and confirmed that the motivation to play *Pokémon GO* is mostly the nostalgia factor. Participants started smiling when talking about their first experience with *Pokémon* in their childhood.

As mentioned before, some participants expressed their negative thoughts about the need to stare at the screen. And indeed, during the experiment of playing *Pokémon GO*, two of the participants just crossed the street without checking whether a car was coming. It must be said, that I was attentive. However, there is still a high risk of users that are on a walk alone. This would lead to the assumption that the feeling for space and time is affected by *Pokémon GO*, as the attention is centered on the small screen and the game. It must be said that the gameplay of *Pokémon GO* is designed in exactly that way, that you are staring at your screen while walking through the city or surroundings. Therefore, one could argue that the user is in a flow state while playing the game. Nevertheless, the original concept of the flow cannot be compared with *Pokémon GO*. I believe that this is a very special case of getting into the flow state, because this *Pokémon GO* flow is not mainly caused by the right combination of challenge and the user's skills. But *Pokémon GO* more or less forces you to focus on the screen. It might be an interesting study to get answers to this question in a test environment with unexpected barriers and objects, to see how far the users are captured by or rather in this game. Maybe one should distinguish between flow within and in-between play sessions, but this is a research area beyond this thesis.

Coming back to the research question: *What are the reasons or rather the motivation of users for playing casual mobile games?* The interview revealed that the main reason for playing casual games is simply to kill time, or rather, because there is nothing better to do. It does not matter if the reason to kill time is because one has to wait for an appointment or

because one is travelling – casual games are opened quickly and can be closed at any time without losing the user's progress in the game.

For this thesis *Pokémon GO* was used as a case study to find an answer for the research question and to find out if the hypotheses are true. It must be mentioned, that *Pokémon GO* is a very special case study, as most of its users (at least all of the interview participants in this study) already played *Pokémon* in previous years. Particularly people that rose up with the very first *Pokémon* seem to be interested in playing it. What are the reasons? Firstly, they are expecting the same game experience as in earlier times. Secondly, they can finally catch *Pokémons* on their own with one swipe on their phone. Additionally, augmented reality tries to give the user the possibility to catch the *Pokémon* in their own home town, during vacation or wherever they are.

Due to the small sample, it was not possible to give a clear proof that casual games like *Pokémon GO* have the ability to positively influence the user's emotions. However, the arousal and valence experiment, as well as the participative observation, allowed a small glimpse that *Pokémon GO* has the potential to make users feel better. At least it was the case in three of the four participants. Particularly one participant showed an obvious positive influence of the game, as he started summing after playing for a while and also the arousal and valence graphic showed an increase on his feelings.

However, with new updates coming in *Pokémon GO*, it can be expected that the game will stay successful as long as Niantic is reacting to the user's feedback. Because the first bigger updated showed, that there is a high risk of losing users. If Niantic would not have reacted on the negative feedback, and if there was nothing new in the game, *Pokémon GO* would have already disappeared. In autumn 2018 *Pokémon GO* will be also released for the Nintendo Switch console and will offer the evidently missed battles against wild *Pokémons*. Moreover, there will be also a trading function from the Switch game to the app, which could likely be another motivation to start, come back or play on with *Pokémon GO* to revive the experience of the first *Pokémon* games.

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12. Appendix

Interview questions

Im Interview geht es um mobile Spiele, im speziellen um Spiele auf dem Smartphone oder Tablet. Wenn du Fragen hast oder dir irgendetwas zu diesem Thema in den Sinn kommt, kannst du es jederzeit sagen. Es geht nicht darum dass deine Antwort richtig sein muss - jede Antwort ist richtig. Heute bist du der Experte!

Allgemeine Fragen zu Thema (Mobile) Spiele

Warum spielst du Spiele (allgemein)?

Spielst du gerne Spiele auf deinem Smartphone oder Tablet? Wenn ja/nein, warum?

Deiner Meinung nach, warum spielen Leute Games am Smartphone/Tablet? Welchen Vorteil haben Spiele am Smartphone/Tablet? Was macht Spiele am Smartphone/Tablet so interessant? Folgefrage, je nach Antwort vorher:

Worin siehst du den Unterschied zwischen online spiele am Laptop oder Console zu (online) spiele am Smartphone?

Welche Art von Spiele spielst du am häufigsten?

Wie oft spielst du Spiele?

Wann spielst du bzw. wo spielst du?

Was macht ein Spiel aus?

Fragen zu Casual/Hardcore

Hast du schon mal die Bezeichnungen casual und/oder hardcore gehört? Kannst du mir sagen was du unter casual/hardcore versteht?

Wenn du ein Casual Game wie zB Pokemon Go spielst, wie ist dein Gefühl für Raum und Zeit? Wie schätzt du dein Zeitgefühl ein?

Fragen zu Augmented Reality

Weisst du was Spiele mit augmented reality sind? Wenn ja, kannst du es mir erklären?

Ist Augmented Reality ein Anreiz geworden mobile Spiele zu spielen? Was denkst du?

Fragen über das Spielen von Pokémon GO

Warum spielst du gerade Pokémon GO? / was ist der Anreiz Pokemon Go zu spielen?

Hast du früher schon mal Pokémon gespielt oder dich damit beschäftigt (Kartenspiel, Serie, etc)?

Welches Gefühl oder Emotionen hast du wenn du Pokémon GO spielst?

Was sind die Stärken/Vorteile von Pokémon GO? Was sind die Schwächen/Nachteile?

Was denkst du, warum Pokémon GO so erfolgreich ist bzw. war?

Nutzt du In App Käufe und was denkst du darüber?

Hast du bei Pokémon GO In App Käufe gemacht, dir zB Pokébälle oder so gekauft? Wenn ja, warum?

Es gibt ein Konzept welches sich Arousal und Valence nennt. Im Grunde ist es nichts anderes, als ein Kreis der verwendet wird, um Gefühlszustände grafisch darzustellen. Arousal ist die Y-Achse und zeigt an wie aufregend oder auch langweilig etwas ist. In unserem Fall bezieht es sich auf die Situation des Spielens. Valence ist die X-Achse und zeigt an, welche Gefühle oder Emotionen du in diesem Moment wahrnimmst, z.B. fröhlich, traurig, entspannt, etc.

Ich möchte dich bitten, dass du deinen aktuellen Gefühlszustand ein zeichnest. Es gibt kein richtig oder falsch. Überlege zuerst, welche Emotion oder Gefühl du gerade verspürst (X-Achse), dann überlege, hast wie aufgeregt (oder auch gelangweilt) du bist (auf der Y-Achse),. Dann wähle ein Wort in diesem Bereich aus.

Es wird nicht gleich verraten, dass das Prozedere nach dem Spiel nochmal gespielt wird.

Beobachtungen/Ermittlung zu Arousal & Valence

Während des Interviews, bei der Frage welche Gefühle der Spieler bei Pokémon GO hat soll eine vorbereitete Grafik zu Arousal/Valence gegeben werden. Der Spieler soll einzeichnen wie er sein Gefühl bzw. seine Aktivität während Pokémon GO einschätzt.

Nach dem Interview soll ein gemeinsamer Spaziergang (10-15min) gemacht werden (ähnlich einer teilnehmenden Beobachtung) um Pokémon GO zu spielen. Danach bekommt der Spieler nochmal die Grafik und soll seine aktuelle Gefühlslage bzw. Aktivitätsstufe einzeichnen.