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Gaming as a Social Construct: Towards a framework for player socialization in massive multiplayer online videogames

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Orientador: Pedro Cardoso (Professor Auxiliar Convidado)

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Resumo

Um dos aspectos mais fundamentais da vida humana é a socialização. O jogo online tornou-se uma atividade popular entre vários tipos de jogadores, de adolescentes a jovens adultos a idosos. Uma das razões para jogar jogos de computador é a alegria de estar envolvido num mundo mediado. Os videojogos online tornaram-se um dos media de entretenimento mais famosos a ponto de se tornar um desporto e mais do que um passatempo para muitas pessoas. Os videojogos contemporâneos evoluíram de uma forma que os jogadores não estão apenas interagindo com o sistema de jogo, mas também com outros jogadores dentro do próprio mundo do jogo – alguns “vivem” a vida do seu personagem. Jogar jogos online, particularmente os jogos Massive Multiplayer Online (MMO), é uma atividade que contrasta com a de outros jogos, uma vez que os primeiros promovem a interação social entre os jogadores e a formação de redes sociais, não só para conceber estratégias e trabalho em equipa, mas também para desenvolver amizade e camaradagem. Esses tipos de jogos unem as pessoas para compartilhar suas experiências, encontrar companhia para jogar e conversar nas suas próprias comunidades na forma de seus avatares.

Esta dissertação foca-se na análise de diversas teorias sobre tipologias de jogadores – das quais extraímos suas dimensões sociais – e nas articulações que podem ser encontradas entre essas tipologias. A partir dessa análise, nasceu a primeira versão de nossa framework de socialização de jogadores, estruturada em 6 dimensões: comportamentos, temperamentos, motivações, envolvimento, diversão e mentalidades.

Vemos esta framework não apenas como relevante numa perspectiva analítica dos jogos MMO como media para socialização, mas também como um instrumento adequado para o design de jogos multiplayer, permitindo que o designer se concentre em combinações muito particulares de socialização de jogadores.

Palavras-chave: Framework, Design de jogos, Videojogos, Socialização de jogadores.

Abstract

One of the most fundamental aspects of human life is socialization. Online gaming has become a popular activity among various types of players, from adolescents to young adults to elders. One of the reasons to play computer games is the joy of being involved in a mediated world. Online video games have become one of the most eminent entertainment media. Contemporary video games have evolved in a way that players are not only interacting with the game system but also with other players within the game world itself — some “live” their character’s life. Playing online games, particularly Massive Multiplayer Online (MMO) games, is an activity that contrasts with that of playing other games. They promote social interaction between players and the formation of social networks, not only for devising strategies and teamwork but also for developing friendship and camaraderie. These kinds of games bring people together to share their experiences, to find the company to play with, and to converse in their own communities in the form of their avatars.

This dissertation is focused on an analysis of diverse theories on player typologies – from which we extracted their social dimensions – and on the articulations that can be found between these typologies. From this analysis, the first version of our framework of player socialization is born, structured in 6 dimensions: behaviours, temperaments, motivations, involvement, fun and mentalities.

We see this framework not only as relevant in an analytical perspective on MMO games as media for socialization, but also as an instrument suitable for the game design of multiplayer games, allowing the designer to focus on very particular combinations of player socialization.

Keywords: Framework, Game design, Gaming, Player socialization.

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Abbreviations and Acronyms

LAN	Local Area Network
MMO	Massively Multiplayer Online Game
MMORPG	Massively Multiplayer Online Role-Playing Game
MUD	Multi User Dungeons
PC	Personal Computer
PvE	Player versus Environment
PvP	Player versus Player
RP	Role-playing
RPG	Role-playing games

Introduction

Motivation

Today, many computer games are multiplayer-oriented, requiring teamwork to play, a perfect context for creating long lasting relationships. I love to play video games since I was very young, and since then I have set my goal to work in the field of game design. Player engagement in video games has constantly intrigued me. Different motivations of the players involved in multiplayer games is something that I have noticed when I started playing them, particularly *World of Warcraft* (2004). I've noticed that many players give their energy and time to progress through the game and form social groups.

Games have been one of the most popular entertainment media, being one that often encourages social activities. These activities can be tested and observable to research how players engage in the game and how do they form social relationships. With this dissertation, I wanted to go deeper into this field and get to know player motivations and thoughts when playing video games more profoundly.

Brief context

During the past few years, the field of video games has been a very dynamic fields and has been breaking records in the number of players and growth rates of employment. Today, there are many multiplayer online games, a distinct environment for creating very particular kinds of relationships between their players.

How each player interacts with others depends on several factors. In this dissertation, we researched about games as social constructs diverse theories on player typologies, regarding their behaviour, temperaments, involvement, mentalities, motivations, and fun. These six dimensions are primarily focused on the social dimension with their specific traits that will be discussed in the following chapters of this dissertation.

These were crucial to help us start elaborating the initial stages of a framework focused on player socialization in MMOs.

Research questions

This is our main question that needs to be answered in order to properly create the framework for player socialization and finding corresponding traits for it, elightning us on how massive multiplayer online games are a particular form of socialisation.

How can gaming in massive multiplayer online (MMO) games be considered a social construct, and what are the dynamics of player socialization in such construct?

We have secondary questions that will help us define the framework more thoroughly.

1. Are there different levels and categories of player involvement in MMO games?
2. How are social groups formed within MMO games?
3. How do different types of players interact with each other in these virtual worlds?
4. What are the player motivations and mentalities
5. What do players deem fun in video games?
6. Can we extract player socialization out of defined player behaviors, temperaments, motivations, involvement, mentalities and fun? How to connect them all?
7. How can we create a framework focused on player socialization?

Objectives

The focus of this study are player types in video games, their point of view on player involvement and gaming as a social construct.

Interaction is key in video games, setting them apart from other media, providing them with very particular ways to involve players. Contemporary video games have evolved in a way that the player is not only interacting with the game system but also with other players. As such, our objectives are:

1. To research gaming as a social construct in MMO video games in order to provide an understanding of how players are involved in such construct and how that shapes their gaming social life;
2. To elaborate a framework of player socialization;
3. To research player types and see how they interact with each other;
4. To make a study on player typologies;
5. To define player motivations;
6. To research player involvement in video games.

Methodology

We reviewed relevant literature which helped in finding relevant information about player types, their temperaments, motivations, mentalities, fun and involvement. It was crucial work to back up the

relevance of our research problems. Two research instruments were carried out in order to present the framework for player socialization: the interview and the questionnaire – for the framework validation.

The literature provided a great amount of data in which we found how do different player types cooperate with other players in multiplayer games, player temperaments and their motivations in their gameplay. The documents we revised have broad amount of data, from which we have extracted the dimensions we were looking for: the player socialization aspects, filtered in a framework.

As a first research instrument, we used a questionnaire, in which we can see the difference between multiple player types and their preferences. The questionnaire is divided into three parts:

1. First part is personal information such as the name (real name or in-game name and basic questions such as why they play games and how long do they play games)
2. Second part is oriented on games where participants are asked what kind of games they like to play, trick-questions to see in what Bartle (1996) player type do they fit in, player involvement preferences and do they consider themselves as gamers
3. Third part is oriented on social aspect where they were asked if multiplayer games can be viewed as a form of socializing and in which way can those games shape their social life

The questionnaire and observation were followed by an analytical moment to extract the social components of each of the theories found in the literature review and in the data from the questionnaire, in order to build a framework focused on player socialisation in MMOs.

After that, we conducted observation, which was conducted by monitoring and observing the gameplay and interactions of our guild teammates.

Then, we interviewed 20 out of 50 participants. They were asked to explain why they think a specific trait from the 6 aspects are important and if they would suggest another one that would be beneficial. They were also asked about their favourite games and their preferences in playstyles and importance of player involvement category.

The purpose of the interview was to investigate the dissertation's problematic in depth and to discover how the participants of our study thought about the topic at hand and why they held their opinions, in order to develop an understanding of the data we collected.

Relevance to the study

The purpose of this dissertation is to see whether games can be viewed as a social construct and to investigate social interactions between players. The player does not need to be in direct contact with

others, their presence in the game world presents a community. Multiplayer game environments do not only present a world with challenging quests and wonderful narratives but also offer social structures. With this in mind, knowing the social interactions and player involvement in video games is important for the sake of better game design so the players might want to play the game. There is also a big emphasis on player motivations, mentalities and temperaments when it comes to social construct.

The results of this study would benefit to game design studies that focus their on the social aspects in which players for social groups and fellowships. This dissertation offers a player socialization framework that can be useful for defining and analysing social communities within games. Development of virtual friendships and shared involvement between the players might be gratifying. These games bring people together in which they act as a team.

The given data gives the information how do player types affect each other and how do they converse in multiplayer games. These results could improve planning when designing games that are focused on the social aspects because the results are based on player social behavior, temperaments, motivations, involvement, fun and mentalities as well as their traits.

By following the framework and it's provided aspects and information referring to player socialization, the process of designing games focusing on this particular aspect would be simplified due to provided data and extracted social dimensions of formerly developed research papers.

Structure of the Dissertation

The dissertation is divided into 5 chapters. The Introduction is about the motivations and objectives of this research along with a brief context that will lead the reader towards the main idea proposed in this dissertation.

The first chapter focuses on defining the concept of social construct in the field of video games. This section explains how the socialization has been one of the most important aspects of our lives and how individuals build social groups, engage in gaming communities and in social interactions when playing multiplayer games and at gaming events, such as LAN parties.

In Chapter 2 we describe diverse player typologies, primarily focusing on players behaviors, temperaments, motivations, involvement, fun and mentalities.

The third chapter is about data collection and analysis of a questionnaire given to the participants in this study, who were asked to pinpoint their point of view of the problematic stated in the dissertation. We proceeded with both an overall and a comparative analysis of the collected data..

Chapter 4 discusses a framework for player socialization. Here, we extracted all socialization aspects out of proposed dimensions from theories from other researchers (described in chapter 2, behavior,

temperaments, motivations, involvement, mentalities and fun). We also resorted to the results in the questionnaire to triangulate data and to fill in certain gaps. To test the framework we interviewed 10 participants from the questionnaire group and compared their answers.

Fifth chapter is focused on describing the limitations of this dissertation, establishing conclusions, enunciating its future work.

1. The social construct

1.1 What is a social construct?

One of the important aspects of human life is socialization. It encompasses both learning and teaching and is thus the means by which social and cultural continuity are attained. The social construct is a theory that highlights the socially created nature of social life. The Oxford Dictionary¹ describes it as a concept or perception of something based on the collective views developed and maintained within a society or social group; a social phenomenon or convention originating within and cultivated by society or a particular social group, as opposed to existing inherently or naturally. The social construction examines the development jointly constructed understanding of the world (Galbin, 2014). It can also be considered as a concept of self-identity.

To say of something that it is socially constructed is to emphasize its dependence on contingent aspects of our social selves. It is to say: This thing could not have existed had we not built it; and we need not have built it at all, at least not in its present form. (Boghossian 2001)

The emphasis on social construct can be dated to William Isaac Thomas's works (1981), who notes that society is produced by humans. To him and other Chicago sociologists², the world is invented as an interpretive net by individuals or groups, describing society as an objective reality. His theory refers that the way people present themselves to others is shaped by their interactions with other people. Their perceptions of reality are based on their beliefs, from which their behavior is actually dependant on a subjective interpretation of reality (Thomas 1981).

Contemporary video games have evolved in a way that the player is not only interacting with the game system but also with other players. Games like MMOs offer complex social behaviors that include collaboration on difficult tasks. The world of online video games is not just playing the game, it's a way of life and a culture. (Pöyhtäri 2016).

¹ Oxford English Dictionary. February 1, 1884. <https://www.oxforddictionaries.com/>

² "Compared to the reality of everyday life, other realities appear as finite provinces of meaning, enclaves within the paramount reality marked by circumscribed meanings and modes of experience." (Berger 1996, 25)

1.2 Gaming as a social construct

Playing multiplayer games has become a social experience in which millions of players interact with each other, not only in Multi-User Dungeons but outside of them as well. These games are structured in a way that the players are encouraged or “forced” to interact (Ducheneaut, 2004). This includes player-to-player interactions in which they work together towards a common goal, by completing quests, missions and going in dungeons or raids as a group. Thus, player interactions are crucial for success in the game, because without teamwork or player coordination, the game would be much tougher.

1.2.1 LAN parties and events

Games are not considered to be played only at home. LAN parties contribute to playing together. At first, LAN parties did not use the Internet. The people usually brought their own computers to one place to play together with their friends in a local area network (LAN). The more players, the bigger the competition and enjoyment. Gamers are given a chance to meet people who share interests. LAN parties can have hundreds of attendees or a simple tight-knit group of friends who enjoy gaming together. The LAN parties are thus a way of socializing between the individuals and their friends (Taylor 2005).

An optimal LAN doesn't have any latency, allowing gamers to have better gameplay without any interruptions and disconnections from the game. The network size may vary from two players to a big team and uphold large gatherings.



Fig. 1: LAN Party. Source:

<https://www.faz.net/aktuell/technik-motor/digital/so-viel-technik-steckt-in-einer-lan-party-15532629.html>

Games are enjoyed by players when played together. What's exciting and relevant about LAN parties is that gamers are willing to travel in order to meet others like them so they can play games together.

Pöyhtäri (2016) mentions that Jansz and Martens (2005) made a research to check what players actually like in LAN parties. They summarized it in four components: 1) socialization, 2) competition, 3) relaxing and 4) interest, with socialization being the biggest motivator among players.³ LAN events are more exciting because of the physical presence of other players.

Apart from socializing, players have competitive gaming gatherings. People can find a potential team for gaming adventures, competition and friends to play with. They attend these events because they are interested in gaming and meeting other people, even more so to meet their gaming idols.

Jansz (2005) describes LAN parties and events as scenes of virtual clan wars. In the virtual wars, the teams fight other clans or guilds until the opponent team is either dead or whichever team gets the most resources in a given amount of time. "The parties usually have organized competitions with trophies to honor the accomplishments of the best clans (Jansz 2005, 5)." He states that for the most of participants, it's an effort to participate.

Generally, all kinds of games can be played at LAN parties, but first-person shooters and multiplayer games such as Counter-Strike (2000), League of Legends (2009), Dota (2013) or World of Warcraft (2004) are the typical games played at these events.

1.2.2 Gaming communities

Playing video games is not only a sole interaction between player and machine. Seminal games such as *Tennis for Two* (1958) or *Pong* (1972) have shown us that computer games are also a form of socializing with others. And with that into consideration, today, games are filled with players that interact with each other through the game world.

Kort, Ijsselstein, and Gajadhar (2007) note that "the physical space opens the players' senses to new levels, the players do not necessarily communicate with each other outside the game, but through the game." Players form teams and try to reach a common objective and the gaming experience changes when playing with others, as each player has a different role. Communication skills are of great importance here. MMOs are, in fact, designed to work as communities. These communities coexist side by side within the game but have their life outside games as well (Aleksi Pöyhtäri 2016). Players in these games form online communities, like forums, where they can communicate and help each other to complete a certain task or share tips and tricks on how to improve their gameplay.

³ Another important component is information exchange that usually involves strategy discussion and game techniques.

Those who have established good relationships communicate outside the gaming area as well. Even though conversation might lead to gaming, they also have other topics to talk about. They either meet in real life, chat on various forums or through special designed platforms, such as Discord. The guilds are usually very large and have their own teams for each section of the game: some teams are formed for PvE (Player versus Environment) events and some for PvP (Player versus Player) events. Players have a feeling that they are in a world filled with various people (well, trolls, orcs, elves, humans, undead and all the other mysterious fantasy creatures). Communication is established directly via guild chats.⁴ Joining a guild or a clan creates a sense of unity, a sense of belonging.

Gamers share their knowledge between each other and help out if possible. With that, they gain respect and popularity. Communication and teamwork strengthen their communities. Sometimes they form online communities to help each other, be it strategy guides, tips and tricks or class guides. These are considered really important for the gaming culture. They are usually written by most advanced players, with detailed info explaining every single step regarding the game. The guides usually have an implemented chat where gamers can communicate over and ask each other questions on how to improve their gameplay, learn strategy or share memories from their in-game adventures. There are also specific class guide websites in which players can ask other players of the same game role how to improve. Good examples of such guides and communities are *Discord*⁵ where players can communicate with other players about any game they play and ask each other for advice on how to improve their gameplay, *GameFAQs*⁶, known for detailed walkthroughs of games and *IGN*⁷, in which players talk about games, good deals on the games or PC build recommendations.

Clark (2014) explains that games are media that include social interactions that trigger conversations. In addition, he offers six degrees of socialization in video games, stating that these can help in building services that support social gaming communities.

1. **I see you play:** The first stage is passive. This stage is like a learning curve for the new players. The player needs to see other players play the game first to decide whether they will step in the game or not.
2. **See me play:** In this stage, the player becomes comfortable with the game and decides to play. The player is more open towards sharing the experiences with other players.

⁴ Some games now have implemented voice chats in their interfaces.

⁵ Discord (2015), <https://discordapp.com/>

⁶ GameFAQs (1995), <https://gamefaqs.gamespot.com/>

⁷ IGN (1996), <https://ign.com>

3. **I beat your score:** Here, the player is more confident with the game and starts to progress in it. Their progress is slowly becoming important and players start comparing their scores, focusing on the competition.
4. **Let's collaborate:** The confidence in the player rises and becomes more involved. The player starts to collaborate with others, becoming an important member of the group. Together they build their relationships.
5. **Go head-to-head:** The player is more competitive and more focused. Their skill and engagement rise as they progress. The player is more committed and is willing to train to become better. They need to know their role well in order to succeed.
6. **We are guild:** The last stage brings the socialization above the game itself. The game is a chosen method of communication (Clark 2014). The player schedules the experiences with others and forms connections with the clan or guild they are in.

These six degrees are a way to examine the player's needs and how to build up game audience. With this, Clark suggests social engagement as a journey rather than a destination.

1.2.3 Social interactions in MMOs and role-playing

Massively Multiplayer Online games (and role-playing games) are virtual environments in which the players have an opportunity to create a character and immerse themselves in a world filled with many other players with whom they can interact with. MMOs have tasks that require teamwork, which teach players to rely on each other. These tasks also require different skills, thus needing players with different abilities to solve the objective (Cole and Griffiths 2007).

MMO games have people from all around the world playing together, cooperating and competing against other players on a large scale. These games can be of any genre, from fantasy to horror, from role play to real-time strategy games. And, despite the fact that these games may seem to promote antisocial behaviours, they are anything but. Yee (2006) did a research based on MMOs and noted that players are building a new form of social interaction in their virtual journeys. Cole and Griffiths (2007) state that player interactions can be viewed as social interactions because gamers collaborate and accomplish common objectives. MMOs provide players with that opportunity, interacting with each other in the form of their avatars.

MMOs are known to have many quests that require player cooperation. Cigdem and Cagiltay (2015) note that there are two reasons to play games. One is to escape from face-to-face relationships and the other is to form relationships with people they meet online. Also, players that seek connections within the game environments might have problems with social interactions in real life (Peters and Malesky, 2008).

Role-playing is very popular among many types of players, and these players usually play on servers specifically built for this purpose. The story players create for their characters builds up their online personas (backstory to what the character has become). These role-playing interactions are present outside and inside the Multi-User Dungeons. Being one with one's character enhances the experience and adds an additional level of engagement in the game. In such fictional world, a player can pretend to be a powerful mage, a fierce warrior or a shadowy rogue. Deuchant (2006) describes this as avatar mediated interaction, meaning, the players interact with each other in the form of their avatars. Role-playing in games can be undertaken as "an exercise in personal growth, for coping, creativity, or for learning-centric goals. (Williams 2010)"

Barton (2008) explains that in MMO games, especially RPG, players are supposed to act in their character's perspective. Their character has a specific role in the game in which the player accumulates points and evolves in the gameplay.⁸

The way players act and engage with others are another aspect of role-playing in games. Players must act in that virtual world in the way their characters would (Williams 2010). For example, a warrior would act all fierce and powerful, holding themselves with great pride of how many enemies they have defeated. It doesn't affect the player score, but it sure makes the player experience richer, to quote Williams (2010).

However, role-playing is not required, it's up to players whether they will do it or not. Doing it would only add an additional experience to the game.

1.3 Kim's Social Action Matrix

Taking Bartle (1996) as an inspiration, Amy Jo Kim (2014) created a Social Action Matrix where she identified four key patterns: Compete, Collaborate, Express and Explore. She maps these temperaments as product builders with actions offering specific systems. Her player segmentation is based on how players behave in social systems. Each temperament⁹ has specific keywords assigned, which will be shown in the table below, as well as descriptions of her patterns.

⁸ Building up the experience points and figuring out game mechanics as a group is what makes MMOs very particular kinds of games.

⁹ Prior to defining the temperament, she adds three key components for game thinking. These components are the Social Actions where players find fun, Skill-building where the customers practice their skills is built and 4-stage customer narrative and experience.

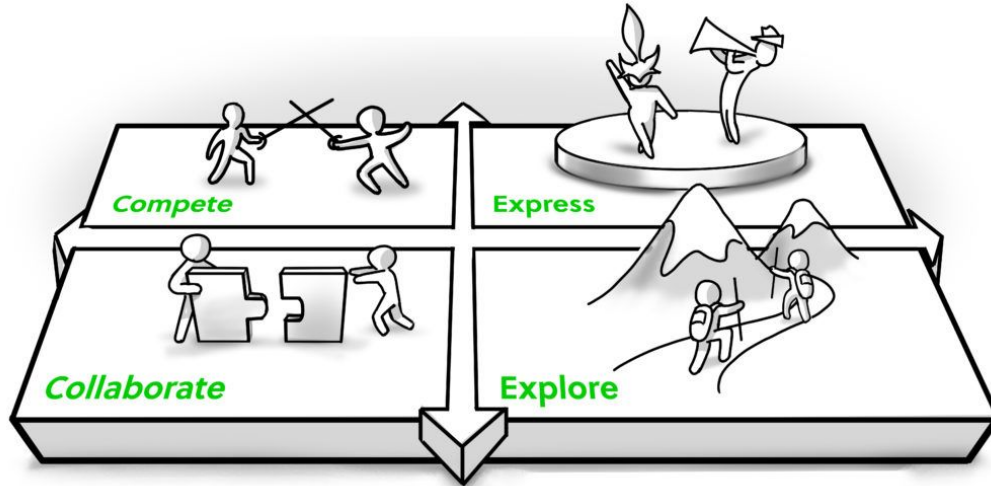


Fig. 2: The Social Action Matrix. Source: Amy Jo Kim (2014), <https://bit.ly/2DtVZyy>

Table 1: Four Key Patterns. Adapted from Amy Jo Kim (2014)

COMPETE	EXPRESS	COLLABORATE	EXPLORE
Keywords: <i>win, challenge, showing off, taunting, compare</i>	Keywords: <i>build, design, create, customize, purchase, choose, decorate</i>	Keywords: <i>comment, like, greet, help, share, contribute</i>	Keywords: <i>view, collect, rate, vote, curate, review</i>
Competition is about testing skills, developing and showcasing their prowess. These type of players value mastery and relationship building in friendly competitions.	Expressers love being unique – they use the available tools to make things others will admire. Creativity and recognition are of utmost importance.	Collaborators work together towards a common goal by winning together. They form partnerships and love participating in group objectives.	Gaining knowledge and exploring the boundaries of the systems are one of the Explorers traits. They value reliable information and enjoy exploring with their teammates.

This matrix Kim (2014) offers is a way to analyze what motivates players to design experience that will engage them.

1.3 Summary

Some people may say gamers are just loners with no social life, but, today, that stereotype is fading away. Gamers proved to actually be very sociable. Gaming is a way of spending time with your friends while communicating at the same time. By forming communities, players help each other on their adventures.

Gaming teams pursue a common objective, thus communication skills are of utmost importance. The players need to communicate and interact together and work as one. “One quick sentence can mean the difference between a win and a loss. The communication is not only what and how you say it, it is also about responding to teammates in a proper manner.”¹⁰

One may, thus, state that gamers are social and, therefore, gaming has become a social construct.

¹⁰ Consult “Win More Games by Using Proper Communication” at <https://on-winning.com/communication-team-based-games/>. Accessed on April 12th.

2. A study on player typologies

There are various player types that can be described and connected. Many researchers proved that, but they all based on Richard Bartle's four player types. So, we are starting with Bartle's (1996) four player types: Killers, Achievers, Socializers and Explorers in which we describe their behavior and interactions between them and how do they view each other.

Then, we'll be focusing on the player temperaments described in Keirse (1978) temperaments that can be connected with Bartle's (1996) player types as stated by Stewart (2011). These temperaments also have their subtypes that will be described in this chapter.

Furthermore, we'll be mentioning player motivations and the player components as well as user types defined by Marczewski (2015) and their motivation for autonomy, mastery, purpose and relatedness.

Then, we'll be mentioning the player involvement described by Calleja (2011) in which he describes that the players can feel a suspension of disbelief, meaning that they are not present in the real world but instead, they are fully present in the virtual one. By this, he says that the player becomes a part of the game itself.

Moving on the player fun, we'll be discussing about player emotions and the Keys of fun mentioned by Lazzaro (2004) and description of these keys with their core elements.

Lastly, we end this chapter with player mentalities defined by Kallio et al. (2011). To them, a player can lead towards all three mentality categories, depending on the game they play and with whom they play with.

2.1 Player Behaviour

Richard Bartle's model (1996) is based on analyzing and observing the behavior of people playing multiplayer games in Multi-User Dungeons (MUD). There, the players engage in role-playing and combat against other players or computer controlled enemies. His model was divided into four types: Killers, Explorers, Achievers, and Socializers. These player types are obtained by superimposition of two axis: acting vs. interacting and player vs. world.

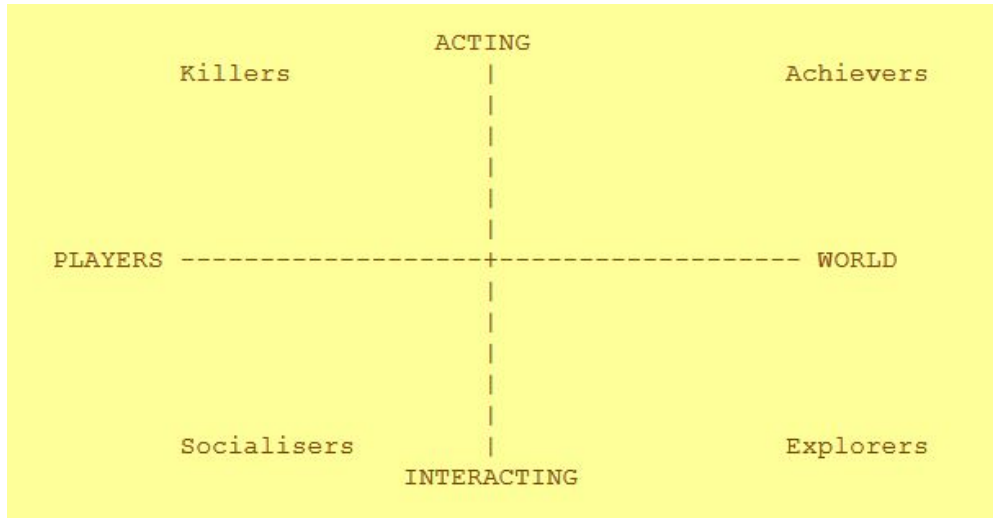


Fig. 3: Bartle's Player types. Source: Bartle (1996), <http://mud.co.uk/richard/hcds.htm>

To define the four typologies, back in between November 1989 to May 1990, Bartle researched a particular commercial MUD in the UK. The research dealt with player likes, preferences, what and why they play and what would they like to see improved in the game. The participants proved to be quite skilled in MUDs. Evidence showed they preferred gamelike experience rather than the social aspect of the game. The participants proved to lean to all four types but there were particular preferences to certain types.

2.1.1 The four types

According to Bartle's research, the four main things people enjoy in games are: 1) exploration of the game where players try to find all what they can, be it from hidden rewards, objects or easter-eggs; 2) acting upon other players which includes player vs. player combat; 3) achievement within the game context where players set out their goal to get high-valued treasures while battling various monsters standing on their way; and 4) the social aspect, where players interact with each other, role-playing.

How many players fit into certain player types depends on the MUD. As Bartle states, a good way to remember this typology is to consider them as a suit of cards. Achievers are Diamonds who search for treasure, Killers are Clubs (as in, they are hitting with them), Socializers as Hearts who empathise with others, and Explorers as Spades who dig for more information.

Table 2: Bartle Player Types. Source: Bartle (1996), <http://mud.co.uk/richard/hcds.htm> ; and Stewart, http://www.gamasutra.com/view/feature/134842/personality_and_play_styles_a_.php

 ACHIEVERS	 KILLERS	 EXPLORERS	 SOCIALIZERS
Achievers prefer to get certain points, armor, titles, and mounts in order to succeed in the game. This gives them an opportunity to show off their in-game status and score by being one of the best players. Bartle (1996) adds that, to Achievers, the point of playing is to become the master of the game and of the role they play in the game. They are proud of their status and earned points, showing off on the leaderboards.	Killers interfere with the functioning of the game world or the play experience of other players (Stewart 2011). They attack players with a view of killing their online personas. Killers are profoundly competitive. There is nothing better than showing off their skill is better than their opponent's. Killers wish to show their superiority over other players. They are proud of their high reputation and fighting skills. Accumulated knowledge is useless unless they can apply it to their cause (Bartle 1996).	Explorers are player types who would rather discover various unknown places, secrets or easter eggs within the game, even if they have to break a game rule. That usually means doing a task the programmer didn't plan to implement in the game (Stewart 2011). Explorers interact with the world. They are proud of their knowledge of the game, especially if they can help someone understand the game better (Bartle 1996).	Socializers play the game for fun and meeting new people, rather than accomplishments other three types aim for. They form relationships with other players by telling anecdotes from the game world. The online setting provides them a great opportunity to meet new people through voice-chat or messages. Joining a guild or in-game communities are a fast way to form social groups and relations. Socializers value communication the most. Finding out more about their interest is worthier than being bossed around (Bartle 1996).

2.1.2 Interactions between Bartle's player types

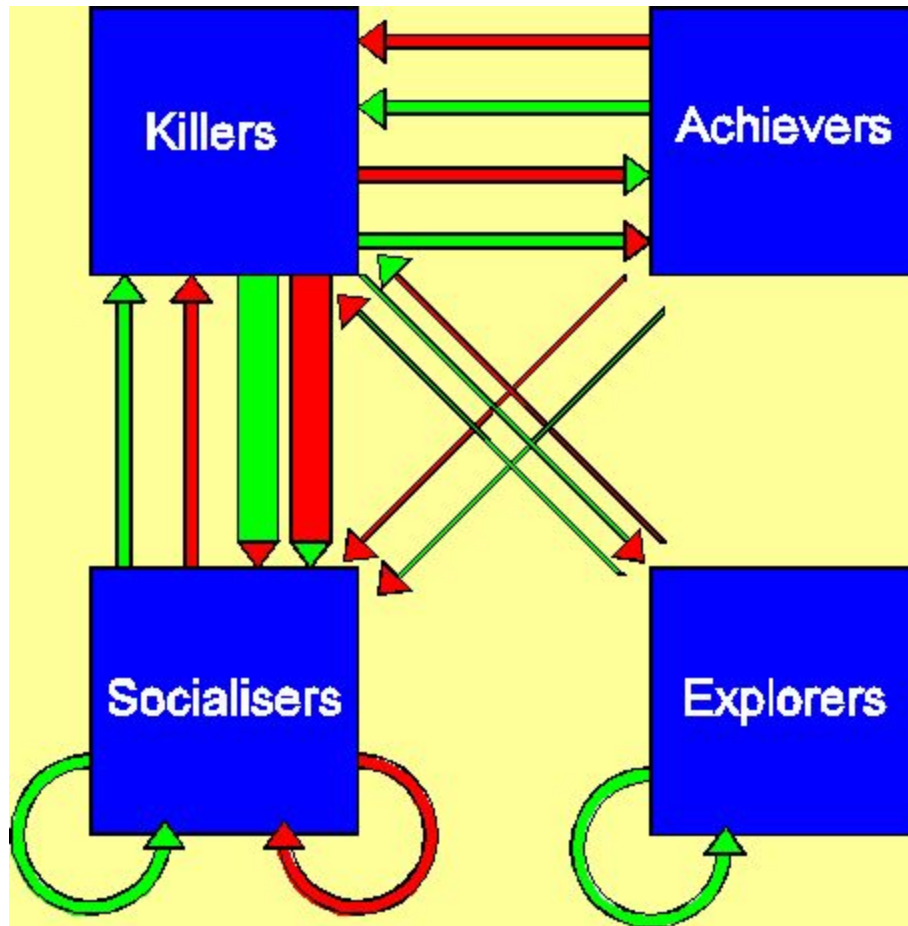


Fig. 4: Bartle's Interest graph. Source: Bartle (1996), <http://mud.co.uk/richard/hcds.htm#2>

Bartle describes the interactions between his four types, researching how the players view other players depending on the type they belong in. His research was based on the stereotypical players. These stereotypical player type traits are not applicable for all players because they may possess traits from each of these different types.

Table 3: Achievers vs. other Bartle types. Source: Bartle (1996), <https://mud.co.uk/richard/hcds.htm>

ACHIEVERS VS.			
ACHIEVERS	KILLERS	EXPLORERS	SOCIALIZERS
Achievers see other achievers as a competition. They are usually friendly towards each other and are quite respected. They love to cooperate together to complete the objective on highest possible difficulty and compete with other teams that are on the same quest.	To Achievers, Killers are needed if they will yield them a meaningful reward but other than they, they won't bother themselves with them. Achievers will attack Killers if they are 100% sure the Killers will fall.	Achievers find Explorers as losers, considering them they do not make their cut in as a player. Achievers only find Explorers useful if they need information where is the secret boss located or that item they need for completing the objective.	Socializers are a burden to Achievers. They do not tolerate them at all since they are talkative and Achievers do not have time for that. Achievers treat Socializers with a pity and often speak to them in a sharp manner.

Table 4: Explorers vs. other Bartle types. Source: Bartle (1996), <https://mud.co.uk/richard/hcds.htm>

EXPLORERS VS.			
ACHIEVERS	KILLERS	EXPLORERS	SOCIALIZERS
To Explorers (and mostly other remaining types), the Achievers are so called <i>no-lifers</i> . Explorers are eager to inform them with their knowledge of the game and secrets they found.	Explorers find Killers annoying because they are standing on their way to discover more valuable and interesting items. They find it frustrating if they are killed when they are about to get their hands on the rare item.	Explorers love the other Explorers. They love informing and helping each other about discoveries and they will help others to achieve the same what they have.	Explorers see Socializers as people they can impress. If Socializers won't bother what they are talking about, Explorers will turn away. If someone is not interested to know about their discoveries, Explorers usually don't want to spend their time with them.

Table 5: Killers vs. other Bartle types. Source: Bartle (1996), <https://mud.co.uk/richard/hcds.htm>

KILLERS VS.			
ACHIEVERS	KILLERS	EXPLORERS	SOCIALIZERS
Killers love hunting down the Achievers. They see them as a target with skills, making them great opponents. The Achievers are not skilled in PvP combat as the Killers are, which gives Killers, as Bartle (1996) says “the thrill of the chase”.	Killers cross paths of other Killers if they are sure they will win. Being beaten results in a bad reputation and losing their rank on the leaderboards. They only play with each other if there is a defined battle.	Killers tend to leave the Explorers alone as they do not see anything worthy in them. Being beaten by them, or any other type, leaves a great impact on them. They just can’t lose the reputation against someone like them.	To Killers, Socializers are not a challenge. They are usually pushovers and tend to feel hurt if attacked in the game, which makes the Killers want to attack them even more. If that will increase their reputation, they will for sure go and attack them.

Table 6: Socializers vs. other Bartle types. Source: Bartle (1996), <https://mud.co.uk/richard/hcds.htm>

SOCIALIZERS VS.			
ACHIEVERS	KILLERS	EXPLORERS	SOCIALIZERS
Bartle (1996) states that Achievers are like a soap opera to Socializers. Their endeavors are a great subject to talk about. The usual topics they talk about is which team has gone through the content to the point of completing the endgame.	Socializers hate the Killers the most. They somehow feel their persona is hurt if they are killed in the game. Majority of Socializers take the attacks from Killers very seriously and personally. They see them as antisocials compared to them.	The Socializers find Explorers helpless souls who need a life. Bartle (1996) states that the only time those two get along is when the Explorer wants to sound professional and the Socializer doesn’t have anything to do.	Socialisers get along quite well. The key factor is the communication in the game environment. When they form a relationship, there are many things to talk about, from gaming to personal life.

2.2 Player temperaments

Psychologist David Keirsey identified four general patterns for personality player type model. He described them in *Please Understand Me* (1978). These temperaments are a configuration of personality traits such as habits and patterns of action or sets of characteristics. Each temperament has its own unique abilities, strengths and challenges.

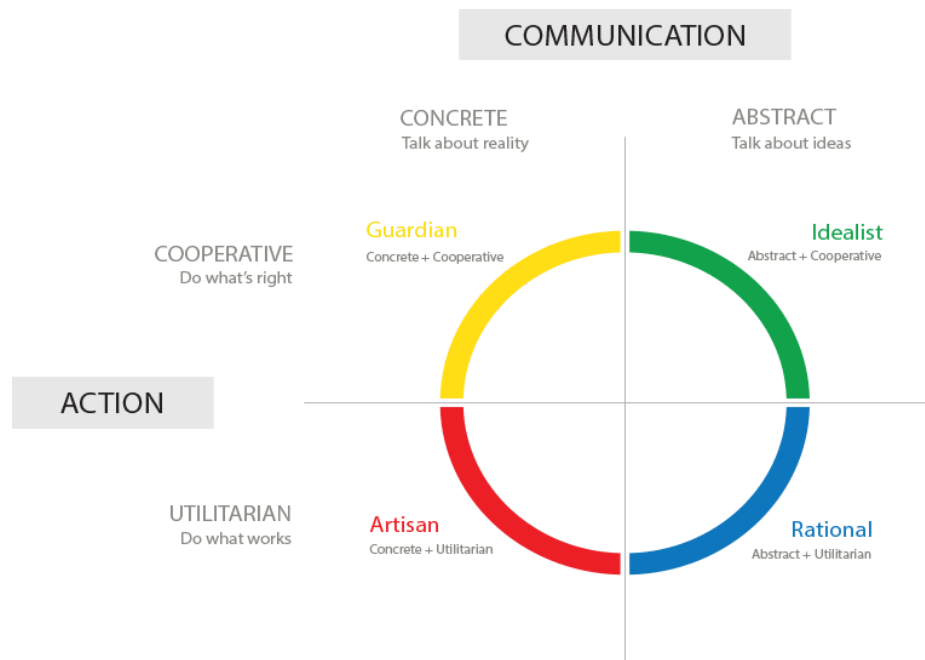


Fig. 5: Keirsey's four temperaments. Source: <https://keirsey.com/temperament-overview/>

The communication area is divided on what's concrete and abstract. When people talk about their interests, there are always two areas of the subject matter. The concrete evolves around reality while the abstract is about ideas. The concrete area is about the external world of everyday life. It develops around facts, work and all of what-when-who-why-where and how much of our lives. The concrete types are the Guardians and Artisans. The Abstract is all about ideas and the internal world: theories, philosophies and dreams. It's not about the fact, it's about what might, why is and what if. The abstract describes the Rational type the best.

When people try to accomplish their goals, there are two opposite types of action: cooperative and utilitarian. In a cooperative manner, people try to do the right thing, keeping with social rules and conventions. They do later concern themselves with the effectiveness of their actions. Idealists and

Guardians are cooperative individuals. Those who act in the utilitarian manner, do what gets them the result. They will achieve the objective in the most optimal way, if possible. Only after the objective is complete, they check if they are observing the rules. Utilitarian actions describe Artisans and Rationals.

Keirsey (1978) explains that in order to use the four temperaments, we need to understand that they are not basic characteristics, but the dimensions of human behavior. Even though Keirsey's temperaments are not player types, they can be viewed as one since they have similarities to Bartle's player types. The connection between them is described further in *Towards a Framework for Player socialization in MMO games*, chapter 4.

Keirsey states that we all have different pursuits based on our temperaments. Each temperament takes a different path to self-esteem and each temperament is driven differently. The operations practiced the most are developed the most, while the least practiced develop least. The Keirsey description of the main four temperaments and sub-temperaments are described in the following section.

2.2.1 The 16 temperaments

The Keirsey temperaments are a configuration of personality traits, patterns, habits and characteristic values, talents and attitudes. Each temperament has unique qualities and strengths. The main temperaments are Artisans, Guardians, Idealists and Rationals. To use these temperaments effectively, we need to understand that they are not just collections or characteristics but a form of interaction of human behavior. Our four main types have additional 4 subtypes which have their own characteristics.

Keirsey defined that people have different pursuits based on their temperaments. The four temperaments take different paths and will feel better when there is a specific way of achieving goals. He states that the four types can be additionally improved with personality types, thus explaining four more subtypes for the core four types.¹¹

2.2.1.1 The Artisan types

Keirsey describes Artisans as the temperament with a natural ability to excel in any art forms. These forms not only include fine arts such as paintings and sculpting, but also the military, political, mechanical or industrial arts. To them, variety is the spice of life. Doing the same thing over and over again is a waste of time. Their point of view is to enjoy today for tomorrow never comes.

Artisans are precise and pay attention to detail. They are realistic, tactical, manipulative (of things or people), pragmatic, impulsive, action-focused and sensation-seekers. Artisans are adaptable and like seeking stimulation, making an impact on others. They always rely on tactics and agility.

¹¹ Consult: <https://keirsey.com/temperament-overview/>, accessed on March 14th, 2019

The Artisans are divided into four categories that are Promoters, Crafters, Performers and Composers.

Table 7: Artisan subtypes. Adapted from Keirsey (1978). Source: Keirsey coaches, <https://keirsey.com/temperament/artisan-overview/>

 PROMOTERS	 CRAFTERS	 PERFORMERS	 COMPOSERS
Traits: magnetic, present, unpredictable, risk-taking, proactive, tactical	Traits: fearless, audacious, coordinated, camaraderie, freedom, instinctive	Traits: generous, engaging, charming, optimistic, immediate, sensational	Traits: absorbed, sensory, spontaneous, graceful, internal, kind
<i>The higher the risk, the higher the prize</i> is the motto of the promoters. Promoters know where the action is and prefer the finer forms of life. They have a genuine sense for reading people, know what to say, highly energetic (and can energize others), have great charisma and smooth in social circles when engaging with other people.	Naturally coordinated with their body movements, crafters connect themselves to the objects they find useful for manipulation. To some, coordination is a skill to be learned, but to crafters, it's an ability they are born with. Their pursuit for perfection and mastery is something they won't leave so easily, not until it's just right.	The most charitable of them all-performers don't have a single bad bone in them. Performers have an optimistic approach to life, always looking on the bright side even if everything goes wrong. They will use their charm to put a smile on others to ease any fears others may have.	Carrying themselves with elegance, composers create art that defines beauty, almost in a poetic way. Composers radiate with unconditional kindness and a friendly manner. They reside in their own world where colors and vibrant movements govern their reality.

2.2.1.2 The Guardian types

Keirsey describes Guardians as the cornerstone of society. They are serving and preserving most important social institutions. The Guardians have a natural talent in managing their goods, from supervising to maintenance. With their skills, they keep things running smoothly. They are down-to-earth and prefer following the rules and cooperation with others.

By sensing and judging, guardians achieve the rewards by following the rules. They are practical, logistical, hierarchical, organized, detail-oriented and possessive. Guardians like organization and can be categorized into administrators (directive guardians), expressive supervisors or attentive inspectors.

The Guardians are divided into four subtypes. They are Supervisors, Inspectors, Providers and Protectors.

Table 8: Guardian subtypes. Adapted from Keirsey (1978)

 SUPERVISORS	 INSPECTORS	 PROVIDERS	 PROTECTORS
Traits: forceful, structured, authoritative, experienced, honorable, responsible	Traits: institutional, inspecting, reliable, straightforward, conservative	Traits: providing, caring, integrous, sociable, collaborating, procedural	Traits: thorough, self-sacrificing, preserving, dedicated, stabilizing, successful
Supervisors do what they have to do, without questioning authority. Routines, punctuality, order, and compliance are the primary obligation. Supervisors will expect others to be the same as they are. They are loyal, hard-working and probably the ones that will rise up to areas of responsibility.	Inspectors are decisive and practical. Constant and dedicated, they are viewed as guardians of institutions. The inspectors are there with their responsibility to do their service. When communicating with their teammates, they send a dependable and steady message, which makes them successful, particularly in business.	Charming and chatty, providers will always express themselves to others in a respectful manner. Typically conscientious, they are the ones investing their energy, securing the social functions are conventional. They have an assemblage of values with clear “should” and “shouldn’t” which they follow and expect others to follow as well.	Attention to detail and thoroughness are the trademarks of protectors. Although quiet and reserved, protectors care for others, offering their comfort whenever they can. They are devoted, dedicated and loyal to their superiors and influence others by setting up an example. They will do anything to preserve their belongings for as long as they can.

2.2.1.3 The Rational types

Rationals love problem solving activities, preferably if the problem has to do with complex systems. Whatever type the problem is, the Rationals will analyze them first to understand the way they work. After that they will develop a solution to solve it the best way possible.

With intuition and thinking, rationals find their way in the game world. Innovative, strategic and logical, they are future-oriented, result focused, knowledge-seekers. Being abstract and objective, rationals are divided into coordinators and engineers. Coordinators are directive and their operation is arranging. Engineers are the informative types taking construction as a main operation.

The Rational type is divided into Field-marshals, Masterminds, Inventors and Architects.

Table 9: Rational subtypes. Adapted from Keirsey (1978)

 FIELD-MARSHALS	 MASTERMINDS	 INVENTORS	 ARCHITECTS
Traits: enterprising, commanding, communicating, strategic, efficient, visionary	Traits: self-confident, utilitarian, systemic, willful, ingenious, planning	Traits: prospecting, imaginative, curious, prototyping, pragmatic, open-minded	Traits: autonomy, conceptual, inquiring, logical, preoccupied, complexity
Born leaders, field marshals are always proactive, taking charge of the situations providing great outcomes. You can recognize a future field marshal even from a young age, they will probably be in charge of the group. Field marshals won't just remain still and wait for something to happen. Instead, they will jump straight to the business.	The logical designers, masterminds will grasp and understand all logical consequences and will know how to execute each step. Being extremely objective, these pragmatists can foresee a systematic error from a distance. They are always sticking to the main plan, but if it doesn't work out, they'll switch to another.	Much like artisan's crafter type, inventors will find a way to solve a problem, always full of ideas. Saying they cannot do something will make them eager to do it even more. They have a gift for problem-solving with their unique ideas, always thinking outside-the-box. Inventors are always checking all possibilities and continuously having new ideas.	Architects want everyone to be unique, to be individuals and independent as free thinkers. They take their own responsibility and chart their own course. These rationals will not tell others what to do or how to do, instead, they will focus on the results and the finished product.

2.2.1.4 The Idealist types

Personal growth is of utmost importance to the Idealist type as well as their development. They strive to discover who they really are, like they are on a quest for self-improvement. They love working with people, willing to help them find their goals in life and inspire them to grow as individuals. They hold themselves to a strict standard of personal integrity.

Much like the Socialisers from Bartle's player types (see section 2.1), Idealists use intuition and feelings – they want people to cooperate. Idealists seek significance and excel at unifying. Being imaginative, diplomatic, and emotional, they are identity-seekers.

The Idealist type is divided into Teachers, Champions, Counselors and Healers.

Table 10: Idealist subtypes. Adapted from Keirsey (1978)

 TEACHERS	 COUNSELORS	 CHAMPIONS	 HEALERS
Traits: expressive, intuitive, interpersonal, influence, principled, idealistic	Traits: intensity, wholeness, private, developing, empathy, connecting	Traits: exploring, passionate, enthusiastic, networking, eclectic, authentic	Traits: nurturing, harmonious, dreamers, fervent, reconciling, inspiring
With charisma and expression, teachers always find a way to enlighten those around them. No matter what emotions they deal with, they will always find a way to interact with others. Their charisma and expressiveness are so contagious they will raise excitement level in any group they are in.	Counselors go an extra mile further even if it is not necessary. As perfectionists with judicious nature, they will stand their ground and pursue their goal no matter what. Their statement is not going to be changed if they are asked to do so. You can feel their intensity even if the words are not said.	With a passion for novelty, champions have a wide range of emotions. The journey they venture on must be unique, anything that feels less interesting, they won't be so passionate about. Champions want to motivate and inspire others to feel the same as they do. The reason they want to inspire others is that they were inspired in the first place.	Healers seek internal healing within themselves, external healing for others and eternal healing with the sacred. They are the menders to those which have divisions plaguing their life. Healers connect with others by sharing other people's suffering-they approach people with unparalleled sensitivity.

2.3 Player motivations

Players may have different goals in games, but they may also share the same motivation for the games they play. Many things motivate players to continue playing a game. Some of these aspects are the achievements, and the competition games offer. What are today popularly known as achievements are built into games to extend their longevity. They are secondary goals in which players are provided with extra tasks that may unlock additional content or rewards when completed. Speaking of rewards, it is common for players to complete a game on the highest difficulty in order to achieve the best rewards.

Doing the endgame is not the only way to get a valuable item. Players can be rewarded if they complete a certain task in a certain amount of time, or maybe finding a secret tunnel with a secret boss

that yields bonus experience points and items. This also includes competition against other players, be it player against a player or a team against a team. Certain PvP contents can also reward vanity items. Game goals provide a sense of direction and set up the challenges that the players face (Juul, 2007).¹²

2.3.1 Yee's player components

Yee provides the foundation to understanding and assessing how players differ from one another and their motivations. The player components he presents are independent of one another and are motivated by one or more other components.

For Bartle (1996), the four player types stand across each other, while Yee finds connections between them all. To him, the player can switch between the playstyles and does not have a primary style. Yee (2006) divides players in a different way: in 3 components with 10 subcomponents. The focus is still based on connection between Bartle's models but they are seen as connected forms rather than opposites. Yee explains that the player can be a bit of all proposed Bartle types and not fully one type

Table 11: Yee's player components. Source: Yee (2006)

ACHIEVEMENT	SOCIAL	IMMERSION
ADVANCEMENT Progress, Power, Status, Accumulation	SOCIALIZING Casual Chat, Helping Others, Making Friends	DISCOVERY Lore, Exploration, Finding Hidden Things
MECHANICS Numbers, Optimization, Templating, Analyses	RELATIONSHIP Personal, Find and Give Support, Self-Disclosure	ROLE-PLAYING Roles, Fantasy, Storyline, Character History
COMPETITION Challenging Others, Provocation, Domination	TEAMWORK Collaboration, Group Achievements, Groups	CUSTOMIZATION Style, Color Schemes, Appearance, Accessories
		ESCAPISM Escape from RL, Relax, Avoid RL Problems

¹² Among other motivations, Cole and Griffiths (2007) stated that players play out of curiosity, interest and astonishment.

Player motivation is focused on role-playing, action, interactive fiction and online chat among players, where they interact with the virtual world, with each other, with objects and with non-playable characters.

2.3.1.1 Achievement component

People play games to experience a sense of achievement. They put effort into the game and they are rewarded: they gain new items, new achievements, a level up or skill proficiency. Competition rushes through the veins of players who are focused more on the battlefield and the game experience. Hardcore gamers derive satisfaction from achieving goals and leveling up quickly through game content by collecting in-game armour and gold. They progress through in-game content (leveling up, acquiring armour, achievements, etc.). They are focused on achievement. In order to get it, players go through the game content trying to accomplish the objectives best way possible. It includes calculating required damage for bosses, which weapons and armor to use, and the precise statistics for the armor and weapons.

There are different threads in the achievement component. They can be divided into advancement, competition and mechanics. Typically, achievement-driven players are after the end-game.

Table 12: Achievement subcomponents. Adapted from Yee (2006)

ADVANCEMENT	COMPETITION	MECHANICS
- achieving goals - constant progress - acquiring in-game goods - usually driven towards hardcore guilds	- competition against other players - adrenaline rush - domination on other players	- understanding mechanics - character optimization - calculate damage, statistics and dodge numbers

2.3.1.2 Social component

The social component focuses on the joy of meeting new people and getting to know them as well as in-game adventures, from going through the storyline to completing hard obstacles and dungeons. Players usually communicate with each other in order to complete a certain objective. In these friendly guilds people form meaningful relationships with people they meet, giving support to each other.

Table 13: Social subcomponents. Adapted from Yee (2006)

SOCIALIZING	TEAMWORK	RELATIONSHIP
- meeting new people - chatting with other gamers - forming long-lasting relationships - usually casual gamers	- cooperation and teamwork - doing in-game content with group	- supporting each other - engaging in conversations - casual or personal chatting - forming friendships

2.3.1.3 Immersion component

Players are immersed in the story as if they are really there-seeing the world through character's eyes. They like exploring the secrets and hidden locations and knowing more about the lore and artifacts they collect.

Table 14: Immersion subcomponents. Adapted from Yee (2006)

ESCAPISM	ROLE-PLAYING	CUSTOMIZATION	DISCOVERY
- relaxation - relieving stress - a gate-away to another world	- immersion in the story - see the world through character's eyes - interaction with other players	- having unique character appearance - various optimization options	- exploring the world - getting rare items - searching for secrets and hidden objects

2.3.2 Marczewski User Types

Marczewski mentions that motivation is one of the main aspects when defining player types, hence designing user type hexad. He used Bartle as a good example for building good MMO game environments but says that they do not have good relevance for building gamified systems. This is the reason he created his user types.

He states that when creating gamified systems, you need to “design to encourage the behaviours that will give your system the best outcome, whilst engaging as many users as possible (Marczewski 2015)”.

Marczewski player types are described at a basic level motivated by relatedness, autonomy, mastery and purpose. The point of these types is to give gamification designers a simple framework to keep in

mind that people cannot be broken down into simple categories. These player types are designed to encourage the behavior that will give the game system the best outcome-whilest engaging users.

His main 6 player types are the socializers, free spirits, philanthropists, achievers, disruptors and the players.

1. Socializers are motivated by relatedness who interact with each other and create relationships.
2. Autonomy and self-expression describes Free-spirits. They are creators and explorers.
3. Philanthropists, motivated by purpose and meaning are altruistic, willing to give to other people and enrich the lives of others. They have no expectations for reward.
4. Motivated by mastery, Achievers are looking for new things to learn, improving themselves and challenges to overcome.
5. Disruptors in general want to disrupt the game system, whether directly or through other users to force positive or negative change.
6. Players are motivated by rewards. They will do what is needed of them to collect rewards from a system.

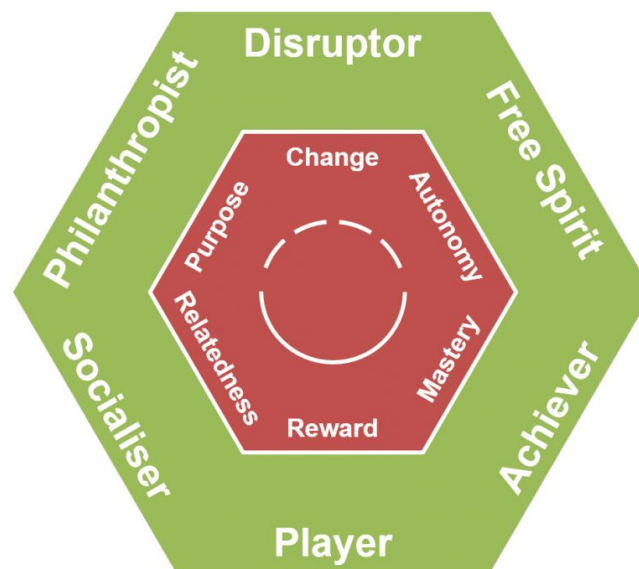


Fig. 6: Marczewski user types. Source: Marczewski (2015), <https://www.gamified.uk/user-types/>

These six types are a guidance for creating a good game system. Marczewski then divides his player types into three separate groups, each having four additional player personas. Those types are Intrinsic, Extrinsic and Disruptors.

2.3.2.1 Intrinsic user types

There are four main intrinsic user types: Philanthropists, Socializers, Free-Spirits and Achievers. Philanthropists are acting on users, Achievers are acting on the system, Free-Spirits are interacting with the system, and Socializers interact with the users.

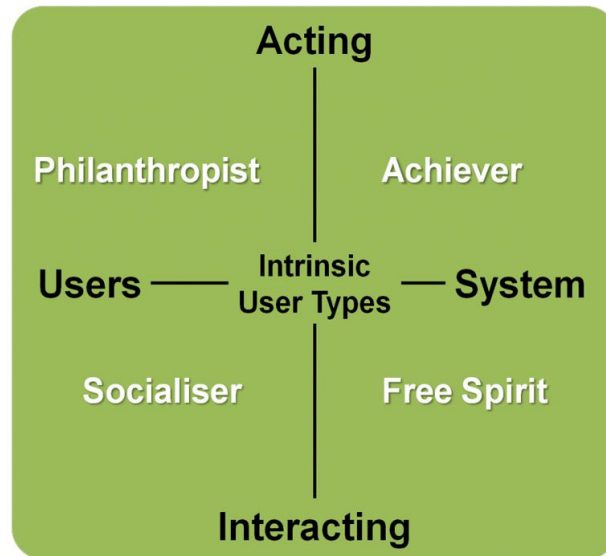


Fig. 7: Marczewski Intrinsic user types. Source: Marczewski (2015), <https://www.gamified.uk/user-types/>

1. Socializers are the ones interacting and connecting with others, motivated by the social connections aspects of relatedness.
2. Philanthropists want to feel that they are part of something bigger. They want to give and help others but expect nothing in return and will answer endless questions.
3. Achievers want to be the best at everything. Their status is a representation of their personal achievement.
4. Free-spirits seek self-expression and autonomy. They have two central subtypes, Creators and Explorers. They will have the fanciest avatars and create the most personal content.

2.3.2.2 Extrinsic user types

The Player User Type is usually reward oriented and the method is to try and convert the players to be motivated users as well. Basically, the Player is motivated by rewards. They will do things related with the intrinsically motivated group, but only if there is a prize at the end. Extrinsic types are divided into Consumers, Networkers, Self-seekers, and Exploiters. Self-seekers are acting on users, consumers are acting on the system, Networkers interact with the users and Exploiters are interacting with the system.

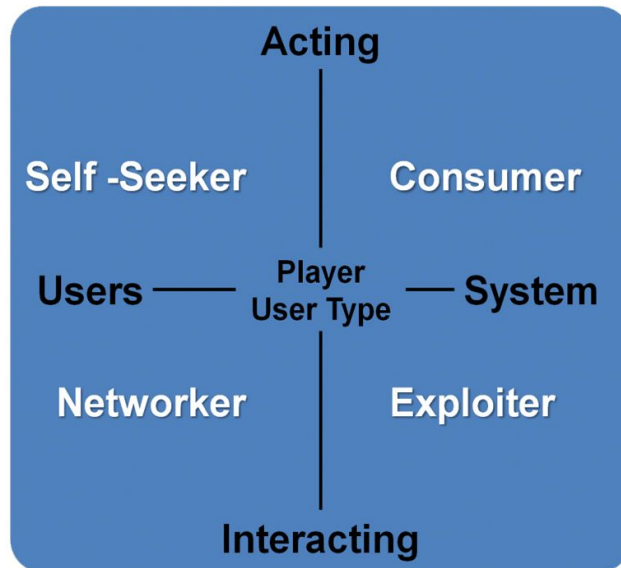


Fig. 8: Marczewski Extrinsic user types. Source: Marczewski (2015), <https://www.gamified.uk/user-types/>

1. Consumers will do what is needed to get rewards. If they can get rewards for just doing what they were already doing – even better. They are always up for learning new skills or taking on challenges.
2. Self-seeker will act in a similar way to Philanthropists-they will answer people's questions, share knowledge and be helpful-but for a cost. If there is no reward, don't expect them to get involved.
3. Networkers are looking for useful contacts that they can gain from. They like to get noticed and love to follow influencers.
4. Exploiters are looking for the boundaries of the game system. They are the most likely to exploit it in order to get the reward.

2.3.2.3 Disruptor user types

Disruptors disturb a system by acting on users or on the system itself. They can be a tough type and whilst they make up a small percentage of the overall user group, they can be very effective. Griefers and Destroyers are the bad sides of this player type but Influencers and Improvers are on the better side. Disruptor player type can be seen as a group, rather than a single type.

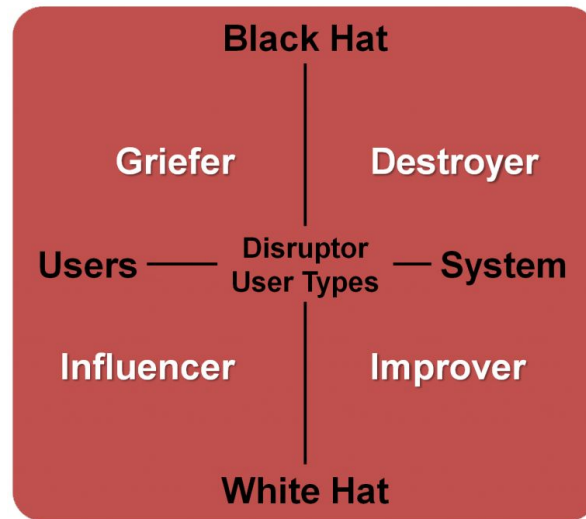


Fig. 9: Marczewski Disruptor user types. Source: Marczewski (2015), <https://www.gamified.uk/user-types/>

1. Grievers negatively affect other users. Their motivation is calamitous. Best to ignore them.
2. Destroyers break the actual system directly. This may be by hacking or finding loopholes in the rules that allow them to ruin the experience for others.
3. Influencer users will try to change the way the system works by exerting influence over other users.
4. Improver will interact with the system with the best intentions in mind. They may hack it or find loopholes, but their aim is to enhance the system for the greater.

2.3.2.4 The dodecad of user types

After defining the user types, Marczewski combines them in a dodecad of user types, explaining the connection between them and on who/ what they interact with/ on. All of these different user types have the potential to affect each other. Philanthropists are the parent figure. They are the ones who are likely to want to help anybody they can, no matter of the other person's motives. Exploiters, on the other hand, will make use of anyone and everything they can to get personal gain from the system. Socialisers and Networkers will wish to interact with people. Self-seekers have no real interest in the people within a system, they are there for the reward. Achievers are not there for the people, they are there for self-enrichment. The big difference here is that the Self Seeker is the one who will collect badges and trophies in a system to show off their expertise to others. Free Spirits and Consumers have the least impact on any of the other users. Their interests are purely personal, using the system to get what they want from it. Other users are of no direct interest to them (Marczewski 2015).

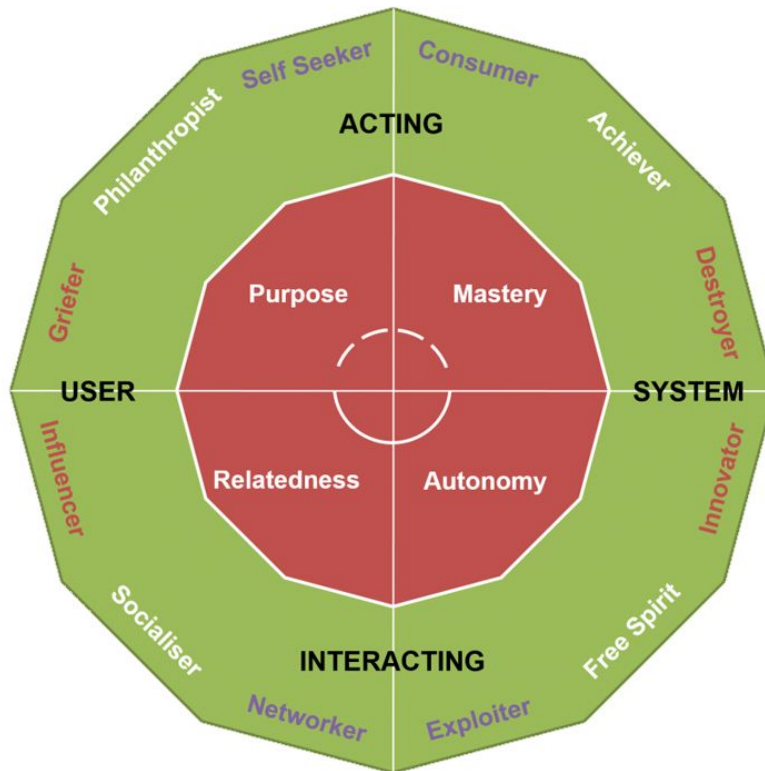


Fig. 10: Marczewski Dodecad of user types. Source: Marczewski (2015), <https://www.gamified.uk/user-types/>

2.4 Player involvement

Game environments afford experiences that are not available in nonergodic media (Aarseth, Espen 1997). One of these experiential phenomena is the potential to metaphorically inhabit their virtual spaces not just through our imagination, but also through the cybernetic circuit between player and machine. (Calleja 2011)

Presence is derived from telepresence, a term coined by Marvin Minsky (1980) in his paper Telepresence. There, Minsky describes how operating machinery can lead to inhabiting a distant space. This means that the player is fully immersed in the game world and not present in the physical reality anymore. This statement is known as a suspension of disbelief.

Calleja (2011) explains how the player achieves incorporation, becoming a part of the game. The player incorporates the game environment into consciousness through the avatar he or she controls in the game. It occurs when the game world is present to the player while the player is in the game world via their avatar.

He explains that the immersion is often found in digital game context, referring to experimental states such as engagement, perception, identification, addiction and the notable “suspension of disbelief”. Terms such as presence and involvement are increasingly important in digital game design, requiring a more precise approach.

Calleja’s model identifies six dimensions of player involvement: Kinesthetic, Ludic, Shared, Narrative, Spatial and Affective. The way he explains these are defined in the following sections.

2.4.1 Kinesthetic involvement

Kinesthetic involvement focuses on the control of virtual environments and learning controls to fluency of movement. This involvement requires conscious attention. The difficulty of learning curve has a big influence on the player involvement. The player presence is fixed to a single entity-the controlled avatar. These avatars can be interacted from third-person perspective, giving the player perception of the world through the avatar’s eyes. As games often combine control modes, players can also control various characters at the same time, and command the army of warriors on the battlefield in player groups or defined individual units.

Games such as *Pacman* (1980) or *Tetris* (1984) only allow us to move left or right preventing further motion. In any of the *Donkey Kong Country* (1994) franchise, you can move in all directions, collect bananas and pick up various items that help you on the way to reach the final level and defeat K.Rool. Calleja (2011) also mentions Rockstar Toronto character Max Payne who sprints, jumps, crouches while aiming and shooting assailants. He also has “bullet time” in which the player has the opportunity to execute complex abilities in slow motion, much like Neo in *The Matrix* (Wachowski, and Wachowski, 1999).

Video games give the player abilities to produce various moves and provide them satisfaction of a good performance. In order to do so, the player needs to plan in advance when and how he or she could use those abilities for the optimal output. Using “Leap of Faith” ability in *Assassin’s Creed* (2007) gives players a great feeling of kinesthetic immersion, like they are assassins themselves.

In first-person shooter games – *Overwatch* (2016), *Destiny* (2014), *Call of Duty* (2003), *Halo* (2001) –, the player’s actions are translated into perceived world movement. The character is not visible, only a small fragment of the weapon. The perception is in the world rather than to the movement of the player’s character.

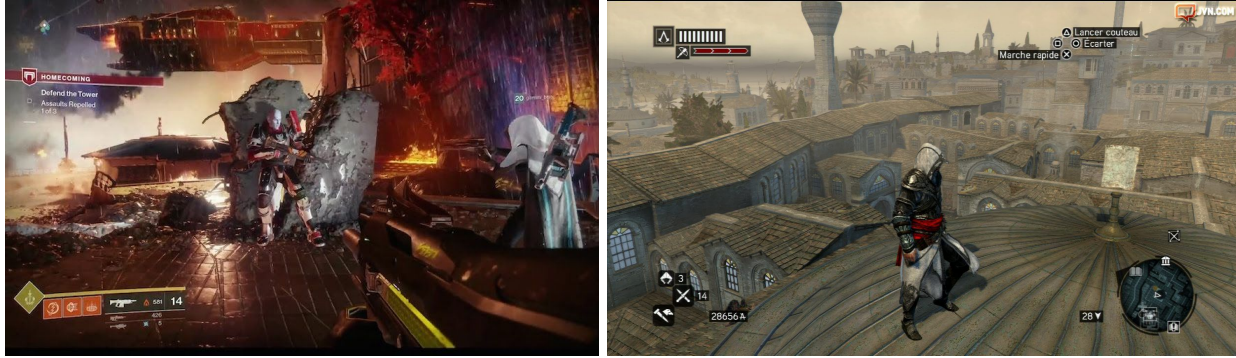


Fig. 11: On the left: *Destiny 2* (2017). Source: The Spinoff, <https://bit.ly/2VwgSzS>. On the right: *Assassin's Creed: Revelations* (2011). Source: Ubisoft forums, <https://bit.ly/2GrX7U5>.

Double perspective comes from third-person perspective: the player is aware of the surroundings and the space relating to their avatar. Yet, the player needs to know that the character they play do not share the same line of sight when switching between the targets or points of view. Hence, the player needs to move around and attack enemies or search for clues for puzzles. Therefore, movement is one of the key points that allow players to act on the environment. It's an enjoyable part of gaming, particularly when the abilities and controls are mastered.

2.4.2 Shared involvement

Shared involvement focuses on player engagement from player awareness and interaction in a game environment. The game "agents" players interact with can either be other players or various Non-Playable Characters (NPC). The interactions can be accomplished in terms of cooperation, competition or cohabitation. This involvement combines all aspects of being with others in a common environment.



Fig. 12: Sharing the same environment with other players in *World of Warcraft* (2004). Screenshot from own play sessions.

Before becoming digital, games were played by multiple players in public spaces. One of the major reasons why MMOs are so popular is because they support the presence of multitudes of globally distributed players in one environment (Steinkuehler and Williams, 2006; Taylor, 2006). The social interaction takes many forms, such as direct conversations in group chats, interaction with other players' characters in the game or just the hum of general chat. The presence of their avatar creates a broader engagement with the world community (Calleja 2011).

MMOs are built to foster social structures creating a sense of being present in the living world. Through our monitors, there is a whole world filled with many players running around. Players form guilds, clans, relationships, friendships, as well as betray and sabotage each other. A good example of sabotage is a heist that happened in *EVE Online* (2003) that happened in April 2005.¹³

¹³ A corporation ran by players hired a mercenary corporation called Guiding Hand Social Club to sabotage an enemy corporation, Ubiqua Seraph. After several months, GHSC made away with over \$16,500 worth virtual assets, bringing Ubiqua Seraph down. More information at <https://www.eveonline.com/article/ubiqua-seraph-suffer-major-blow-days-after-their-alliance-formation>, last accessed on April 14th

The players can sometimes relate to the people they play with, seldom even more than with people they know in real life. There is one thing that they all share, and that is participation in the virtual world. Although it is up to the player whether to go alone or in a group, the shared interest is that MMOs are designed to make collaborations between the players. Being a part of a guild provides interaction, increasing the potential of forming good relationships. Guild members must depend on each other to overcome obstacles standing in their way.

The communication is contextualized with shared experiences, interactions and discussions over chat channels. These conversations are not only game related. Players will talk pretty much about anything when not communicating about the strategy while battling enemies. Some guilds are made in geographical locations.

The presence of other players can transform empty virtual environments to a place filled with many people. The cohabitation of virtual worlds is avatar-based, anchoring the player socially and spatially. A suspension of disbelief occurs, player becomes invested in the story as if they are really there. The immersion is even stronger if the NPCs are moving. (Calleja 2011)

Players even get reputation (positive or negative) according to their actions in a game. Let's imagine the following situation: 5 players venture into a dungeon to defeat difficult enemies and get loot. The team messes up the strategy and 4 characters die when fighting a boss enemy. The remaining active player may get positive reputation by defeating the boss alone. Calleja (2011, 104) also mentions that players' actions are taken into account for them to get accepted into clans. He explains that joining clans usually requires submitting to a trial in which players prove their worth to be a part of a team.

2.4.3 Spatial involvement

Spatial involvement focuses in players' engagement with the spatial quality of the game world in terms of navigation and control. This is giving the players a sense of inhabiting the place rather than space perception only.

Lewis-Williams (2002) explains that the desire to explore new lands has been an inherent part of human nature since the beginning of our species. We daydream of the places that are different from our surroundings. From far away places to fantasy worlds that only exist in fairy tales, video games or in the corners of our minds. There is, however, one way to explore certain fantastical worlds, and that is through visual media. Virtual worlds and video games are essentially adept at spatial exploration. This not only projects our imagination into the landscape-it transposes the imagination as well.



Fig. 13: On left: World of Warcraft (2004). Screenshot from own play sessions. On the right: The Elder Scrolls V: Skyrim (2011) Source: Digital Trends, <https://bit.ly/2UMY2YU>

One of Calleja's participants in his research noted that he likes sightseeing aspects: "I have to say that I really enjoy finding new areas, the scenery. I've actually experienced 'tourist' moments in some games. I've found a spot with such a great view I wanted to take a picture". Games provide picturesque landscapes, extending endlessly. This gives players the opportunity to explore more of the world and discover the secrets. These landscapes awake a sense of wonder. What makes this enjoyable is not just the vast landscapes, but also the sense of discovering them. The performed practice of boundary exploration make virtual worlds appealing, along with their gorgeous landscapes.

While controlling the avatar, players embody the presence of the game world through their character, moving left, right, forward and backwards. Players can opt to view the world through a first-person perspective or zoom out for a third-person perspective. Notable games supporting this feature are *Counter Strike* (2000), *World of Warcraft* (2004), *The Elder Scrolls V: Skyrim* (2011), and *Destiny 2* (2017). When going through the world and navigating, a player has a sense of habitation. The journey is more rewarding if the player doesn't know the world s/he is in and risks getting lost (Calleja 2011, 75). This awakes spatial contingency. If carefully designed, spatial contingency can yield the sense that the simulated world extends more than what is seen. It makes the journey more fun and the risk adds a level of excitement. If we apply perspective on orientation based on the body to virtual environments, we can understand simulated space is not based only on our heroes we control (Calleja 2011). It is also based on goal-directed movement, reinforcing tangibility of our characters. This goal can be given by a quest, an NPC or set by the player himself/herself (Calleja 2011).

2.3.4 Narrative involvement

As the name says, the narrative involvement focuses on engagement with the story and interaction with the game. It's scripted into the game and generated narrative from interaction with the game-objects, characters and events. To some players, the storyline is of great importance, while to others, the reward is more important.

When it comes to narrative in the context of player involvement, we approach it by taking story experience into consideration. The narrative is a notable assumption of how players experience the game. The storyline shapes the player's experience of the narrative content. Culler (1981) states that the distinction between sequences of events (the story) and their presentation are often called discourse. To Culler, there is no story outside the discourse that constructs it. One can see the order in which the events are presented. He suggests that distinction of events presupposes the presence of an author who is controlling the story during the reading process.

Celia Pearce (2004), a game designer, claims that although games can be compared to literature and film, they are a very different medium: "Unlike literature and film, which center on the story, in games, everything revolves around play and the player experience."

Salen and Zimmerman, describe the presence of stories in games as a given. In *Rules of Play: Game Design Fundamentals* (2003), they distinguish between embedded and emergent narrative. "It is the dynamic structures of games, their emergent complexity, their participatory mechanisms, their experiential rhythms and patterns, which are the key to understanding how games construct narrative experiences. To understand game narratives, it is essential to analyze game structures and see how they ramify into different forms of narrative play" (382-383).

The quests in MMOs offer two things, the ludic goal and the narrative describing it. Players will occasionally skip the narrative of the quest and go for completing the objective. The other group of players will gladly engage the narrative aspect. Engaging in the narrative is inevitable if the game is story-driven. The quests can offer many options for the player to choose. The player choices can result in a different narrative for their character.

2.3.5 Ludic involvement

The ludic involvement deals with player choice in the game. These choices can be made by the player or player community, directed toward a goal. Apart from completing a goal, the players are also aiming toward a certain in-game rewards, designed to be given during the in-game progression. These rewards can vary depending on the objective and on the difficulty of certain quest or dungeon to be completed.

The plans towards pursuit of a goal can be viewed as strategies while subgoals can be seen as tactics. When there are no other players involved, the challenge is mainly focused on the game itself.

The human mind is driven to make sense of itself and surroundings. Roger Caillois (1961) in *Man, Play and Games* makes a contrast between player attitudes. He names it “paidia”. Paidia is turbulence, manifesting as uncontrolled fantasy. It symbolizes purity of play, eluding all forms of enculturation. Paidia manifests in other activities as well. Caillois gives an example of a little girl laughing at a kitten entangled in a ball of wool. This provides training and acquisition of special skills, a mastery of operations. Structured organizations such as rules are defined as ludus. Ludus is a form imposed upon paidia. Players freely opt to enter the realms of structured challenges, particularly when the game involves a large group of players. When there are no players, the challenge is imposed on the game itself. Actions of game environment are influenced by the realm of ludus, where player intentions are always limited.

Rules heavily inform players. They give meaning to actions in the game world. The machine upholds the rule system and the system is supplemented with rules, agreed upon by players. However, not every player action has relevance to game rules. As Calleja states, players can wander around the game world and “kill time” by doing quests while waiting for his teammates to come online. Ludic aspects are structured by rule systems, assigned to elements such as events or objects. Calleja mentions Thomas Malbay (2007) because according to him, rules are intended to generate compelling forms of contingency.

Capture the flag situations are a good example. The flag becomes a ludic objective organizing the game mechanics. There, two teams are fighting against each other and the goal is to capture the enemy flag and bring it to their base. The team who scores more wins. The flag is no more a symbol of a team or an identity. It becomes a struggle between competing teams.



Fig. 14: *Call of Duty: Black Ops 3* (2015) gameplay. Source: Awc Free, <https://bit.ly/2KwJDvB>

Rules are not always a focus of attention. They manifest in a form of decision making and goal pursuit. The ludic involvement also involves around game engagement, associated with goals and rewards. It concerns decision making and planning. It enables players to work their way through hierarchy of goals, assigned by the game, other players or themselves.

2.3.6 Affective involvement

Various forms of emotional player engagement is connected to the affective involvement. This envelopes various player emotions experienced while playing the game, from the adrenaline rush in a competition or getting the long awaited achievement to disappointment for not getting that particular item. The affective involvement focuses on player interpretation of the game and their interaction with others. Here, the player is never-ending loop between own mind and the machine. The player input creates a potential for intense emotional experiences, whether they are fulfilling or discouraging. Games can affect the players' mood through interaction, allowing them to tweak the settings to their desires.

The intense nature of digital games is the potential to affect player emotionally. They place player in cybernetic loop between the human and the machine. The games' compelling nature suits player's needs, from venting frustrations in action and shooter games, adventures in a land of unknown to mind-twisting cognitive challenges. Understimulated players tend to choose content that brings them a challenge they want, as noted by Bryant and Davies, (2006). As games offer a variety of challenges, players can tweak them to suit their emotional needs: calmer media content if they are overstimulated and action content if they are understimulated.

Game design is imbued with rhetorical strategies of affect. The rhetorical power is the conjunction of textual interpretation and practice of play. The input and output processes have the potential to deliver powerful affective experiences. Game designers aim to emphasize affective qualities by selling packaged experiences that meet player expectations whilst engaging range of emotions. The affective component is usually associated with escapism, a break from everyday reality.

The affective player involvement encompasses forms of emotional engagement, from call to arms to pleasing aesthetics of landscapes surrounding the player. It accounts rhetorical strategies of affect either purposely designed for the game or perceived by the player interpretation and interaction.

2.5 Player fun

Why do we play games? Do people play games for the challenge as well to feel emotions? Is it possible to build emotions into games by adding emotion-producing objects or actions to gameplay rather than cut scenes? A game's value proposition is how it makes its customers think and feel. (Lazzaro 2004)

Lazzaro (2004) views games as structured activities that create engaging experiences and as easy-to-start mechanisms for fun. The game experiences offer entertainment, challenges, and competition. Games offer diverse activities, from mental challenges, remarkable adventures or pure gateway from everyday struggles and worries. During game time, players experience various emotions, from wonder when observing and investigating the world, joy over personal triumph to anger when killed by another player or dying in-game. Sometimes people even cry, whether affected by the game narrative, character investment in the story or the score composed for the game.

What players like best about games can be divided into four groups. These groups are known as Four Keys to emotion. Each key shows a distinct aspect of player experience and differs on the player in how important each key really is.

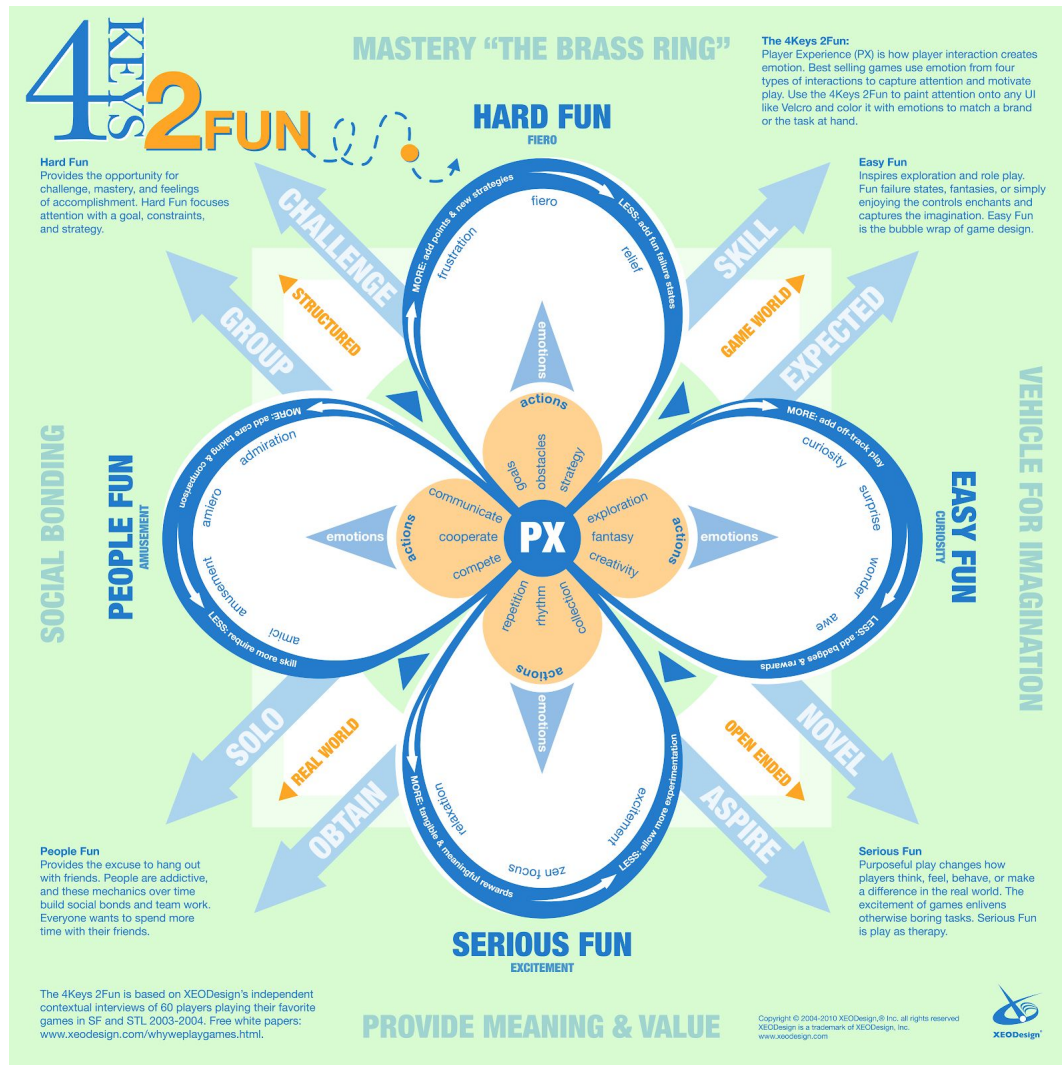


Fig. 15: Lazzaro's Keys of Fun. Source: Lazzaro (2004), <https://www.nicolelazzaro.com/the4-keys-to-fun/>

To define the four keys of fun, Lazzaro (2004) indicates four criteria for them. Likewise, each key is the reason why people play games and how are they important in designing game experiences.

1. What players like about playing games
2. Creating unique emotions without story
3. Already present in popular games
4. Supported by larger studies

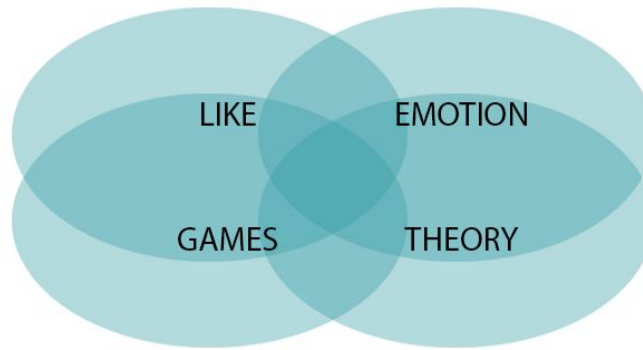


Fig. 16: Criteria for Keys of Fun. Source: Lazzaro (2004), https://xeodesign.com/xeodesign_whyweplaygames.pdf

2.5.1 Player emotions

Lazzaro (2004) explains that many emotions occur during gameplay, from body language, facial expressions to verbal comments. The usual emotions we expect are excitement, amusement and frustration, as well as fear or surprise. The emotions are reported from player behavior and perception, which can be “read” from their facial expressions.

She states that many psychologists say that our brain scans the surroundings and uses our emotions to make crucial decisions, and that, with that in mind, players also use their brain to scan the environment they are in, trying to figure a way out, complete the puzzle or search for the perfect strategy for the objective. All decisions are made on the emotional level first.

She then describes 7 main player emotions that occur when playing a certain game. These 7 emotions are: surprise, fiero, wonder, schadenfreude, fear and kvell.¹⁴

1. *Surprise* comes at a sudden change and it can be good or bad. It can also transfer to fear and relief. Imagine you are playing against hard team to beat in *Call of Duty* (2003), and you are about to lose. Then somehow the opponent team starts to struggle and loses the game, giving your team the relief.
2. *Fiero* is a personal triumph over adversity. It’s about overcoming difficult obstacles that makes players raise their hands in the air in celebration. This does require effort and sometimes may include anger if players are struggling. Good example is the race for world first mythic kills in *World of Warcraft* (2004).¹⁵

¹⁴ We added specific games as examples to each emotion type.

¹⁵ *World of Warcraft* (2004) is also known for mythic raid races in which player teams compete against other teams on a journey to kill the bosses on mythic difficulty and claim the achievement *World First*.

3. *Wonder*. Some locations in the game can make you go “Wow!” We players are amazed by items we find in the game that are unusual as well as by the landscape surrounding our character(s). The *Elder Scrolls V: Skyrim* (2011) is a great example, as it gives the player a sense of exploratory awe.
4. There are some games that deal with the darkest part of humanity, may include blood, vomit, mucus, feces, saliva or our deepest fears, invoking *disgust*. Games offering this are very controversial and are often used to shock players. There is one game that most find quite offensive, and that is *177* (1986). In that game, you play as a stalker chasing a girl that you kill and rape in the end.
5. *Schadenfreude* is gloating over the misfortune of a rival. Players enjoy beating each other, especially if they are long-term rivals. It’s all about player ranking and prowess. Take a match between the two rivals in *Starcraft* (1998) as an example. In this game, it is common for players on opposing sides to try to destroy each other’s buildings and to gloat over the opponent’s misfortune afterwards.
6. *Fear* comes when there is a threat of harm, loss of support or unseen forces moving closer to the player. In *Outlast* (2013), you play as a journalist entering a psychiatric hospital. You only have your night-vision camera with you and you cannot engage in combat. The goal is to avoid the terrors surrounding you and to use the camera carefully as the battery will not last long.
7. *Kvell* or *Naches* is the pride at child’s or mentee’s accomplishment. Players love to tutor others so they can expand their gaming skills, increasing their enjoyment. You can take any game as an example where a higher skilled player is helping another player learn the mechanics of the particular MMO class or certain fight or teaching your child their first Super Mario game.

One more thing that affects player emotions is the music score. The memorable soundtracks of *Tetris* (1984), *Mario Bros.* (1983), *Pacman* (1980), *Donkey Kong* (1981) or *The Legend of Zelda* (1986) evoke many emotions especially since these games are the ones that started building up gamers. The musical score brings multidimensional experience to games. It’s not just the nostalgia of the score, it’s also the change it happens during sudden changes in games: eerie sounds if there is something getting towards the player in a horror game or presenting the hero in a fantasy action game. It brings a whole new level to player experience.

2.5.2 Serious fun: The Player's Internal Experience Key

Serious Fun deals with the player alone. It's about relaxation and excitement. Lazzaro adds that the Serious fun comes after the Fiero soothing feel after the player has accomplished the goal. The Serious fun, according to Lazzaro, makes the changes inside the player – it extends the feeling of winning. The Serious Fun takes “players through a journey and starts that journey with mechanics that evoke curiosity because that gets attention (Lazzaro 2004).” It's all about creating a learning opportunity.

Lazzaro mentions the Player's Internal Experience key involves understanding how product attributes create emotions inside a player. This key provokes emotion with perception, thought, behavior, and other people. Like everyone else, players react emotionally to what they observe, achieve and think when playing the game. These particular players enjoy internal experiences, create specific emotions and use certain principles and skills.

The players change themselves and the virtual world. Katherine Hepworth (2012), mention that “the excitement and relaxation they get from rhythm, repetition, collection, and completion create value and drive them to participate so that gaming is an expression of their values rather than a waste of their time.”

The Serious Fun focuses on:

1. Avoiding boredom
2. Being good at something
3. Clearing mind after clearing the level
4. Players feeling better about themselves

She divides the Player key into four aspects: 1) visceral, 2) behavioral, 3) cognitive and 4) social experience.

Table 15: Serious Fun aspects. Adapted from Lazzaro (2004)

THE VISCERAL ASPECT	THE COGNITIVE ASPECT
Players mostly respond to visuals and sounds, but also to the motions of the environment, the sound of critters, the wind blowing, the enjoyable falling waterfalls or something that creeps in the bushes looking at you with those red-yellowish eyes. With more player responses, the better the game experience.	Lazzaro (2004) approaches playing video games as a chance to enhance cognitive performance such as recognition ability, reaction time, visual processing, mental flexibility when shifting between tasks (including multitasking), as well as spatial ability as enumeration, multiple-object tracking, and spatial resolution. As we grow, we want more mental challenges, in real life and in games. We play for mental stimulation as well as for the accomplishment.

THE BEHAVIORAL ASPECT	THE SOCIAL EXPERIENCE ASPECT
Behavior creates emotions in player and player expresses emotions through behavior. Players respond to the experience the game offers (Lazzaro 2004). The response varies depending on the task the game offers. Each player prefers a different player experience. Some may be into arcade games where they point in the general direction while others like detailed simulations with multiple inputs. Player mood plays a big role in behavioral aspect (Lazzaro 2005). The epic scores from <i>The Elder Scrolls V: Skyrim</i> (2011) or eerie sounds from <i>Silent Hill</i> (1999) affect player's mood as well.	The interaction between the players expand the fun in a vast way, from venturing together on dangerous quests to eradicate the evil forces, cooperating together to solve a puzzle so they can proceed on their adventure or occasional "trash talking" in the inn while waiting for the next endeavor. According to Yee (2006) and Lazzaro (2005), some players see games as an excuse to hang out with friends in virtual settings while others prefer immersive adventures they can lead their teammates on.

2.5.3 Easy fun: Immersion Key

According to Lazzaro (2004), players usually like this aspect to get away from everyday worries, interaction, gameplay, action and problem solving. When playing, the perception of time changes and worries vanish. Players become absorbed by sensory pleasures even without being challenged.

This depends on the techniques used to create the game and on the players' feeling of immersion. The immersion needs sustaining and interaction between the player and the game. The sound changing in the game benefits the player immersion. For example, if someone or something is approaching the player, the sound changes to a more eerie tone or replaces the sound with creepy whispers. The immersion component differs from the challenge as it has desire for experience. Players enjoy and do what they already know how to do. To Lazzaro, the Easy Fun key is purely for the immersion and fun.

Easy fun deals with:

1. Exploration of new worlds
2. Figuring things out
3. Immersion in the story
4. Being one with the character
5. Liking the sounds of the game
6. Specific game tasks
7. Adventure

Lazzaro mentions that Easy Fun also includes the behavioral aspect and the three stages of play as described by child psychologist Piaget (1966).¹⁶ The Easy fun key has the same aspects as the Serious (Player) fun, but it focuses on immersion instead.

Table 16: Easy Fun immersion components. Adapted from Lazzaro (2004)

VISCERAL IMMERSION	COGNITIVE IMMERSION	BEHAVIORAL IMMERSION	SOCIAL IMMERSION
Lazzaro (2004) describes the visceral immersion as deriving pleasure from player's senses by using surreal details. The details provided in game environments greatly affect player immersion, such as in <i>The Legend of Zelda: Breath of the Wild</i> (2017). The details such as the moving grass or the flowing waters encourage exploration and engagement during challenges. Graphic and audio design play an important role in visceral immersion.	Many researchers note that the players love testing the edge of the game. Puzzles and tricks inspire players to wonder what would happen if they do a certain thing, like a special jump or an attack. A 100% score in every level will unlock a special bonus game and an additional level, like in <i>Super Mario World 2: Yoshi's Island</i> . The focus is more on the attention rather than the obstacles players bump into. The search for the unknown increases the player immersion.	The player emotions also come when they are able to do things they are not able or allowed to do in real life. The player moves and acts differently as the level difficulty increases (Lazzaro 2005). For instance, as the player is slowly getting to final boss, he or she might lean closer to the screen and widely open eyes as-if it will enhance their performance.	The social immersion includes interaction with other players through various emotes implemented in the game. It can be talking, dancing or eating. Some games have recorded voice for several character actions such as laughing, crying or yelling. Non playable characters usually have pre-recorded voice lines like greetings when the player interacts with them, as well as the player characters.

2.5.4 Hard Fun: The Challenge and Strategy Key

Hard Fun is about the challenge and strategy. The most obvious source of player emotions in games is testing their own abilities and the feeling of accomplishment. Challenging emotions comes from participation in goal pursuit. (Lazzaro 2004)

It is common that some players like overcoming obstacles and are structuring game experience towards the pursuit of a goal. The higher the challenge, the higher the player skill is.

The one word that could describe the Hard Fun is mastery. Mastery makes a high point and it makes players achieve their goal: to master what they play. These players play for the challenge itself.

¹⁶ These three stages are mastery and imitation, role-playing and games with rules.

Hard fun revolves around four points:

1. Playing to test own skills
2. Playing to beat the game
3. Strategy
4. Completing objectives

Player's feelings is an important aspect of Hard Fun as well as it must be emotionally fulfilling. Some players pursue the goal with adrenaline rush with full attention to each corner of the game. Others, however, feel more zen-like and simply enjoy the game without bothering they win or lose (Lazzaro 2004).

The Hard Fun has 7 different aspects. The aspects deal with challenge and strategy, effort and concentration, multiple strategies and problem solving, advanced and newbie challenges, enjoyment from success, challenge adjustments and negative emotions.

Table 17: Hard Fun components. Source: Adapted from Lazzaro (2004)

CHALLENGE AND STRATEGY	EFFORT AND CONCENTRATION	MULTIPLE STRATEGIES AND PROBLEM SOLVING	ADVANCED AND NEWBIE CHALLENGES
According to Lazzaro (2004), for this aspect, the most important thing is to balance player emotions. Players, of course, need various difficulties to avoid boredom that could lead to quitting the game. When challenged, players get immersed in the game hoping to achieve the objective. It may not be fun at times, but it can result in great rewards.	Nearly all games have implemented tasks that require physical and mental skills. This includes mastering their skills, controls, interaction with the game world and objects around, special attacks and character advancement. The feeling of success improves player's enjoyment of the game. It creates enjoyment from a sense of control by quickly responding to actions and reacting in the most optimal way.	Beating the challenge is not the only thing players aim for. Figuring out how to win is important as well. Strategic thinking and problem-solving play an important role. Learning and finding new ways to complete the game proves to be more efficient for players. Like in <i>Dota 2</i> (2013), countering your opponent is really important. The strategy comes from choosing the right heroes, items and plan time to attack and defend.	Settings can be adjusted if the players are unevenly matched or if game environment stops the player from progressing further. Negative experiences occur if the player fails the first time they are matched with someone or tries a difficult task which can lead to discouragement. The lack of these settings in MMO games discourage new players upon playing the game as they need to be the same level and have good equipment in order to play with their friends.

ENJOYMENT FROM SUCCESS	CHALLENGE ADJUSTMENT	NEGATIVE EMOTIONS	
Players need more challenges. The ability to complete the most difficult quests is what makes them satisfied. Fiero usually occurs when the player completes a difficult achievement or defeats the boss which caused so much trouble. Fiero does not come from these accomplishments only, but from solving puzzles and strategic thinking as well. Here's one example.	Players love modifying level difficulties to increase the enjoyment of gameplay. Increasing the difficulty may result in getting better rewards. Sometimes, it can unlock new features in the game, like special levels, bonus games or unlocking special abilities for their character. This creates new challenges players are eager to achieve.	Players normally do not enjoy the negative emotions they experience during game time. These emotions conflict in the game and make it feel impossible to complete it. They appear when the player sees or thinks about something they do not find appealing. Negative emotions may occur when the player misses a target, disappointment in game interface design, not liking the playstyle of a certain MMO class or not getting that perfect equipment you wanted.	

2.5.5 People fun: The Social Experience Key

Lazzaro (2004) expresses that the People fun is the social experience key, meaning that many players center on the enjoyment from playing with others inside or outside the game. Players using this Key see games as mechanisms for social interaction.

Gaming with others wakes competition and pursues better performance of individuals and teamwork. Watching two people who play the same class and specialization or have the same role in games is intense and it's a joy cheering for that particular player for some. Playing together as a team and forming various guilds and clans are the main things players like in multiplayer games.

When playing with others, players create opportunity for cooperation, better performance and competition. Lazzaro's study proved that players demonstrate more emotional displays, energetic responses and more types of interaction. Group games inspire empathy with others and emotions through conversation and competition (Lazzaro 2004).

The people fun key is seen as:

1. An excuse to invite friends over

2. It's fun to watch
3. Fun way of spending time with friends
4. People are addictive, not the game

This key mainly focuses on the presence of other players and player performance, players and their characters, and on cooperation and teamwork.

Table 18: People Fun components. Adapted from Lazzaro (2004)

PRESENCE OF OTHERS AND PERFORMANCE	PLAYERS AND CHARACTERS	COOPERATION AND TEAMWORK
When playing together, players cheer for each other, chat together and discuss strategies. There's more fun if the players are in the same room on a gaming session. The room they are in is no longer just a living room, it becomes a whole new stage. The game deepens the friendship and may start a new one.	Character's design increases the visceral level. The players love having as many options as possible in order to create their ultimate hero, even more if they can balance the look according to the role they play. Additionally, players experience Kvell. Bright and saturated colors provoke a fun mood while horror games with their muted colors not only awake a sense of fear, but also boost adrenaline rush and pull the player more in the game.	The people who play together like more players to increase their level of excitement and use that for competition, while others may use it for cooperation. The group objectives increase the emotions in group sessions. When cooperating, the players share their tips on how to play so they will be able to have a better score and complete the objectives on higher difficulty. Together, the players will learn the experience and new tactics for the fights in the game.

2.6 Player mentalities

To define player mentalities, Kallio et al. approached the diversity of gaming in a study that states that “one can possess several gaming mentalities which may vary and be emphasised differently across the years, and depending on the gaming situation.” (2011, 5) They state that the mentality players adopt depends on what game they play, with whom they play and how often they play. Their social life, cultural contexts and attitudes and practices also play an important role. The authors didn't want to categorize players into specific groups, but get players' motivations and practices of their gaming habits instead. They divided player mentalities into three parts: 1) casual, 2) committed and 3) social. They state that committed gamers play games frequently in long sessions and are attached to gaming communities. The

casual gamers play occasionally in short sessions, alone or with a defined group. Gaming companions (social) play with their families, children, spouses and friends .

The intensity, sociability and games played are the indicators to the three mentality types. These indicators are connected to gaming communities that are light, occasional, regular or hardcore, and they all depend on the three mentality types (with each type having preference on a specific indicator). And from gamer categorization, they moved towards game heuristics, that are intensity, sociability and games, from which nine player mentalities were formed.

These indicators are described as multi-dimensional components of gaming mentalities that consist of non proportional and non-exclusionary indicators (see table below).

Table 19: Three components of gaming mentalities. Adapted from Kallio et al. (2011)

INTENSITY	SOCIABILITY	GAMES
SESSION LENGTH (I/S) Extent: Long-Short	PHYSICAL SPACE (S/P) Allied, against, alongside	DEVICES AND GAMES (G/D) Games by equipment, name or game series
REGULARITY (I/R) Frequency: Occasional-Regular	VIRTUAL SPACE (S/V) Allied, against, alongside	GAME GENRES (G/G) Classic, puzzle, action, strategy, sports, simulation, racing, MMORPG, role-playing, money, platform, party, adventure
CONCENTRATION (I/C) Momentary or Long-term Concentration on the game	OUTSIDE GAMESPACE (S/O) Sharing experiences, knowledge and views	ACCESS (G/A) Eg. accessibility, cost, familiarity, easiness
CONTINUUM Heavy-Light	CONTINUUM High-Low	
EXPLANATION OF CODES		
I/S = Intensity/Session Length I/R = Intensity/Regularity I/C = Intensity/Continuum	S/P = Sociability/Physical Space S/V = Sociability/Virtual Space S/O = Sociability/Outside Gamespace	G/D = Games/Devices and games G/G = Games/Game Genres G/A = Games/Access

2.6.1 Social mentalities

Kallio et al. (2011) study showed that the intensity and commitment widely varied among socially driven players. The social gaming didn't happen to be regular and could be in sessions and when people had free time.

The games also need to be accessible, familiar and inexpensive. "The social mentalities highlight the importance of accessibility, games and game devices, which are all interrelated." (Kallio et. al 2011)

The social side of gaming is common to all gamers and gaming activities (Kallio et al. 2011). When playing together, players have an easy way of getting to know each other and discuss a variety of things.

Many researchers say that the social motivation has been noted as one of the most important aspects of gaming.

Kallio et. al. (2011) constructed different profiles regarding social orientation: *gaming with children*, *gaming with mates* and *gaming for company*. Their research showed that the social gaming is practiced in the same physical space with other players, including those in the virtual aspect behind their devices.

With that in mind, the way of playing together is divided into playing in three ways: *allied*, *alongside* and *against*. This depends on the situation the player gets in, whether the player is allied with another clan/ guild/ gamers, playing alongside company or competing against an enemy team.

2.6.2 Committed mentalities

The committed player mentality includes practices within the games themselves. They divided it into three principal mentalities that are immersive play, gaming for fun and gaming for entertainment.

As there were many younger participants included who don't have much school work, it was hard to separate how 'spending time' differs from 'using time' (Kallio et. al. 2011). The two prevailing mentalities were 'killing time' and having fun.

Gaming for fun is usually player for a longer period of time without stopping. These gaming sessions include social interactions (both physical and virtual) and other activities such as chatting, drinking and eating together. The player doesn't have to play with a group in order to have fun, s/he can play alone if they wish. Regardless of the social context, playing is fun.

The only difference between committed gamers and those who play for fun is that the committed gamers do not identify themselves with the characters and immersion in the story on an emotional level. The committed gamers prefer gaming as an e-sport, progress and skill building while the "fun" gamers find the story and personalized characters more important.

2.6.3 Casual mentalities

The term "casuality" is defined in many ways and is used to describe a variety of gaming aspects. Kallio et al. (2011) mention that the term may refer to the characteristics of the game, game device and gaming situation.

Casual mentality is a complete opposite from the committed mentality. The casual gamers are divided into 'time spenders' – who didn't have other things to do – and 'time users' – which play when they don't have anything else to be done.

The non-committed way of playing games was the "killing time" mentality with very low sociability. The killing time gamers usually play games regularly while the others, in their study, played occasionally.

They also mention another casual profile that is “Filling Gaps”, meaning they are moving from one task to another one. These gamers choose simple games that are accessible and easy to start and finish. The social aspect is quite irrelevant as there is nothing to share. The concentration depends on the situation which is determined by the objectives.

The final gaming profile for the casual player mentality is Relaxation. Gamer attitude that fits here is that games are best played when there is nothing to do and to escape from everyday worries. This differs from killing time as relaxation relieves stress, while killing time is doing something just to pass the time.

3. Data Collection and Analysis

In this chapter, we will first analyze two research instruments: the questionnaire and the observation. The questionnaire helped us to filter our participants into four player types. Furthermore, we filtered their answers according to the dissertation problematic.

The answers we were mainly looking for were the questions disguised as the Bartle types through which we filtered participant's answers and compared them in tables to see how many participants out of each player type view the importance of each player involvement category, their point of view on player socialization aspects and what they deem crucial for a good video game – mostly because video game aspects such as audio, graphics and storyline are one of the most important things players deem to be important for good player involvement – they want to be fully immersed in the game no matter what type they belong to.

3.1 Instrument 1: Questionnaire

A questionnaire was given to 50 participants from various parts of the world, to see how they engage in the game world.

To keep anonymity, the participant names won't be mentioned. There were 50 participants in the questionnaire, out of which 74% were male and 26% female. Some are from our *World of Warcraft* (2004) guild, real life friends and classmates from the Faculty of Engineering, Porto. Their age varies between 18 and 40 years.

The majority see games as a way of relaxation (32%) and as a hobby (22%), while 18% like the challenges games provide. Others have chosen all options. 75% of participants play games daily, while 12% play weekly. The rest have chosen monthly and rarely (8%), due to their job schedules and not having enough time for games. The participants were from Belgium (2), Czech Republic (3), Croatia (15), England (3), Germany (2), Hungary (3), Netherlands (2), North Macedonia (3), Poland (3), Portugal (5), Sweden (5), Tunisia (2), and Turkey (2).¹⁷

3.1.1 The structure of questionnaire

The questionnaire is divided into 3 parts. Part 1 is focused on introduction to the questionnaire, asking the participants why they play games. Part 2 is focused on gaming, where they were asked what kind of

¹⁷ The numbers in parentheses represent the number of participants.

games they like to play, and what they think it's important to have in video games. Part 3 is focused on social aspect where they are asked if they think that online gaming can shape their social life.

The scale (1-5) in the following tables and figures implies the rating:

1. Completely disagree
2. Partially disagree
3. Do not agree or disagree
4. Partially agree
5. Completely agree

3.1.2 Limitations

The questionnaire in this research had a small number (50) of participants, but its results were consistent. The sample size was too small for the conclusion based on the effectiveness of the proposed framework, but because the participants were from different countries, the sample can be considered quite heterogeneous within the intended scope, which provided us with enough variability for us to work on.

A larger amount of participants would be ideal towards defining a better framework for player socialization and it was limited to multiplayer games only. We were also taking Socializers and Killers as our core types only since they are the ones who act and interact with and on the players, according to Bartle's model (1996).

Secondly, some participants were not fluent in English, and thus it was a bit difficult to analyze their answers as they were either incomplete or not coherent enough. We had to contact particular participants for additional justification of their answers so we could properly analyze their data.

Being familiar with the subject and terms was not the major issue in the research but we had few participants who were unfamiliar with the character optimization toolkit terms because they rather play casual games where character optimization is not required.

3.1.3 Overall results

3.1.3.1 PART I

When asked if they consider themselves as gamers, majority picked they do while the others not so much. 40% consider themselves as casual, 38% semi-hardcore and 22% hardcore players.

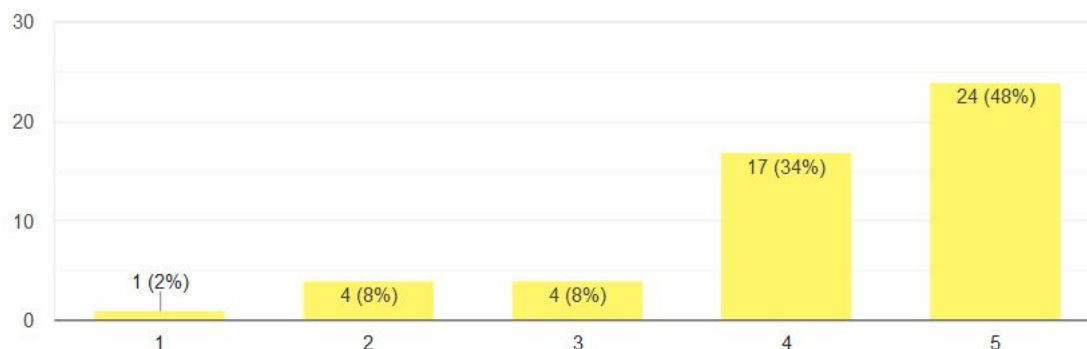


Fig.17: Do you consider yourself as a gamer?

MMOs, adventure and RPG games were among the most popular options participants have chosen, with MMOs being a more preferred option than the adventure genre as shown in the figure below. Some have added more options as preferred options, such as “Narrative turn-based strategy” or “Tycoons”. Game genres were chosen from the list of the most famous game genres in 2019 at *Invision Game Community*.¹⁸

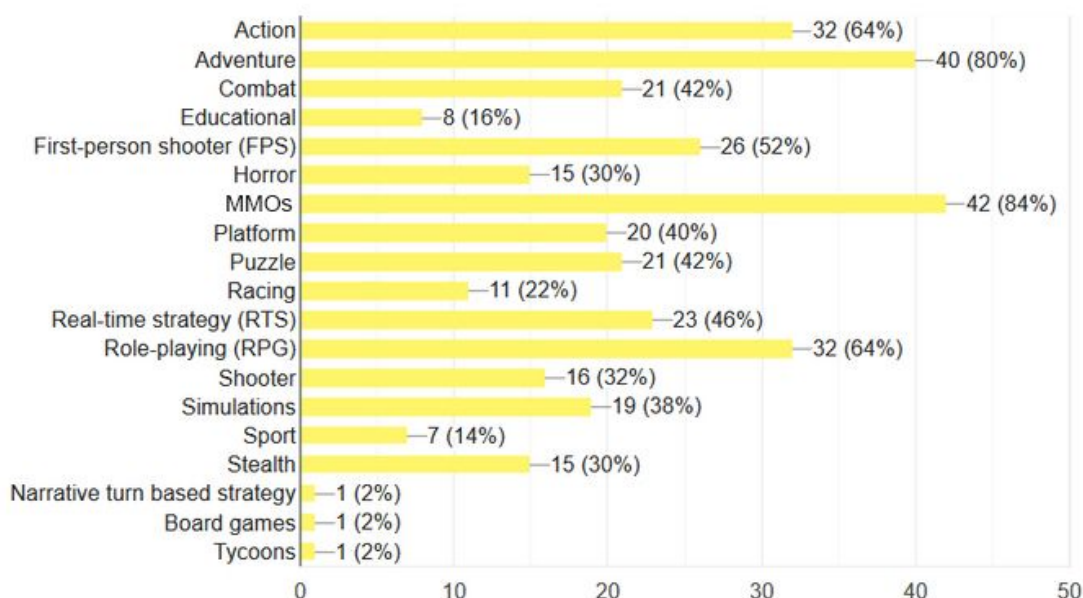


Fig. 18: Preferred game genres

62% prefer to play multiplayer games on the contrary to the remaining 38% who prefer to play single-player games. The reason more participants tend to play multiplayer games are the social aspects,

¹⁸ Consult <https://invisioncommunity.co.uk/the-most-popular-video-game-genres-in-2019/> (accessed on 17th February).

increasing the player experience and the presence of online communities. There were some participants that actually like to play both.

“I enjoy playing in a group so we can help each other and laugh at how bad or good we are. The reaction from your friends when someone makes something amazing like a good play or doing "brain dead" play is much more intense and funny when others see it.”

“I like both equally for different reasons, but put multiplayer because of the company and friendship. Single-player would mostly be better storytelling and pacing.”

“Playing single player games is great, but playing games with friends or like-minded people makes for an overall much more enjoyable game experience.”

“Single player games are more relaxed and allow me to enjoy the content in my own time, without any pressures from other players to perform or do well.”

“I personally like both but I tend to play single-player games more. They offer a variety of possibilities and depth multiplayer games lack. I do like multiplayer games though, co-operating with your team on a dangerous quest or in a dungeon is a great feeling, especially when my lock picking skills are required.”

“Playing with other people always increases the fun of the experience and you get to know new people from many places. Playing alone can be relaxing after a long day, but playing with others always makes me happy and laugh.”

“I met many friends in multiplayer games, so I’m playing with them. But sometimes i need to rest from others and start playing some single-player games.”

“My favorite games are Mobas and I like how it involves playing with others and creating strategies in real time (especially in higher ranks where the game starts in the ban-pick stage), the skills that make you develop in terms of focus, movement speed in using skills, etc. Besides that I like games like DC Online where you can play with others or Skyrim where i can be immersed in that world and live that character's life”

3.1.3.2 PART II

Furthermore, the following four questions were based on Bartle's player types to see if participants tend to be one type Bartle has described, or maybe a mix of everything. For example the fifth question in third section: As a player, I like to interfere with the functioning of the game world or the play experience of other players is based on Bartle's Killer type, which is based on acting on players by killing them.

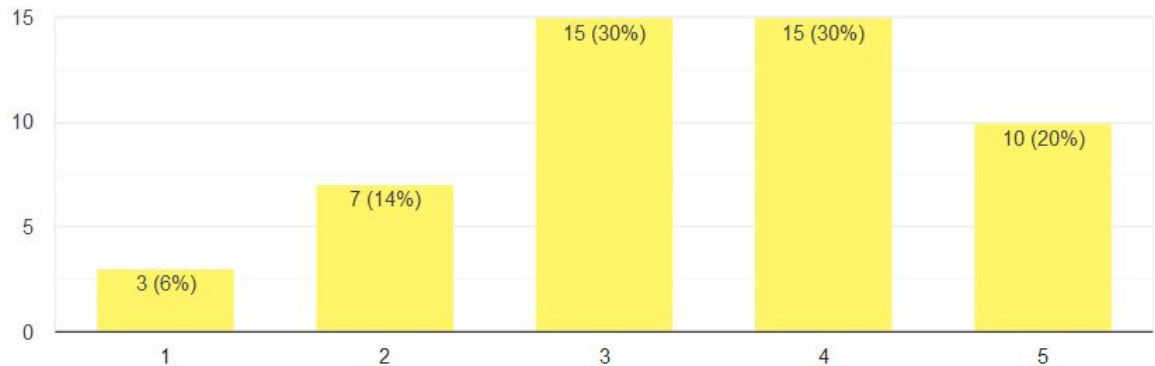


Fig. 19: Players who act on other players

The following question is based on Bartle's Achievers: As a player, I like to accumulate status tokens by beating the rules-based challenges of the game world. Compared to the previous question, there are slightly more Achievers than the Killers.

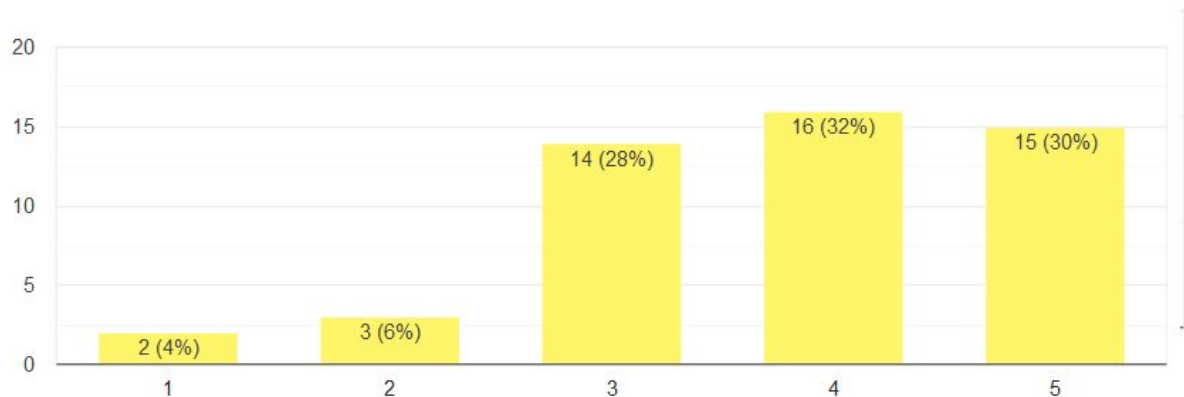


Fig. 20: Players who prefer getting achievements and status tokens

As a player, I like to discover the systems governing the operations of the game world was a question that is leading to check if there are any Explorers out there to see if they like to find different

things in the games. 22 participants have chosen rank 4 for this question, making the Explorers a more preferred player type.

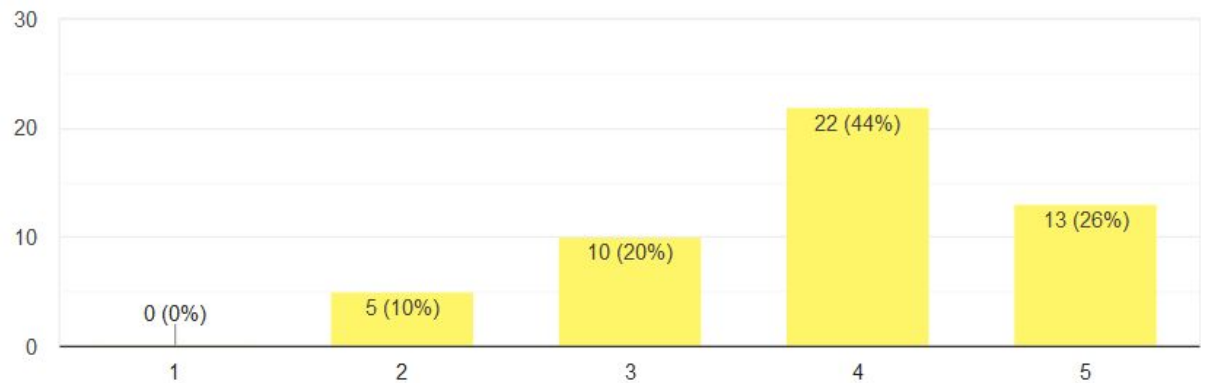


Fig. 21: Players who prefer to discover the systems governing the operations of the game world

The Socializers were implemented in As a player, I like to form relationships with other players by telling stories within the game world. Along with the Explorer type, the participants are also leaning towards the Socializer type.

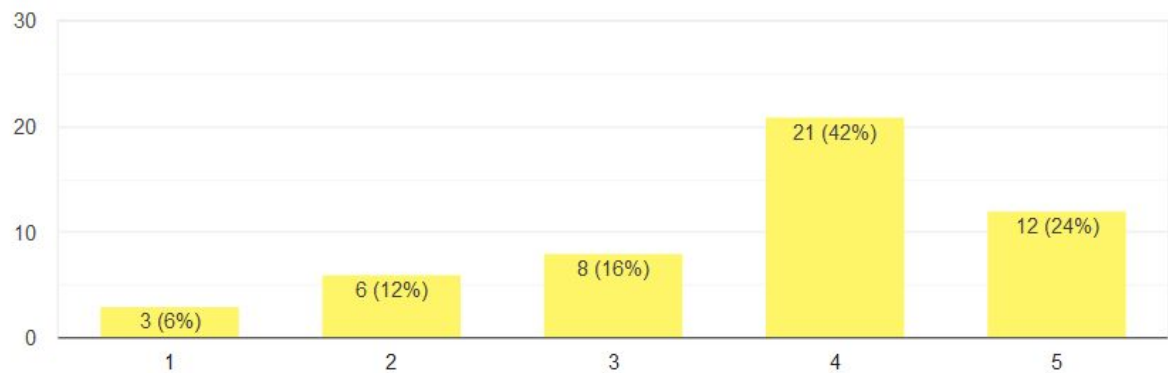


Fig. 22: Players who prefer to form relationships with other players by telling stories within the game world

By following the given graphs, the participants are a bit of every player type, but leaning more towards Explorers and Socializers.

When asked about what is crucial for a good video game, the participants chose world and level design, gameplay, the narrative and immersion to be the preferred aspects. The numbers in the remaining rows is the number of participants that chose the mark for each game component.

Table 20: What do you find to be crucial for a good video game?

COMPONENTS	RANKING				
	1	2	3	4	5
World and game design			5	9	36
Audio design		4	13	13	20
Ability to create own character	3	10	11	11	15
Immersion	1	2	10	13	24
Competition	1	11	13	14	11
Challenging quests	1	1	17	18	13
Rewards		2	6	24	18
The narrative		3	4	16	27
Gameplay			4	11	35
Exploration	1	2	5	21	21
Interaction		1	4	22	23

The first row represents the rank from 1 to 5 while the first row has offered components of video games.

The next question is based on Calleja's player involvement categories and the participants were offered between his six categories of involvement: Kinesthetic, Shared, Spatial, Ludic, Affective and Narrative.¹⁹ As expected the participants chose the Narrative the most stating they love getting immersed in the story. Second most voted option was the Shared involvement which is focused on forming social groups.

¹⁹ See section 2.4.

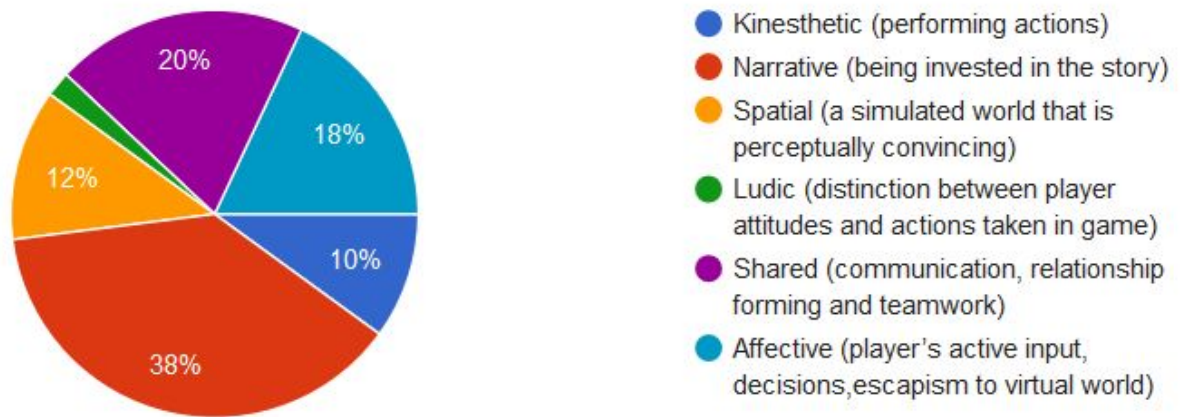


Fig. 23: Players involvement categories preference

The participants were also asked to define why do they think that particular involvement category is important to them, and each one of them provided a good justification.

“Video games being an interactive medium is the key aspect for me, especially when combined with the ability to create experiences which can't happen in the real world.”

“Narrative to me alongside visuals/art style can be key to making a believable world for players and NPCs to inhabit. I find these elements alongside in game systems and simulated culture/economy's/societies help in encouraging immersion.”

“I think being able to make my own decisions in game and see the consequences is a very good way to feel immersion.”

“The world has to feel alive. Narrative is a close second.”

“I'm in between the narrative and the spatial involvement. I love a good story, especially when the world I'm in is realistic while I'm learning more about the game.”

“I prefer games that allow me to change and manipulate the world, especially if the gameplay is open ended and I can craft my own stories or worlds.”

“I like almost all types of games, but I will play those I have friends in. Playing with friends makes me more comfortable, since I know there will be no backlash. Instead of it, there will be encouragement.”

“I think that player's decisions make the game more interesting. It can change depending on what you choose.”

Furthermore, they were asked to rank the player involvement categories according to their importance in the game. The top row is the rank from 1 to 5 and the first column are the involvement categories. The numbers are the amount of participants that chose the mark for the specific involvement category. Even though the participants chose Narrative and Shared involvement to be the most important ones, they also rated Kinesthetic and Ludic involvements quite high with Kinesthetic being rank 4 by 24 participants and Ludic rank 4 by 20 participants. Same goes for the Affective involvement being ranked to 5 by 20 participants.

Table 21: Rating of involvement categories

COMPONENTS	RANKING				
	1	2	3	4	5
Kinesthetic	1	2	5	24	18
Spatial		3	14	19	14
Shared		7	9	15	19
Narrative	3	3	3	13	28
Ludic			19	20	11
Affective		1	10	19	20

The first row represents the rank from 1 to 5 while the first row has player involvement categories.

When it comes to character optimization, 52% like to have their character semi-optimized, stating they still want to benefit the group even if they do not have enough time to play games. 36% think that having an optimized character is of utmost importance so they can be competitive while the remaining 12% think that character optimization is not important since they are more of a casual player type.

“Personally, I prefer somewhat unoptimised character because min-maxing builds seem less realistic and challenging, and as such less fun.”

“Regarding games with leveled progression, I never give much thought about min/maxing unless I hit a level cap and want to play PvP.”

“I'm not overly competitive, therefore I do not care whether my character has best in slot items (multiplayer games wise). I do strive to get a decent gear or find rare collectibles to equip depending on the game.”

“Having an optimized character is very important to me. I love to be among the top players. Even more so if I am playing with a player of the same class as I am. The competition rises and I love when I see my numbers are higher than theirs.”

“If my character is not somewhat optimized, I feel like i pull the team down, that's why I think it is somewhat important to optimize your character to benefit everyone you play with as well as yourself.”

“I think the main thing for me is only race because in most of the games every race has different bonuses or starting statistics. How looks my character is not that important because in some cases you have only first person view or your character carrying armor and you cant see the face of character.”

“Optimizing matters to hardcore gamers, I usually prefer to choose talents/traits/items that suit my playstyle as long as there are above average, if not I will choose the best.”

To improve their gameplay, 34% participants said they often use the character optimization toolkits like various websites on which they can check if they need a certain amount of one statistics or a different talent or armor choice. Single-player gamers have added that they do not know what character optimization toolkits are.

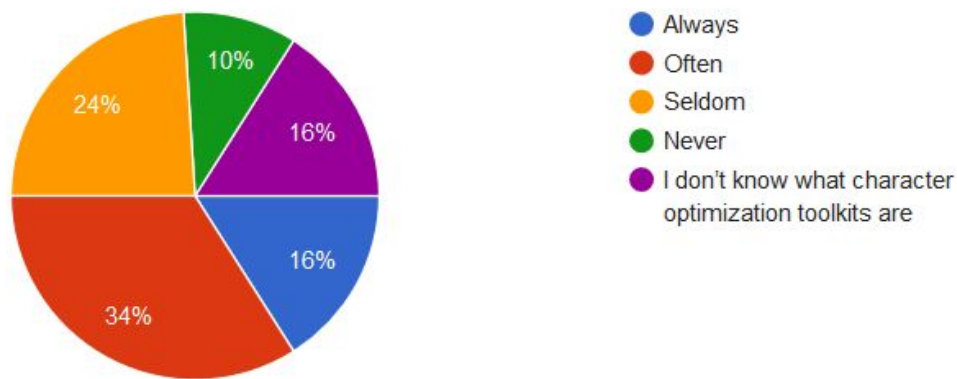


Fig. 24: Character optimization toolkits usage

The participants have also proved they like studying various guides in order to improve their gameplay, at least those who lean towards semi-hardcore/ hardcore side, with 39 participants choosing rank 4 (42%) and 5 (36%).

74% think that paying to instantly level up is not worth the cost, stating it is a way of cheating and that you cannot learn to play the role properly unless going through the game step by step. 26% think that paying to level up is worthy for time investment and a chance to hop in the endgame quickly.

From the game aspects, as expected, almost everyone picked game design and the narrative to be the most important ones. Having different quests and objectives were also stated to be really important for the participants.

“I love a good graphic and audio design as well as the interesting narrative.”

“To always have something to do even when you get bored of doing one part of the game you can always choose a different objective to do.”

“In a game world you can be anyone and talk to anyone, your less likely to the victim of stereotypes or bullying than in the real world as no one knows who you are or what you look like, there are still people out there that try to be bullies but its still the closest you can get to a hate free environment.”

“I like the community aspect the most. If you find a guild/clan/group of people you fit in, you will enjoy the game even if you are not that good at it.”

“Story and character development of NPCs. I like to be invested in the story, the world and all the characters who live there. I want to feel their emotions.”

Out of all the games, the participants prefer to play *World of Warcraft* (2004) the most, stating that game was one of the first MMOs they have ever played in which they have formed good friendships with people from all around the world. There were also other very interesting options:

“I don't have a favorite, but right now I would say it's Bloodstained: Curse of the Moon, because it brings good memories of older games and the game design is really good and inspiring for me.”

“World of Warcraft. First MMO I played and I have gotten many benefits from it, as increased knowledge in English and friends.”

“Sly 2 Band of Thieves. Open hub areas expertly designed with plenty of secrets, extremely mechanically varied missions, likeable characters, engrossing story.”

“World of Warcraft. There's never a lack of content.”

“I would have to say Alice in Madness II, The Journey and Limbo because of the immerse experience each provides in their own way. Can't choose one, sorry! “

“There are many. My top favorites are World of Warcraft and Elder Scrolls V: Skyrim. I love the design and the storyline. The music these games have are epic. The landscape design is beyond words! When playing those games, I feel like I am really there.”

“WoW, (World of Warcraft) – because it has everything one can ask for, challenging quests, dungeons, raids, people, double the fun, different things to do at all times!! Can't get bored at the game.”

“Different games for different occasions, things like WoW, Rocket League, Borderlands, Diablo. I don't have a "go-to best game ever" but several in different genres.”

“Dark Souls. It combines my favourite type of combat with great level and enemy design in a dark fantasy world.”

3.1.3.3 PART III

A large number (45 participants out of 50) consider playing multiplayer games as a form of socializing, stating that it is a form of interaction with others even if you are not in the same room, especially if they already have formed team and good relationships with others. Other 5 participants (10%) think that this type of socialization is different than the one people have in real life.

“Its a group for players coming together to play a game they all enjoy/tolerate. Even though it is in virtual space, it practically no different from going to a bar/café and meeting people.”

“While I don't consider it a proper substitute to real life interactions, I've been able to talk to friends and strangers alike, maintaining friendships and creating others.”

“There is a communication between players during the game which is usually not just about the game but also about the private lives, for those not having private life it might be a form of socializing but not for me.”

“Yes, but not really. Only if you already have a "team" or friends to play with... otherwise nothing really useful comes from those "conversations.”

There are also some participants (64%) stating that online gaming can shape their social life in different ways. They state that by talking and cooperating with others, they improve their language and social interaction skills as well as meeting new people from all around the world and even a chance to learn something new. The remaining participants that chose differently have the same reason as in the question above - they think that socializing in real life is more beneficial than socializing in video games.

However, those that love playing multiplayer games stated that they have formed good relationships with others in MMOs and they are still in contact even if a computer screen is separating them (80%).

Everyone states that teamwork, cooperation and communication are of utmost importance saying that this is the only way for a team/guild/clan to stay “alive”. This happened because our sample does not have griefers. Casual chatting and jokes are also one of the topics participants were talking about. If the team they play in is not friendly or not accepting silly innocent jokes, they would rather leave them.

All of participants tend to play games with their friends, both in real life and the ones they met online as well as with their families. They proved that by 50% choosing that they enjoy group quests a lot, followed by 40% who are somewhere in the middle. The 10% players who don't enjoy group quests are the single-player gamers who rather venture on adventures alone.

Some players often find themselves having meaningful conversations with others (48%), sometimes even about their personal issues (46%). Others rather keep their personal problems to themselves.

Lastly, the participants were asked to rank the offered social aspects of games. They value social interaction the most, followed by establishing new friendships. Doing in-game content with the guild is also one of the core social aspects for them, stating that the multiplayer games would be boring if they do not have teammates to play with.

Table 22: Social aspects ranking

COMPONENTS	RANKINGS				
	1	2	3	4	5
Social interaction	1	4	7	24	14
Establishing new friendships	3	6	11	23	7
Doing in-game content with my clan/ guild/ friends	1	2	10	17	20
Meeting new people	2	5	15	20	8

The first row represents the rank from 1 to 5 while the first row has offered social aspects of video games

3.1.4 Comparative results

In the second section of the questionnaire, the participants were asked four questions that were disguised for us to know which of Bartle (1996) player types participants would fit better. For the next part of the analysis, we will focus on the participants leaning more towards the Killer and Socializer types, as these are the types of players we found to be more prone to engage in activities with other players instead of the game world, according to Bartle's model.

In this section, we compare the four player types and see what each answered in the questions about game genre preferences, player involvement and their opinions about what is crucial for a good video game.

This section is focused on participant answers regarding player involvement, player socialization aspects and their opinions on what they think is crucial for a good video game.

The answers will be divided into separate tables by using Bartle's (1996) player types and the number of people that answered what seems to be most important for each question asked. Some answers differ from one another and quite match the personality of given player types.

3.1.3.1 Player types and player involvement

Out of all player involvement categories, no one selected the Ludic involvement, while the Narrative involvement was chosen by all player types as the most important one. The participants mentioned that if the game does not have a good story, they probably wouldn't play it at all. With that in mind, we'll focus on other involvement categories.

One would assume the Killer player type would lean towards the Kinesthetic involvement because they love performing actions on other players. Our participants proved to love the Spatial involvement, stating the love convincing virtual environments because it makes them feel they are really there, like they are really on the grand battlefield with others. Sharing their opinions with individuals like them is a big plus.

Table 23: Killers and player involvement

Involvement category	Answers
Affective	3
Kinesthetic	2
Narrative	10
Shared	5
Spatial	5
Ludic	0

As expected, the Achievers tend to prefer the Affective and Shared involvement. Achievers, of course love getting status tokens and in order to achieve that, they need their active input and decisions to do so which is what Affective involvement is about. Some of these objectives need help of other players and the Shared involvement plays a big role here.

Table 24: Achievers and player involvement

Involvement category	Answers
Affective	6
Kinesthetic	2
Narrative	13
Shared	6
Spatial	4
Ludic	0

Player's decisions in games also affect those leaning to Explorer type. They actually do need to make decisions to find the optimal way to get to the special hidden areas or finding the artifacts. Spatial involvement seems to be important as well, the world has to be realistic. Explorer player types said that their pursuit of secret is more enjoyable if they find the game world convincing.

Table 25: Explorers and player involvement

Involvement category	Answers
Affective	8
Kinesthetic	4
Narrative	14
Shared	4
Spatial	5
Ludic	0

It was expected to see that the Socializer player types will lean more towards the shared involvement. The Socializers deem friendships and cooperation the most out of all player involvements. They also note that the Affective involvement is important, making the player decisions one of crucial aspects in video games.

Table 26: Socializers and player involvement

Involvement category	Answers
Affective	6
Kinesthetic	2
Narrative	15
Shared	7
Spatial	3
Ludic	0

3.1.3.2 Social aspects and player types

Here, we can see that Killers mostly prefer doing in-game content with their friends and teammates the most, followed by establishing new friendships and meeting new people. This is quite common for Killers because they are the ones acting on other players, alone or with a group.

Table 27: Importance of social aspects according to Killers

Social aspects	MARKS (range: 1-5)				
	1	2	3	4	5
Social interaction		2	3	9	11
Establishing new friendships	1	2	5	13	4
Doing in-game content with my clan/guild/friends		1	5	5	14
Meeting new people		4	6	10	5

The Achievers like establishing new friendships and social interactions the most. They do this when doing the game content together or when trying to get the latest achievements as a group before anyone else. Interaction is the key.

Table 28: Importance of social aspects according to Achievers

Social aspects	MARKS (range: 1-5)				
	1	2	3	4	5
Social interaction		2	3	16	10
Establishing new friendships	1	3	7	17	3
Doing in-game content with my clan/guild/friends		1	4	10	16
Meeting new people		4	10	13	4

The Explorer chose a mix of everything. The exploration is even better if they have individuals who think the same in their group, hence why they have chosen all aspects to be equally important.

Table 29: Importance of social aspects according to Explorers

Social aspects	MARKS (range: 1-5)				
	1	2	3	4	5
Social interaction	1	4	5	15	10
Establishing new friendships	2	5	8	15	5
Doing in-game content with my clan/guild/friends	1	2	7	11	14
Meeting new people	1	3	10	16	5

Of course, Socializers love doing in-game content with their guilds or clans the most, in which they can strengthen their relationships. Social interactions and establishing new friendships are a close second with meeting new people being the third option.

Table 30: Importance of social aspects according to Socializers

Social aspects	MARKS (range: 1-5)				
	1	2	3	4	5
Social interaction	1	1	4	16	11
Establishing new friendships	2	1	7	16	7
Doing in-game content with my clan/guild/friends	1	2	4	9	17
Meeting new people	1	3	9	12	8

3.1.3.3 What's crucial for a good video game according to player types

The four tables below show what does each player type consider to be important for a good video game. World and level design along with a good gameplay and the narrative are equally important for all four player types. As they are somehow different in play preferences, they all find the mentioned three aspects to be the most important for a good video game, as well as immersion. The participants noted that they love being immersed in the game because that makes them feel more connected to the game, like they truly are in there.

Table 31: Killers choice of what's crucial for a good video game

What's crucial for a good video game?	MARKS (range: 1-5)				
	1	2	3	4	5
World and level design				1	24
Audio design		3	4	5	13
Ability to create own character	1	6	3	5	10
Immersion	1		4	5	15
Competition		4	3	8	10
Challenging quests	1		9	7	8
Rewards		1	2	10	12
The Narrative		2	2	6	15
Gameplay			2	1	22
Exploration	1	2	3	7	12
Interaction		1		9	15

Table 32: Achievers choice of what's crucial for a good video game

What's crucial for a good video game?	MARKS (range: 1-5)				
	1	2	3	4	5
World and level design			3	3	25
Audio design		2	10	8	11
Ability to create own character	1	7	4	9	10
Immersion		2	4	8	17
Competition		5	8	10	8
Challenging quests	1		12	10	8
Rewards			3	17	11
The Narrative		2	2	9	18
Gameplay			3	7	21
Exploration	1	2	4	13	11
Interaction		1	2	14	14

Table 33: Explorers choice of what's crucial for a good video game

What's crucial for a good video game?	MARKS (range: 1-5)				
	1	2	3	4	5
World and level design			4	4	27
Audio design		3	8	8	16
Ability to create own character	3	7	9	6	10
Immersion	1	2	5	5	22
Competition	1	9	8	10	7
Challenging quests	1	1	13	10	10
Rewards		2	5	16	12
The Narrative		1	3	9	22
Gameplay			2	6	27
Exploration	1	1	2	14	17
Interaction			3	14	18

Table 34: Socializers choice of what's crucial for a good video game

What's crucial for a good video game?	MARKS (range: 1-5)				
	1	2	3	4	5
World and level design			4	5	24
Audio design		2	10	9	12
Ability to create own character	2	5	8	9	9
Immersion	1		8	9	15
Competition		5	10	11	7
Challenging quests	1		8	13	11
Rewards			2	18	13
The Narrative		1	2	10	20
Gameplay			2	8	23
Exploration	1	2	2	13	15
Interaction		1	2	13	17

3.2 Findings

There were some minor differences in the answers regarding the player type preferences but all participants share the same opinion when asked about the payer involvement and social aspects of video games.

To participants, multiplayer games are a new place to form social relationships with other people and a way of socializing. They also love collaborating with other players and do their best to benefit the group as much as they can, willing to follow the tactics and do their role.

The most social of all Keirse's temperaments are the Idealists, who cherish harmony and love getting along with each other. Performers are the most social type Artisans type who draw people towards them – they are the ones who bring fun wherever they are. Providers love interacting with others. They are the ones who start conversations and willing to talk about anything. In my opinion, the Rationals do not have any specific social subtype because they are focused on analysis and problem solving instead. They would rather pursue their goals and dreams they set their minds to. Because of this, they are seen rather cold.

For the player motivations, Yee's social component stands out for the purpose of this dissertation. The players value interaction, teamwork and relationships. Out of Marczewski user types, Philanthropists

are the most social ones who expect nothing in return when they help others. Their goal is to form friendships with others.

Regarding Calleja's involvement theory, shared involvement is focused on player interaction. The presence of other players transform the virtual environment into a place filled with other players with whom they can play and share gaming experiences.

Looking at Lazzaro's fun (2004), the people fun focuses on emotions from gaming with others. It is focused on playing with others. The players create the opportunity for teamwork and honing their skills. The social experience key is used for social interactions.

In terms of player mentalities (Kallio et al. 2011), social mentalities describe that the players spend their time to get to know each other better by having gaming sessions.

To summarize, participants tend to play multiplayer games the most, preferring the group content instead of playing games alone. The Narrative was transversal to all participants, followed by the Shared involvement. The Shared involvement is what this thesis is about, to see how players are involved in multiplayer games. Out of the Bartle player types, our sample of participants lean more towards the Explorer and the Socializer types.

They state that playing games with other like-minded people can shape their social experiences with others and make the game experience more enjoyable. The more players are involved, the better. Online gaming is also considered as a way of shaping social life, where they can improve their social skills as well as their language.



Fig. 25: First prototype of our player socialization framework in MMOs, filtered from the previously presented theories.

4. Towards a Framework for Player Socialization in MMO Games

To summarize, gaming as a social construct has been a popular topic among researchers. Dmitri Williams (2006) states that games do not exist in a social vacuum and the reason to study them has to do with what's happening inside and outside of the game world.

In our experience as a player, we have testified that many people like creating their characters and even designing it to a point of making it look like themselves. Players interact with other players and NPCs, be it while accomplishing objectives or going through the storyline.

This chapter deals with the social aspects of previously defined dimensions from which we extracted their core social traits to filter our framework and the interview we conducted as a test to validate and prove the well functioning of the framework.

4.1 Previous variations and relationships between models

There has been previous attempts on creating variations and on figuring out possible relationships between the models presented in chapter 2. According to Nicholas Yee (2005), Bartle's player types suffer from several weaknesses, and are incomplete. The model was never meant to be a general typology and player types. Components might not be correlated and they might overlap. There are some differences in Bartle's (1996) types and Yee's (2005) player components. Yee states that there are theoretical differences in terms how do Bartle's and his models conceptualize player motivations. To Yee, people do not fit into boxes. He states it makes sense to have an Achiever type if the population shows bimodal distribution of both high and low Achievers (or any other player type). These bimodal distributions only occur in player personalities or ability assessments. He also states that people should be classified into types when there are clear distinctions in population distributions (not including player motivations).

Bartle's player model suggests that the player can fit into one category only, while to Yee, the player has a score on each component. Player preference depends on how much score will he or she have on the particular component. For example, if a player scores more on the Killer component, the score will be lower on the remaining components.

As Yee explains, if this were the case, we would expect his main 3 components to be negatively correlated: scoring high on the Immersion component would result with a lower score on the

Achievement and Social component. To Yee, these components are uncorrelated and the components are rather independent of each other. Scoring more on a specific component has nothing to do with another component. The score matters on all the component. Players do not fall into simplistic types as there is a bit of every type in them, with a strong preference to one type.

Bart Stewart (2011), a programmer and game design theorist, views Keirsey's types can as supersets of Bartle's player types. Two most fundamentally distinctive dimensions of human behavior are Internals vs. Externals and Change vs. Structure. Internals are a preference for seeing possibilities and the abstract while Externals are realistic and concrete. Change can be seen as freedom of opportunity and structure as rules. Stewart's Bartle-Keirsey comparison is in the table below. I must say I agree with him, Keirsey temperament do have a lot in common with Bartle's (1996) types.

Table 35: Bartle-Keirsey player and temperament comparison. Source: Stewart (2011), http://www.gamasutra.com/view/feature/134842/personality_and_play_styles_a_.php

ARTISANS VS. KILLERS	GUARDIANS VS. ACHIEVERS	RATIONALS VS. EXPLORERS	IDEALISTS VS. SOCIALIZERS
Killers are usually viewed as griefers and can be difficult to understand in a gameplay context. Their desire for power is mostly connected to Kiersian's Artisans who delight in artistic manipulation of their environment. Killers and Artisans are adrenaline junkies hence they are put together in comparison.	Achievers prefer to gather all the points and rise on the list as one of the top players. Guardians want to protect oneself, to make their place in world secure by accumulating material possessions. Achievers have a connection with Guardians as both are willing to persist in long stretches of grind. According to them, the reward should be proportional to the amount of effort invested.	Rationals play the same way as they act and do everything else – pleasure in discovering the patterns behind the data and patterns in space and time. It's all about achieving a strategic understanding of the system as one whole thing. The final reward is not much of a big thing like the secret or hidden easter eggs they find.	Idealists love getting to know people and forming long-lasting relationships. Inter-player relationships are quite important as people grow as individuals. People aware of people around them on their journey to self-discovery. These are usually roleplayers who create images of themselves, others or their characters, modeling actions to produce emotions.

Stewart (2011) offers a unified player type model by combining and comparing other models of play other researches offered. All of these models took Bartle as a main guidance. This table displays the concept of play-styles and personalities by using the phrases their creators presented as core description.

Table 36: Unified model types. Adapted from Stewart (2011),

http://www.gamasutra.com/view/feature/134842/personality_and_play_styles_a_.php?page=2

	PLAYER TYPE			
BARTLE	Achievers	Killers	Explorers	Socializers
KEIRSEY	Guardians	Artisans	Rationals	Idealists
CAILLOIS	Agôn	Illinix	Mimesis	Alea
LAZZARO	Hard Fun	Serious Fun	Easy Fun	People Fun
GNS+	Gamist	Experimentalist	Simulationist	Narrativist
MDA+	Mechanics	Kinetics	Dynamics	Aesthetics
HANDY	Role	Power	Task	People
GALLUP	Striving	Impacting	Thinking	Relating
COVEY	Security	Power	Wisdom	Guidance
MOTIVATION	Security (competitive accumulation)	Power (manipulative sensation)	Knowledge (local rule-discovery)	Identity (emotional relationship)
PROBLEM SOLVING	Persistence	Performance	Perception	Persuasion
OVERALL GOAL	HAVE	DO	KNOW	BECOME

Social gaming can prove to be more popular than the single player games. They bring people from all around the world together when played online or bring families and friends if played at home. These games are based on platforms that offer social interactions. The players are aware of the presence of others in the game world. The more people are present, the easier is to find a group to play with.

4.2 Filtering social player types

Our framework, focused on player socialization, is based on the models described in chapter 2. The social aspect was extracted out of each research as a guidance in creating the framework, consisting on player behavior, temperaments, mentalities, motivations, involvement and fun. In each of the following sections, we establish brief descriptions of those dimensions, summarising their traits.

4.2.1 Player Social Behaviour

For the social aspect of player behaviour, Killers and Socializers are our target group because according to Bartle's theory (1996) these are the player types which behaviours are focused on other players. Socializers are players interacting with other players. These are mostly casual players that love communicating and forming relationships with others. They build up their social skills and chat with others via in-game or voice chats. These players will often be found in taverns²⁰ with their colleagues and are often very into role-playing. They'll most likely have a whole story created for their character, from their birth to what they are now.

Killlers are those that act on other players usually by taunting, and are usually ones interested in PvP content. There, the players compete against each other in combat, enhancing their skills and upgrading their ranks on the leaderboard. The higher the player rating and score, the better the rewards. From my personal experience, these players will only attack players that are 100% sure they can defeat. Their defeat will result in a bad reputation (Bartle 1996) and in rating loss.

Table 37: Player social behaviour traits

Socializers' traits	Killlers' traits
1. <i>Collaborators</i> : Working together with other players	1. <i>Competitive</i> : Playing against other players
2. <i>Role-playing</i> : Assuming the role of character	2. <i>Taunting</i> : Provoking other players
3. <i>Conversationalists</i> : Communicating with others	3. <i>Commune</i> : Cooperating with other Killers to achieve their objectives
4. <i>Empathic</i> : Understanding and sharing feelings with other players	4. <i>Confabbing</i> : finding about other player's habits or discussing strategies with other Killers (Bartle 1996)

4.2.2 Player Social Temperaments

The Idealist KeirseY subtype is the closest one to the Socializer player type. These individuals are interested in people and forming relationships with others. Their goal is to understand them. They influence and inspire others. To them, getting to know people is a journey towards self-discovery. Idealists believe that cooperation with others is the best way for people to achieve their goals. (KeirseY

²⁰ Place in games where players gather to communicate or role-play with other players

1978). They create an image of themselves to others, modeling actions to produce emotions they want to feel (Stewart 2011). The Performer Artisan subtype is the most social one. With their good humor, they enrich the lives of others among them. They are the ones with social interest and most generous out of all Artisan subtypes. Their contagious energy draws people towards them.

Providers want to insure the health of the ones they care about. They are the most social subtype of the Guardian temperament. They give their time to assure the social functions are a success.

Providers are the most social subtype out of the Guardian types. They love expressing themselves to others and have a great energy. They love human interaction and socialization, always there to talk about anything. Providers are team players who enjoy working together, conducting themselves in all their interactions.

Table 38: Player social temperament traits.

Idealist's traits	Performer's traits	Provider's traits
1. <i>Diplomatic</i> : Helps others to resolve their differences 2. <i>Nurturing</i> : Connecting with those who feel helpless 3. <i>Inspiring</i> : Influencing others by connecting on a personal level	1. <i>Generous</i> : to enrich the lives of others by bringing joy to them 2. <i>Charming</i> : Expressive and affectionate people 3. <i>Engaging</i> : Focused on forming social groups	1. <i>Collaborative</i> : Being a part of the group marching towards success 2. <i>Caring</i> : Checking up on others to make sure they are well 3. <i>Straightforward</i> : Having strong set of values, direct in approach

4.2.3 Player Social Motivations

Digital games and the way of play may not be the same for all players, although some players may have something in common if they are under the same player type. Players pursue different goals in video games. Digital games and the way of play may not be the same for all players, although some players may have something in common.

All players have different goals in games. Many things motivate players to continue playing the game. Some of these aspects are the achievements, and the competition the games offer.

The achievements are included to extend the longevity of the game. The players are not just completing the game, they are provided with something more that can unlock additional content or rewards when completed. Speaking of rewards, players tend to complete the game content on the highest difficulty for the best reward.

Doing the endgame is not the only way to get a valuable item. The players can be rewarded if they complete a certain task in a certain time or maybe finding a secret tunnel with a secret boss that yields bonus experience and items. This also includes competition against other players, be it player against a player or a team against a team. Certain PvP contents can also reward vanity items.

Yee's motivations are grouped in mastery, autonomy and relatedness. The social component takes the socialization, relationships and teamwork. The players are interested in helping others, desiring for long-term relationships with them by being a part of the group. Marczewski Philanthropists type want to be a part of something, to have a sense of purpose. They like giving others and do not expect nothing in return. They want to be helpful and will do it the best way they can. Philanthropists are so close to Yee's (2005) social component that they share the same traits.

The player social motivations are characterized by these traits:

1. *Counsellor*: motivation to be helpful, to be concerned about the well-being of others, to experience a sense of self worth helping other players either about in-game content or outside the game itself in the case of personal issues, for example.
2. *Teamwork*: motivation to collaborate in combined action of a group.
3. *Mingling with*: motivation to meet new people.
4. *Camaraderie*: motivation to have a sense of belonging in a group, a guild.

4.2.4 Player Social Involvement

Calleja's shared involvement (2012) is particularly related around player cooperation. Playing multiplayer games brings people together. Today's games have integrated the socialization and communication as a part of their core interface. Before games were moved towards the multiplayer ide, players tend to go on LAN parties and play together in the same room. Even now with multiplayer games being massively popular, players still tend to go and play together on their machines while chatting and enjoying their time.

The reason why these games became so popular is the presence of other players in the same environment. The virtual world enables the player to enter it at any time, where s/he can engage with other players and have direct conversations though chat channels. Being a member of a guild, the players get to interact with others for a longer period of time which increases the chance of forming long-lasting relationships. Also, it brings player towards the end-game content.

The player controls their character and ventures in the world with fellow like-minded people. “PCs and consoles have become gateways to a vast network of other players with whom one can play, compete, and socialize. (Calleja 2011, 94)”

Here are the filtered layer of social involvement traits:

1. *Conversing*: Chatting with other players about any topic, from games to personal life
2. *Role-playing*: Assuming the role a character in the game
3. *Cooperation*: A group of people who meet to pursue a common goal
4. *Companionship*: A sense of closeness other players

4.2.5 Player Social Fun

Player to player interaction is important towards building social relationships, hence multiplayer games requiring it. The players play these games to spend time with their friends, no matter if they are real life friends or adventurers met online. “Players using this Key see games as mechanisms for social interaction (Lazzaro 2004).” Social interactions don’t occur only when players are relaxing after challenging quests and dungeons, but also when doing them or watching other people play.

The social experience key is focused on gaming with others which can wake competition and pursue teamwork and better performance.

The player social fun is focused on:

1. *Rivalry*: Competing with other players, either as a solo player or with a team. “It’s the people that are addictive not the game” (Lazzaro 2004)
2. *Camaraderie*: Gaming with others. “I don’t like playing games, but it’s a fun way to spend time with my friends.” (Lazzaro 2004)
3. *Performance*: Displaying gaming skills or the game world to others.
4. *Spectacle*: “I don’t play, but it’s fun to watch.” (Lazzaro 2004)

4.2.6 Player Social Mentalities

Players spend time together and have a chance to get to know each other. Such gaming sessions can last minutes to hours, depending on the situation the players are in. When playing together, they usually have parallel things while gaming, such as chatting, drinking, or eating snacks.

Players have different commitment levels that varies for each individual. Some of the players are driven towards the endgame while others may be more interested in collective gaming sessions with their

friends or other players. In those, players tend to play alongside their teammates, allied with specific factions²¹ or against other players.

Table 39: Player social mentalities traits.

With whom	How
1. <i>Gaming with kids</i> : helping children with computer games	1. <i>Allied</i> : cooperating with others for specific purposes
2. <i>Gaming with mates</i> : to accompany life partners	2. <i>Against</i> : playing against other players
3. <i>Gaming for company</i> : to play in the or seeking the presence of others	3. <i>Alongside</i> : playing with the company of other players

4.3 The Framework

The second stage of our framework was presenting the cards with the six dimensions of player socialization with their corresponding traits. These cards were made to test the framework and see if it's viable enough with the data we collected and analyzed.

The framework was build up from the cards presented to the interviewees with all corresponding traits to each dimension. The design is supposed to present a hive. This symbol dates back to ancient Egypt, in which it represented people who work together, just like we here present player types who collaborate together.

²¹ A small group of players within a larger one, accompanied by a leader



Fig. 26: Final framework for player socialization

4.4 Testing the Framework

Starting with Player Social Behavior, the participant will have to choose between collaboration, communion, competition, confabbing, conversationalists, empathy and role-play. These traits were based on Bartle's (1996) Killer and Socializer player types. These are the ways players conduct themselves towards other players.

Player Social Temperaments are characterized with the Keirsey (1978) Idealist type, Performer Artisan and Provider Guardian with these traits: caring, charming, collaborative, diplomatic, engaging, generous, inspiring, nurturing and straightforward. This is how players present themselves to others.

The Motivation card revolves around Yee (2006) and Marczewski (2015) motivations that are focused on camaraderie, counseling, mingling with and teamwork. These traits are what usually motivates players when it comes to socialization in video games.

The Social Involvement is about a sense of belonging in a guild or clan. It's focused on player engagement with others. The participants had to identify themselves with one or more of these traits: companionship, conversing, cooperation or role-playing.

Players find different things to be fun in games, more so if played together – kinds of amusement players have when playing together. They had to choose between Lazzaro's (2004) camaraderie, performance, rivalry and spectacle.

The Social Mentalities are for testing how players spend their time together playing games. They had to choose between playing alongside, against, allied and gaming for company, with mates and kids.

4.4.1 The structure of the interview

In the first part of the interview, the participants took the Bartle test, to determine their player type.

The second part was the interview in which the participants got a set of 6 cards with chosen 6 dimensions of player socialization and their corresponding traits. The participants had to choose traits they identify with and justify their answers. They were also asked to add additional trait if they think it would be fitting for our dimensions.

Part 3 consisted of several questions asking the participants what they value in MMOs, their favourite games and about the results found in the questionnaire.

4.4.2 PART 1: Bartle Test

The first part of the interview consisted on conducting the Bartle test²² to determine participants' player type. We got 6 Socializers, 5 Killers, 4 Achievers and 5 Explorers.

Also, the questionnaire had 4 Bartle type questions disguised as random questions through which we tried to guess the player type of the participants.²³ It was quite surprising to see that the majority got the same player type as in the original Bartle test, and that some were close to what they got in the questionnaire (part 2).

4.4.3 PART 2: Inquiry with the Cards



Fig. 27: Player Social Behavior card

²² Consult <http://www.matthewbarr.co.uk/bartle/>, accessed on January 5th.

²³ Questions 10,11,12 and 13 from Part II, Appendix I.

The first card our participants got was the Player Social Behavior. All Socializer types said that they evenly prefer collaborating and communicating with others. Sharing opinions and casual chatting when doing group quests or dungeons are very important to them because it strengthens their group.

One socializer was just a little bit distinctive from the others, mentioning Role-playing to be extremely fun, stating that assuming the role of the character while playing with other players makes them feel more connected to the game. They didn't add any additional traits added here.

The Killers said they value competition and confabbing the most. Collaboration is important only if they are playing with other players in competitive battlegrounds where working together as a team is of utmost importance to succeed and defeat the enemy team. They are not griefers but one participant mentioned he sometimes likes to taunt other players, mostly because the enemy player was either taunting them first and killing repeatedly. One of the Killers mentioned the Control trait, stating that they like to be in charge in battlegrounds and having a role of the PvP leadership.

The Achievers noted that they like competition, communication and collaboration, especially when doing the endgame content with their team. They said that in order to achieve the reward, you need to have a team that is cooperating properly and communicating during gameplay.

The Explorers note they like to collaborate, communicate and role-play in multiplayer games. One particular Explorer mentioned the exploration content is more fun if there are players who share the same opinion. She said that she also likes to role-play when exploring the boundaries of the game, which makes her feel like she is really in the game.

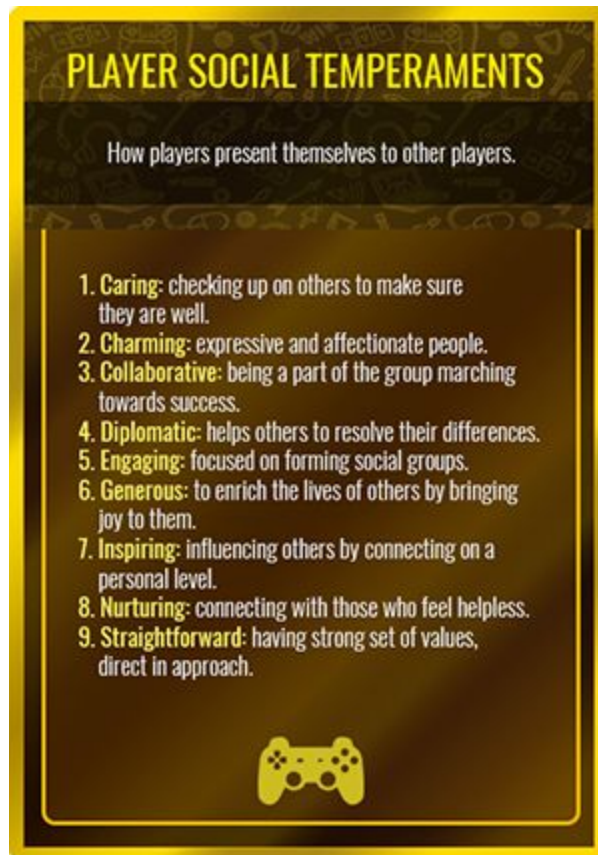


Fig. 28: Player Social Temperaments card

Second card is based on the Keirsey temperaments. 4 out of 6 socializers said that they like the collaboration and engaging trait. Forming social groups and being a part of a clan or a guild is what they value the most. The other two mentioned that charming and generous traits are best for describing a real socializer type, explaining that if they are affectionate and cheerful, they'll be more likely to get accepted in clan/guild.

One Socializer mentioned that he would like to add Uniqueness traits. He claims that each player is different in their actions and motivations which makes them engaging and approachable.

All Killers claimed to value the inspiration, collaboration and being straightforward. They expressed they love to inspire other people and influencing them – they love when they encounter players they did battlegrounds with and ask them for some tips and tricks on how to improve their gameplay. No other traits were added.

The Explorers explain they value engagement and collaboration the most. Collaborating with other Explorers to find the secret easter eggs and items before anyone else does brings them joy. One Explorer

adds expressivity as a possible trait for this card. Being expressive means that an individual knows how to interact and communicate with other people, no matter in which player type they belong to.

The Achievers mention diplomacy and collaboration to be important here. Along with being a part of a team marching towards the goal, he says that being diplomatic might be helpful if there are some mishaps or arguments.

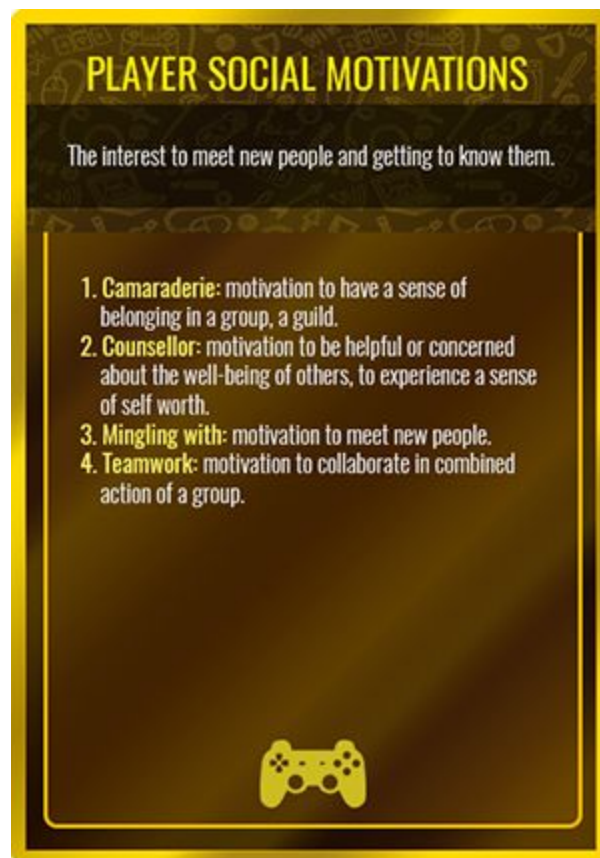


Fig. 29: Player Social Motivations card

The Socializers identified themselves with all traits on Player Social Motivation card, primarily focusing on the motivation to meet new people – the more people, the merrier. Second trait they identified the most was the Counsellor. They claim they love helping other people in the game if they need something, be it game related or personal life related.

Killers identified themselves with teamwork trait the most. People might see the Killers as unfriendly individuals who will usually insult others, but not all are like that. The Killers we interviewed say that playing together as a team and collaboration is of utmost importance for a guaranteed win.

The Explorers note teamwork as the most important trait for the same reason as in previous cards. One Explorer said she identifies herself as a counsellor. She comments that she likes the feel of a counsellor if someone asks her where to find a certain item or how to get it shortest way possible.

Achievers find teamwork to be the most important trait. One of them added that social achievement could be added as a subtrait, to further define the teamwork. This trait offers different kinds of opportunities to other players and encourages players to cooperate. He also claims that camaraderie is also important – a sense of belonging to a guild and doing the game content with his teammates is what makes the game experience enjoyable.



Fig. 30: Player Social Involvement card

The participants identified themselves with all traits on the Player Social Involvement card. They value conversations with other players, meeting other people who share common interests and pursue a common goal. They all state that they like to have a sense of closeness with other players even if they are separated by a monitor.

Even though the Role-play trait was the least favoured one, all participants admitted that they sometimes love assuming the role of their character and occasionally role-play with others when playing together, no matter if they are progressing through the content or just playing casually.

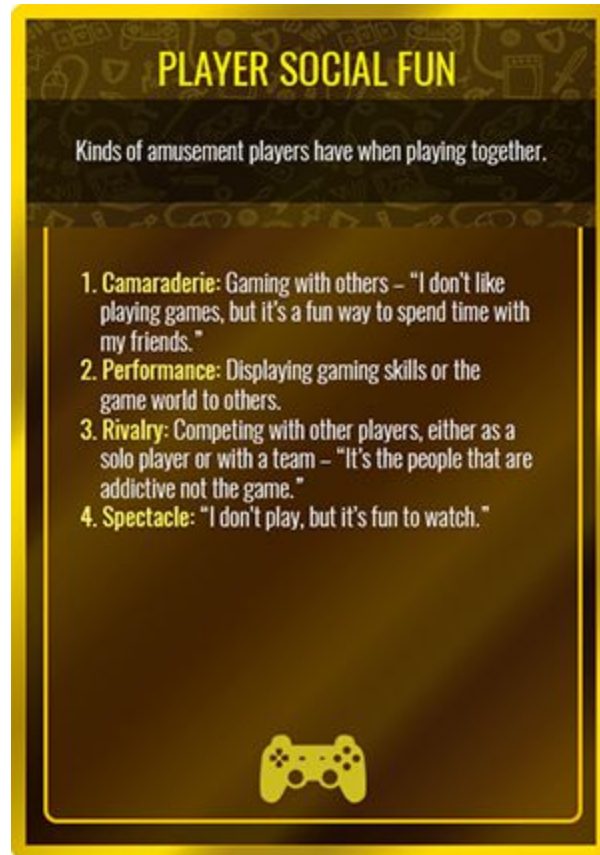


Fig. 31: Player Social Fun card

Spectacle was the only trait our participants didn't identify themselves with. Rivalry and performance were popular traits for Killers and Achievers, while Socializers and Explorers noted they rather prefer camaraderie. Gaming with others is a fun way to spend time together and chat about various things.

The Killers and the Achievers lean towards the Rivalry and Performance trait more than the other ones. Competition rushes through their veins and it's logical they will identify themselves with this trait. Competing against other players gives them an adrenaline rush, more so if they play together with their team.



Fig. 32: Player Social Mentalities card

Everyone identified themselves with gaming for company trait with slight difference in the ways how do they play.

The Socializers and Explorers comment they relate to playing allied and alongside the most. Playing with the company of other players and allied with other players or NPCs make their game experience more fun – specifically if the gameplay is interpreted with a rich storyline. Their motivations are to enjoy the game, meet other players and explore the hidden areas.

The Killers note that playing alongside is important only if they play in a team against other players, but mostly play against in single PvP duels. Playing against other players and winning against them motivates them to further progress through the game and build up their score.

The Achievers lean towards the allied way of playing. They'll cooperate with others to progress further through the game, similar to the Killer type, but instead of killing other players, they'll team up with others and fight NPCs and computer controlled monsters standing on the way.

4.4.3.1 Analysis 1: Interviewees' self-assessment

The following tables present a comparison between all interviewees' self-assessment, where we color coded the common and uncommon traits found in the answers.

Each table is created specifically for specific player type: Killer, Socializer, Achiever and Explorer, which we also color coded: Killers are represented with the red color which resembles energy, war and danger (you'll never see them coming), Socializers are yellow, represented by happiness, positivity and loyalty (this is what socializers are), Explorers are blue – wisdom, confidence (they are wise and know where to find things), Achievers are represented with green, meaning ambition, greed, jealousy (they always strive to be the best).

Tables 41, 42, 43 and 44 show interviewees' answers separated by player types and the table 45 shows the most common traits chosen by the participants. The traits are divided by the 6 cards we used in the interviews.

It was interesting to see that the chosen traits match the personality of each player type. For example, the most popular traits among the Killer type was the competition, which perfectly describes them as being overly competitive individuals who like to be the best, much like the Achievers who pursue the same goal. Socializers picked the traits that also describe them the most: collaboration and communion – they strive to be a part of a group. Explorers are leaning towards the social type more with trait choices, with collaboration, teamwork and communion as most chosen traits.

Table 40: Color code for Analysis 1

COLOR CODES	
	Perfect match.
	Partial match.
	Isolated choices
	Isolated single choice

Table 41: Interviewees' self-assessment comparison – Killers

	TRAITS	KILLERS				
		Interviewee 1	Interviewee 2	Interviewee 3	Interviewee 4	Interviewee 5
BEHAVIOR	Collaborators			X		
	Commune	X				
	Competitive					
	Confabbing					
	Conversationalists					
	Empathic					
	Role-playing					
TEMPERAMENTS	Caring					
	Charming					
	Collaborative	X	X	X	X	X
	Diplomatic					
	Engaging					
	Generous					
	Inspiring	X	X	X	X	X
	Nurturing					
MOTIVATIONS	Straightforward	X	X	X	X	X
	Camaraderie	X	X			
	Counsellor			X		
	Mingling with				X	
INVOLVEMENT	Teamwork	X	X	X	X	X
	Companionship	X	X	X	X	
	Conversing	X	X	X	X	
	Cooperation	X	X	X	X	
FUN	Role-playing	X	X	X	X	
	Camaraderie		X			
	Performance			X	X	
	Rivalry	X	X	X	X	X
MENTALITIES	Spectacle					
	Playing against	X	X	X	X	X
	Playing alongside				X	
	Playing allied					
	Gaming for company	X			X	
	Gaming with kids					
	Gaming with mates					

Table 42: Interviewees' self-assessment comparison – Socializers

		SOCIALIZERS					
		Interviewee 1	Interviewee 2	Interviewee 3	Interviewee 4	Interviewee 5	Interviewee 6
BEHAVIOR	Collaborators	x	x	x	x	x	x
	Commune	x	x	x	x	x	x
	Competitive			x			
	Confabbing						
	Conversationalists						
	Empathic						
	Role-playing	x					
TEMPERAMENTS	Caring						
	Charming					x	x
	Collaborative	x	x	x	x		
	Diplomatic						
	Engaging	x	x	x	x		
	Generous					x	x
	Inspiring						
	Nurturing						
	Straightforward						
MOTIVATIONS	Camaraderie	x	x	x	x	x	x
	Counsellor	x	x	x	x	x	x
	Mingling with	x	x	x	x	x	x
	Teamwork	x	x	x	x	x	x
INVOLVEMENT	Companionship	x	x	x	x	x	x
	Conversing	x	x	x	x	x	x
	Cooperation	x	x	x	x	x	x
	Role-playing	x	x	x	x	x	x
FUN	Camaraderie	x	x	x	x	x	x
	Performance		x				
	Rivalry						
	Spectacle						
MENTALITIES	Playing against						
	Playing alongside	x			x		
	Playing allied	x	x	x	x	x	x
	Gaming for company	x	x	x	x	x	x
	Gaming with kids						
	Gaming with mates						

Table 43: Interviewees' self-assessment comparison – Achievers

		ACHIEVERS			
		Interviewee 1	Interviewee 2	Interviewee 3	Interviewee 4
BEHAVIOR	Collaborators	x	x	x	x
	Commune				
	Competitive	x	x	x	x
	Confabbing				
	Conversationalists	x	x	x	x
	Empathic				
	Role-playing				
TEMPERAMENTS	Caring				
	Charming				
	Collaborative	x	x	x	x
	Diplomatic	x			x
	Engaging				x
	Generous				
	Inspiring				
	Nurturing				
	Straightforward				
MOTIVATIONS	Camaraderie				
	Counsellor				
	Mingling with				
	Teamwork	x	x	x	x
INVOLVEMENT	Companionship	x	x	x	x
	Conversing	x	x	x	x
	Cooperation	x	x	x	x
	Role-playing	x	x	x	x
FUN	Camaraderie			x	
	Performance	x	x	x	x
	Rivalry	x	x	x	x
	Spectacle				
MENTALITIES	Playing against				
	Playing alongside				
	Playing allied	x	x	x	x
	Gaming for company		x		x
	Gaming with kids				
	Gaming with mates				x

Table 44: Interviewees' self-assessment comparison – Explorers

		EXPLORERS				
		Interviewee 1	Interviewee 2	Interviewee 3	Interviewee 4	Interviewee 5
BEHAVIOR	Collaborators	x	x	x	x	x
	Commune	x	x	x	x	x
	Competitive					
	Confabbing					
	Conversationalists		x			x
	Empathic					
	Role-playing	x				
TEMPERAMENTS	Caring					
	Charming					
	Collaborative	x	x	x	x	x
	Diplomatic					
	Engaging	x	x	x	x	x
	Generous					
	Inspiring	x				
	Nurturing					
MOTIVATIONS	Straightforward					
	Camaraderie					
	Counsellor					x
	Mingling with					
	Teamwork	x	x	x	x	x
INVOLVEMENT	Companionship	x	x	x	x	x
	Conversing	x	x	x	x	x
	Cooperation	x	x	x	x	x
	Role-playing	x	x	x	x	x
FUN	Camaraderie	x	x	x	x	x
	Performance					
	Rivalry					
	Spectacle					
MENTALITIES	Playing against					
	Playing alongside	x	x	x	x	x
	Playing allied	x	x	x	x	x
	Gaming for company	x				x
	Gaming with kids					
	Gaming with mates					

Table 45: Most common interviewees' self-assessment traits – summary

	BEHAVIOR	TEMPERAMENTS	MOTIVATIONS	INVOLVEMENT	FUN	MENTALITIES
KILLERS	-Collaborators -Confabbing	-Inspiring -Collaborative -Straightforward	-Teamwork -Camaraderie	-Companionship -Conversing -Cooperation	-Rivalry -Performance	-Gaming for company -Playing alongside -Playing against
SOCIALIZERS	-Collaborators -Commune	-Collaborative -Engaging -Charming -Generous	-Camaraderie -Counsellor -Mingling with -Teamwork	-Companionship -Conversing -Cooperation	-Camaraderie	-Gaming for company -Playing allied -Playing alongside
ACHIEVERS	-Competition -Commune -Collaborators	-Diplomatic -Collaborative	-Teamwork -Camaraderie	-Companionship -Conversing -Cooperation	-Rivalry -Performance	-Gaming for company -Playing alongside -Playing against
EXPLORERS	-Collaborators -Commune	-Engaging -Collaborative	-Teamwork -Counsellor	-Companionship -Conversing -Cooperation	-Camaraderie	-Gaming for company -Playing allied -Playing alongside

4.4.3.2 Analysis 2: Interviewees' self-assessment vs interviewees' assessment on their top 3 games

Third part of the interview consisted on was comparing the interviewees' self-assessment with their assessment of the games they chose to be their top 3 favourites to play.

Their choices will be presented in the tables below, again separated by player types. Each table has interviewees of each player type with their top 3 games they like to play and the traits from the cards assessed to all of those games.

Table 46: Color code for Analysis 2

	Perfect match.
	Partial match.
	Self-assessment missed match.
	Assessment on games missed match.

Killers assessed *collaboration*, *teamwork*, *performance*, *competition* and *rivalry* to all games. They occasionally *confab* with others to find out more about their player habits and to see how can they use that in their benefit for better *performance* against enemy team or player. Of course, they assessed *playing against* as one of the main traits for the games. *Playing allied* with a team is beneficial if they need to play in competitive battlegrounds or games that require multiple players.

Table 47: Interviewees' self-assessment vs interviewees' games assessment – Killers

	TRAITS	Interviewee 1	Call of Duty	Counter-strike	Overwatch	Interviewee 2	Call of Duty	Overwatch	DOOM	Interviewee 3	Call of Duty	Counter-strike	Overwatch	Interviewee 4	Call of Duty	Counter-strike	Team Fortress 2	Interviewee 5	Call of Duty	Counter-strike	Overwatch
BEHAVIOR	Collaborators		x	x	x		x	x	x	x		x	x		x	x			x	x	x
	Commune	x													x	x	x				
	Competitive	x	x	x	x	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x
	Confabbling						x								x	x	x				
	Conversationalists										x	x	x						x	x	x
	Empathic																				
	Role-playing																				
TEMPERAMENTS	Caring																				
	Charming																				
	Collaborative	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Diplomatic												x								
	Enaging		x	x				x			x				x	x	x			x	
	Generous																				
	Inspiring	x				x				x				x				x			
MOTIVATIONS	Nurturing																				
	Straightforward	x		x		x				x				x				x			
	Camaraderie	x	x	x		x	x	x	x						x	x	x			x	
	Counsellor									x											
	Mingling with		x					x			x	x	x	x					x	x	x
INVOLVEMENT	Teamwork	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x			
	Companionship	x	x			x	x	x		x				x	x	x	x				
	Conversing	x				x				x				x					x	x	x
	Cooperation	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		x	x	x
	Role-playing	x				x				x				x							
FUN	Camaraderie		x	x	x	x													x	x	x
	Performance		x	x	x		x	x		x				x					x	x	x
	Rivalry	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Spectacle																				
MENTALITIES	Playing against	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Playing alongside		x	x	x			x			x	x	x	x	x	x	x		x	x	x
	Playing allied										x	x	x						x	x	x
	Gaming for company	x	x	x	x			x						x							
	Gaming with kids																				
	Gaming with mates																				

Socializers mention *collaboration, communion, conversing, companionships* and *playing allied or playing alongside* as traits that match their chosen games. These match with the traits they have assigned to their top 3 games as well. They also add *role-playing* to the list, saying it can make the game more *engaging*. Traits assigned to games but not themselves are *confabbing, conversationalists, collaborative, diplomatic, performance* and *playing alongside*. Self-assigned traits not matching with game assessment are *commune, charming, counsellor, teamwork, conversing, cooperation, and camaraderie*.

Table 48: Interviewees' self-assessment vs interviewees' games assessment – Socializers

	TRAITS	Interviewee 1	World of Warcraft	EverQuest	Skyrim	Interviewee 2	World of Warcraft	EverQuest	Neverwinter	Interviewee 3	EverQuest	Neverwinter	Tera	Interviewee 4	World of Warcraft	EverQuest	Skyrim	Interviewee 5	World of Warcraft	EverQuest	Neverwinter	Interviewee 6	LoR Online	EverQuest	Neverwinter
BEHAVIOR	Collaborators	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Commune	x	x	x	x	x				x	x	x	x	x	x	x	x	x				x	x	x	x
	Competitive		x				x			x			x		x				x		x				
	Confabbing		x	x											x	x	x		x	x	x				
	Conversationalists		x	x			x	x	x		x	x	x		x	x	x						x	x	x
	Empathic																								
	Role-playing	x	x	x	x		x	x	x		x	x	x		x	x	x		x	x	x		x	x	x
TEMPERAMENTS	Carling																								
	Charming																	x				x			
	Collaborative	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		x	x	x		x	x	x
	Diplomatic																								
	Engaging	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		x	x	x		x	x	x
	Generous																	x				x			
	Inspiring																								
	Nurturing																								
MOTIVATIONS	Straightforward																								
	Camaraderie	x	x			x	x		x	x	x	x	x	x	x	x		x	x	x	x	x	x	x	x
	Counsellor	x				x				x				x				x				x			
	Mingling with	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
INVOLVEMENT	Teamwork	x				x				x				x				x				x			
	Companionship	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Conversing	x				x				x				x				x				x			
	Cooperation	x				x				x				x				x				x			
FUN	Role-playing	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Camaraderie	x				x				x				x				x				x			
	Performance		x		x	x	x						x		x	x			x	x	x		x		
	Rivalry																								
MENTALITIES	Spectacle																								
	Playing against																								
	Playing alongside	x	x	x	x		x	x	x		x	x	x	x	x	x	x		x	x	x		x	x	x
	Playing allied	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Gaming for company	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Gaming with klds																								
	Gaming with mates																								

Achievers are close with chosen traits to Socializers, with a side of traits chosen by Killers. They add *companionship, conversing, collaboration, competition, performance* and *rivalry* as traits that best describe their favourite games. Traits they have assigned to games but not themselves are *commune, role-playing, engaging, camaraderie, mingling with, playing against, gaming for company* and *playing alongside*. Self-assigned traits are *diplomatic, conversing, cooperation, camaraderie* and *gaming with mates*.

Table 49: Interviewees' self-assessment vs interviewees' games assessment – Achievers

		Interviewee 1				Interviewee 2				Interviewee 3				Interviewee 4			
		World of Warcraft				World of Warcraft				World of Warcraft				World of Warcraft			
		EverQuest				Destiny				League of Legends				Dota			
		Skyrim				Skyrim				Skyrim				Skyrim			
BEHAVIOR	Collaborators	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Commune		x	x	x		x	x	x		x	x	x		x	x	x
	Competitive	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Confabbling																
	Conversationalists	x	x			x	x	x		x	x	x		x	x	x	
	Empathic																
	Role-playing		x	x	x		x	x	x		x		x		x	x	x
TEMPERAMENTS	Carling																
	Charming																
	Collaborative	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Diplomatic	x												x			
	Engaging		x	x	x		x	x	x		x	x	x	x	x	x	x
	Generous																
	Inspiring																
	Nurturing																
	Straightforward																
MOTIVATIONS	Camaraderie		x	x	x		x	x	x		x	x	x		x	x	x
	Counsellor																
	Mingling with		x	x	x		x	x	x		x	x	x		x	x	x
	Teamwork	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
INVOLVEMENT	Companionship	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Conversing	x				x				x				x			
	Cooperation	x				x				x				x			
	Role-playing	x	x	x	x	x	x	x	x	x	x		x	x	x	x	x
FUN	Camaraderie									x							
	Performance	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Rivalry	x	x			x	x	x	x	x	x	x	x	x	x	x	x
	Spectacle																
MENTALITIES	Playing against		x				x	x	x		x	x	x		x	x	x
	Playing alongside		x	x	x		x	x	x		x	x	x		x	x	x
	Playing allied	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Gaming for company		x	x	x	x	x	x	x		x	x	x	x	x	x	x
	Gaming with kids																
	Gaming with mates													x			

Explorers like different kinds of games, and they have chosen games that can go with any player type. They assessed *collaboration, competition, conversion, playing allied, teamwork* and *mingling with* as best traits describing their games. They have assigned *competitive, conversationalists, diplomatic, generous, camaraderie, mingling with, performance* and *gaming for company* as traits best describing games but not themselves with *engaging, counsellor, companionship, conversing, cooperation, camaraderie* and *playing allied* for themselves but not the games.

Table 50: Interviewees' self-assessment vs interviewees' games assessment – Explorers

	TRAITS	Interviewee 1				Interviewee 2				Interviewee 3				Interviewee 4				Interviewee 5			
		Interviewee 1	Skyrim	World of Warcraft	The Magic Circle	Interviewee 2	Skyrim	World of Warcraft	EVE Online	Interviewee 3	Skyrim	World of Warcraft	EVE Online	Interviewee 4	Rift	Skyrim	World of Warcraft	Interviewee 5	Destiny	Skyrim	World of Warcraft
BEHAVIOR	Collaborators	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Commune	x	x	x		x	x	x		x	x	x	x	x	x	x	x	x	x	x	x
	Competitive			x	x		x	x	x		x	x	x		x	x	x		x	x	x
	Confabbling																				
	Conversationalists		x	x	x	x	x	x	x		x	x	x		x	x	x	x	x	x	x
	Empathic																				
	Role-playing	x	x	x	x		x	x			x	x				x	x		x	x	x
TEMPERAMENTS	Caring																				
	Charming																				
	Collaborative	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Diplomatic							x				x	x		x	x	x		x	x	x
	Engaging	x			x	x				x	x	x		x	x	x	x	x	x	x	x
	Generous						x	x	x												
	Inspiring	x			x																
	Nurturing																				
MOTIVATIONS	Straightforward																				
	Camaraderie		x	x			x	x	x		x	x	x		x	x	x		x	x	x
	Counsellor																	x			
	Mingling with		x	x			x	x	x		x	x	x		x	x	x		x	x	x
INVOLVEMENT	Teamwork	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Companionship	x	x			x				x				x				x			
	Conversing	x	x	x	x	x	x	x	x	x				x				x			
	Cooperation	x				x				x				x				x			
FUN	Role-playing	x	x	x	x	x	x	x		x	x	x	x	x		x	x	x	x	x	x
	Camaraderie	x				x				x				x				x			
	Performance		x	x	x		x	x	x		x	x	x		x	x	x		x	x	x
	Rivalry																				
MENTALITIES	Spectacle																				
	Playing against																				
	Playing alongside	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Playing allied	x				x				x				x				x			
	Gaming for company	x	x	x			x	x	x		x	x	x		x	x	x	x	x	x	x
	Gaming with kids																				
	Gaming with mates																				

4.4.3.3 Analysis 3: Interviewees' assessment on their top 3 games vs our assessment on their top 3 games

Analysis 3 is focused on assessment on interviewee top 3 games compared with our assessment on their top 3 games.

Table 51: Color code for Analysis 3

	Perfect match.
	Partial match.
	Self-assessment full missed match.
	Self-assessment partial missed match.
	Assessment on games full missed match.
	Assessment on games partial missed match..
	Games not chosen

For the games chosen by Killers, *collaborators*, *competitive*, *cooperation*, *rivalry*, *playing against* and *playing alongside* were identified by both of us and by the interviewees. The traits that were partially identified were: *commune*, *conversationalists*, *engaging* or *camaraderie*.

Traits that were not identified by us but were by the interviewees were *collaborators* (in *player behavior card*), *mingling with* and *playing alongside*.

Traits chosen by us and not the interviewees are *commune*, *conversationalists*, *camaraderie*, *performance* and *role-playing*.

Table 52: Comparison between the interviewees' and our assessment on their top 3 games –Killers

		Call of Duty					Counter-Strike					Overwatch					DOOM					Team Fortress 2				
		Researcher (ENA)	Interviewee 1	Interviewee 2	Interviewee 3	Interviewee 4	Interviewee 5	Researcher (ENA)	Interviewee 1	Interviewee 2	Interviewee 3	Interviewee 4	Interviewee 5	Researcher (ENA)	Interviewee 1	Interviewee 2	Interviewee 3	Interviewee 4	Interviewee 5	Researcher (ENA)	Interviewee 1	Interviewee 2	Interviewee 3	Interviewee 4	Interviewee 5	
BEHAVIOR	TRAITS																									
	Collaborators	x	x		x	x		x	x		x	x	x		x	x				x						
	Commune	x				x					x														x	
	Competitive	x	x	x	x	x	x	x	x		x	x	x		x					x					x	
	Confabbing			x		x							x												x	
	Conversationalists				x		x	x			x		x	x		x				x						
TEMPERAMENTS	Empathic																									
	Role-playing																									
	Caring																									
	Charming																									
	Collaborative	x	x	x	x	x	x	x	x		x	x	x	x		x		x		x					x	
	Diplomatic																									
	Engaging		x		x	x			x			x	x												x	
	Generous																									
MOTIVATIONS	Inspiring																									
	Nurturing																									
	Straightforward								x																	
	Camaraderie		x	x		x		x	x			x	x	x					x		x				x	
	Counsellor																									
INVOLVEMENT	Mingling with		x		x		x			x		x			x	x		x								
	Teamwork	x	x	x	x	x		x	x		x	x	x	x		x		x		x					x	
	Companionship		x	x		x		x			x		x						x						x	
	Conversing						x	x				x							x							
FUN	Cooperation	x	x	x	x	x	x	x	x		x	x	x	x	x		x	x		x					x	
	Role-playing	x						x											x							
	Camaraderie		x				x		x				x													
	Performance		x	x			x	x	x				x	x	x				x							
	Rivalry	x	x	x	x	x	x	x	x		x	x	x	x		x		x		x					x	
	Spectacle																									
MENTALITIES	Playing against	x	x	x	x	x	x	x	x		x	x	x	x		x	x		x						x	
	Playing alongside		x		x	x	x	x	x		x	x	x	x		x	x		x						x	
	Playing allied				x		x	x			x		x			x	x		x							
	Gaming for company	x	x					x	x					x	x	x			x							
	Gaming with kids																									
	Gaming with mates																									

Collaborators, competitive, conversationalists, role-playing, engaging, performance, playing alongside and playing allied were identified by both of us and the Socializer interviewees. The traits that didn't match were *mingling with* and *confabbing* while the traits chosen by us and not them were *teamwork, conversing, cooperation, rivalry and playing against*.

Table 53: Comparison between the interviewees' and our assessment on their top 3 games – Socializers

		World of Warcraft						EverQuest						Skyrim						Neverwinter						Tera						LoTR Online					
		Researcher (ENA)	Interviewee 1	Interviewee 2	Interviewee 3	Interviewee 4	Interviewee 5	Interviewee 6	Researcher (ENA)	Interviewee 1	Interviewee 2	Interviewee 3	Interviewee 4	Interviewee 5	Interviewee 6	Researcher (ENA)	Interviewee 1	Interviewee 2	Interviewee 3	Interviewee 4	Interviewee 5	Interviewee 6	Researcher (ENA)	Interviewee 1	Interviewee 2	Interviewee 3	Interviewee 4	Interviewee 5	Interviewee 6	Researcher (ENA)	Interviewee 1	Interviewee 2	Interviewee 3	Interviewee 4	Interviewee 5	Interviewee 6	
BEHAVIOR	TRAITS																																				
	Collaborators	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x			
	Commune	x	x		x				x	x		x	x	x	x		x									x				x					x		
	Competitive	x	x	x	x	x																															
	Confabbing	x	x	x		x	x			x				x																							
	Conversationalists	x	x	x		x			x	x	x	x	x		x	x														x					x		
	Empathic																																				
TEMPERAMENTS	Role-playing	x	x	x		x	x		x	x	x	x	x	x	x	x	x									x			x					x			
	Caring																																				
	Charming																																				
	Collaborative	x	x	x		x	x		x	x	x	x	x	x		x									x				x					x			
	Diplomatic																																				
	Engaging	x	x	x		x	x		x	x	x	x	x	x		x										x			x					x			
	Generous																																				
MOTIVATIONS	Inspiring																																				
	Nurturing																																				
	Straightforward																																				
	Camaraderie	x	x	x		x	x		x							x										x			x					x			
	Counselor																																				
	Mingling with		x	x		x	x			x							x																		x		
	Teamwork	x							x																												
INVOLVEMENT	Companionship	x	x	x		x	x		x	x	x	x	x	x		x										x			x					x			
	Conversing	x							x																												
	Cooperation	x							x																												
	Role-playing	x	x	x		x	x		x	x	x	x	x	x		x										x			x					x			
	Camaraderie																																				
	Performance	x	x	x		x	x																														
	Rivalry	x																																			
MENTALITIES	Spectacle																																				
	Playing against	x																																			
	Playing alongside	x	x	x		x	x		x	x	x	x	x	x		x										x			x					x			
	Playing allied	x	x	x		x	x		x	x	x	x	x	x		x										x			x					x			
	Gaming for company	x	x	x		x	x		x	x	x	x	x	x		x										x			x					x			
	Gaming with kids																																				
	Gaming with mates																																				

Matching traits with Achievers were *collaborators*, *commune*, *competitive*, *conversationalists*, *role-playing*, *engaging*, *camaraderie*, *teamwork*, *companionship*, *performance*, *rivalry*, *playing against*, *playing allied* and *playing for company*. Some traits didn't match in certain game choices but majority did. *Conversationalists*, *cooperation*, and *conversing* were traits added by us on some games they didn't assign these traits.

Table 54: Comparison between the interviewees' and our assessment on their top 3 games – Achievers

	TRAITS	Skyrim				World of Warcraft				EverQuest				League of Legends				Dota				Destiny			
		Researcher (ENA)	Interviewee 1	Interviewee 2	Interviewee 3	Interviewee 4	Researcher (ENA)	Interviewee 1	Interviewee 2	Interviewee 3	Interviewee 4	Researcher (ENA)	Interviewee 1	Interviewee 2	Interviewee 3	Interviewee 4	Researcher (ENA)	Interviewee 1	Interviewee 2	Interviewee 3	Interviewee 4	Researcher (ENA)	Interviewee 1	Interviewee 2	Interviewee 3
BEHAVIOR	Collaborators		x	x	x	x	x	x	x	x	x	x			x		x				x	x		x	
	Commune		x	x	x	x	x	x	x	x	x	x			x		x				x	x		x	
	Competitive		x	x	x	x	x	x	x	x		x			x		x				x			x	
	Confabbing																								
	Conversationalists	x					x	x	x	x	x	x			x		x				x	x		x	
	Empathic																								
TEMPERAMENTS	Role-playing	x	x	x	x	x	x	x	x	x	x	x									x			x	
	Caring																								
	Charming																								
	Collaborative		x	x	x	x	x	x	x	x	x	x			x		x				x	x		x	
	Diplomatic																								
	Engaging	x	x	x	x	x	x	x	x	x	x	x	x								x	x		x	
	Generous																								
	Inspiring																								
	Nurturing																								
MOTIVATIONS	Straightforward																								
	Camaraderie	x	x	x	x	x	x	x	x	x	x	x			x		x				x	x		x	
	Counsellor																								
	Mingling with		x	x	x	x		x	x	x	x		x								x			x	
INVOLVEMENT	Teamwork	x	x	x	x	x	x	x	x	x	x	x	x			x		x			x	x		x	
	Companionship	x	x	x	x	x	x	x	x	x	x	x	x			x		x			x	x		x	
	Conversing	x					x					x					x					x			
	Cooperation	x					x					x					x								
	Role-playing	x	x	x	x	x	x	x	x	x	x	x	x			x		x			x	x		x	
FUN	Camaraderie																								
	Performance		x	x	x	x	x	x	x	x		x				x		x			x	x		x	
	Rivalry			x	x	x	x	x	x	x	x					x		x			x	x		x	
	Spectacle																								
MENTALITIES	Playing against			x	x	x	x	x	x	x	x					x		x			x	x		x	
	Playing alongside	x	x	x	x	x	x	x	x	x	x	x	x			x		x			x	x		x	
	Playing allied	x	x	x	x	x	x	x	x	x	x	x	x			x		x			x	x		x	
	Gaming for company	x	x	x	x	x	x	x	x	x	x	x	x			x		x			x	x		x	
	Gaming with kids																								
	Gaming with mates																								

Traits matching with Explorer choice were *collaborators*, *conversationalists*, *confabbing*, *role-playing*, *camaraderie*, *teamwork* and *role-playing*. In certain games they assign these traits while we don't. We also added *companionship*, *cooperation*, *rivalry* and *playing allied* to their game choice in which they didn't.

Table 55: Comparison between the interviewees' and our assessment on their top 3 games – Explorers

		TRAITS	Skyrim					World of Warcraft					The Magic Circle					EVE Online					Rift					Destiny				
			Researcher (ENA)	Interviewee 1	Interviewee 2	Interviewee 3	Interviewee 4	Interviewee 5	Researcher (ENA)	Interviewee 1	Interviewee 2	Interviewee 3	Interviewee 4	Interviewee 5	Researcher (ENA)	Interviewee 1	Interviewee 2	Interviewee 3	Interviewee 4	Interviewee 5	Researcher (ENA)	Interviewee 1	Interviewee 2	Interviewee 3	Interviewee 4	Interviewee 5	Researcher (ENA)	Interviewee 1	Interviewee 2	Interviewee 3	Interviewee 4	Interviewee 5
BEHAVIOR	Collaborators		x	x	x	x	x	x		x	x	x	x					x		x	x				x						x	
	Commune		x	x	x	x	x	x		x	x	x	x						x							x					x	
	Competitive				x	x	x	x	x		x	x	x	x		x			x	x					x						x	
	Confabbing																															
	Conversationalists	x	x	x	x	x	x	x			x	x	x	x		x			x	x		x				x					x	
	Empathic																															
	Role-playing	x	x	x	x	x	x	x			x	x	x	x	x	x															x	
TEMPERAMENTS	Caring																															
	Charming																															
	Collaborative		x	x	x	x	x	x								x			x	x					x		x				x	
	Diplomatic						x	x			x	x	x	x					x						x						x	
	Engaging	x				x	x	x	x			x	x	x		x									x		x				x	
	Generous				x						x								x													
	Inspiring														x	x																
	Nurturing																															
	Straightforward																															
MOTIVATIONS	Camaraderie	x	x	x	x	x	x	x			x	x	x	x				x	x	x					x		x				x	
	Counsellor																															
	Mingling with		x	x	x	x	x			x	x	x	x						x												x	
	Teamwork	x	x	x	x	x	x	x			x	x	x	x					x	x	x				x		x				x	
INVOLVEMENT	Companionship	x	x					x											x													
	Conversing	x	x	x					x		x								x	x												
	Cooperation	x																	x													
	Role-playing	x	x	x	x	x	x	x			x	x	x	x	x	x			x												x	
FUN	Camaraderie																															
	Performance		x	x	x	x	x	x			x	x	x	x	x	x			x	x	x				x		x				x	
	Rivalry																				x											
	Spectacle																															
MENTALITIES	Playing against																															
	Playing alongside	x	x	x	x	x	x	x			x	x	x	x					x	x	x				x		x				x	
	Playing allied	x																														
	Gaming for company	x	x	x	x	x	x	x			x	x	x	x					x	x	x				x		x				x	
	Gaming with kids																															
	Gaming with mates																															

Table 56: Summary of matches and mismatches by player type

KILLERS	
MATCHING TRAITS	Collaborators, competitive, camaraderie, teamwork, cooperation, rivalry, playing against
UNMATCHING TRAITS	Collaborators, engaging, mingling with, playing alongside
SOCIALIZERS	
MATCHING TRAITS	Collaborators, competitive, conversationalists, collaborative, engaging, camaraderie, companionship, role-playing, playing alongside, playing allied, gaming for company
UNMATCHING TRAITS	Confabbing, mingling with
ACHIEVERS	
MATCHING TRAITS	Collaborators, commune, competitive, conversationalists, role-playing, engaging, camaraderie, teamwork, companionship, performance, rivalry, playing against, playing allied, gaming for company, playing alongside
UNMATCHING TRAITS	Collaborators, commune, mingling with
EXPLORERS	
MATCHING TRAITS	Collaborators, commune, competitive, conversationalists, role-playing, engaging, camaraderie, playing alongside, gaming for company
UNMATCHING TRAITS	Collaborators, commune, competitive, collaborative, diplomatic, mingling with, performance

4.4.3 PART 3: Describing Player Action in MMOs

Questions:

What do you value in multiplayer games? And in MMO games, more specifically?

What are your top 3 favourite multiplayer games and why?

When asked what they value the most in multiplayer games, each participant said that cooperation and communication are important if they play together with other players. They state that it brings all people from each corner of the world together where they can all share their experiences, tips and tricks as well as helping each other.

Shooter games were a popular choice among the Killers. Most favorited games were *Overwatch* (2016), *Call of Duty* (2003) franchise and *Counter-strike* (2000). They like the first-person perspective which gives them a feel they are a part of the epic battle and while playing with others, the game experience is more realistic. Seeing the world through their character's eyes is one of the main reasons they play these games.

The Socializers and Achievers have a similar taste in their multiplayer game choices, mentioning *World of Warcraft* (2004), *Neverwinter* (2013) and *EverQuest* (1999) to be their top choices. These games not only offer a chance to meet new players and find a company to play with, but also offer a wide content where players can compete and achieve the endgame goals.

The Explorers mention *The Elder Scrolls V: Skyrim* (2011), *EVE Online* (2003) and *World of Warcraft* (2004) as their top games because they focus on storylines, puzzles, and adventures.

4.4.4 Conclusions

The goal of the interviews is to see if the players that chose specific traits match the games they chose and if those games promote the traits they identify themselves with. In analysis 1, we were checking interviewees' self-assessment based on the cards on our six aspects of player socialization, the analysis 2 was conducted to compare interviewees' self-assessment vs interviewees' assessment on their top 3 games and in the analysis 3, interviewees' assessment on their top 3 games vs our assessment on their top 3 games.

Judging by the answers, the traits participants chose to be the most important ones for each dimension of player socialization matches the traits of the games they like the most.

There were some mismatches in certain assessments in which some traits that were repeating in cards were self-assessed and assessed to games.

1) About the framework itself

Traits chosen with assigned traits to games mostly match for each player type with slight differences for each individual who likes being *inspiring*, *empathetic* and a *counsellor* to others. Killers and Achievers tend to lean more towards the *competitive* and *teamwork* side, while Explorers and Socializers prefer *mingling with* other people and *conversationalist* trait.

Certain traits were more recognizable than other traits (*rivalry*, *performance* and *teamwork* for Killers and Achievers and *conversationalists* and *mingling with* for Explorers and Socializers), some were not chosen by anyone or not chosen at all. *Gaming for company* was the least choice for Killers,

competition for Socializers, *inspiring* for Achievers and *playing against* for Explorers. Traits that were not chosen at all were *empathic*, *caring*, *charming*, *generous*, *nurturing*, *spectacle* and *gaming with kids*.

This tells us that player types cannot be strictly defined by specific traits even though some are recognizable. It also means that the framework would need further testing with different player types and different player sample, as well as that the proposed framework is viable because there are perfect matches in certain traits between player self-assessments and traits assessed to games.

2) What does the framework tell us about each player type The Killers have chosen competitive games that also promote teamwork. The Achievers games that offer great rewards and competitive events. The Explorers will to discover the unknown matches the traits of their preferred games as well, focused on adventures and puzzles. The Socializers, however, like a bit of everything as long as they can do it with their group with which they can cooperate and chat with.

To summarize, the participants equally distributed the traits to the games they play. Achievers and Explorers have a lot in common with Socializers while Achievers and Killers tend to be on the competitive/rivalry side more than the other two player types. No matter in which player type participants belong to, they think that collaboration, teamwork and conversing are of utmost importance.

What does our framework tell us about each player type? One thing is certain – no matter if someone is a vicious *Killer*, a dedicated *Achiever*, a curious *Explorer* or a lovable *Socializer*, they all value teamwork and cooperation the most based on the traits on the cards they have chosen.

5. Conclusions

5.1 Limitations

The 6 dimensions we proposed in our framework for player socialization could be further developed as each aspect can be viewed as a dimension on its own with their complex structures and traits which, again, can be thoroughly observed.

These dimensions might stand across each other and can be seen as an aspect of their own, but they connect to their core, which is player socialization. By thorough observation, we could find even more dimensions that could complement the framework, but for now, this version of the framework can be applied to several games.

Another limit standing on the way is the fact that we didn't get enough information to help us elaborate more traits. Further analysis of the existing literature and finding additional literature would help in finding more possible dimensions that could be added to the framework or the information we have might not be what we are looking for. It also depends on the scope of the research and the studies we have might be limited and the revised literature might still be in the process of studying.

This research is restricted to Killers and Socializers only and the traits primarily describe those two types as well as their playstyle. By bringing Achievers and Explorers to the work we would have more traits that could apply to all player types.

There is a redundancy in the framework: collaborators and collaborative. They are in fact the same, but they can be seen as independent events that occur, like in the behavior and the temperament aspect, in which the player can have collaborative behavior while the other one has a collaborative temperament.

5.2 Final Considerations

Let's get back to our main question of this dissertation: *How can gaming in massive multiplayer online (MMO) games be considered a social construct and what are the dynamics of player socialization in such construct?* We were trying to understand diverse forms of socialisation in MMO games as way to understanding that type of gaming as a social construct. To do so, we went through the literature review and extracted the social components out of various player types, player temperaments, motivations, mentalities, involvement and fun.

The use of this framework may expand the definitions of player socialization and engagements within game worlds and help in designing games focusing on social dimensions. It provides concepts and theories that are relevant for this research, giving broader areas of the proposed aspects. By articulating between these dimensions, designers can address their “how”, “why” and “what” in their games, helping to identify what are their main concepts and on what aspect they want to focus on. One aspect could be more highlighted than the others – the purpose is to understand player socialization and decide on which aspect could be useful and in what way. Also, it could help in analyzing player relationships by looking at the dimensions of the framework.

Instead of looking at player socialization as a topic of its own, designers can analyze it thoroughly by looking at these 6 dimensions and their traits and see how can that be applied on their game and chose the interactions they find more appealing that would suit their game the best. This can be applied at any multiplayer game, from the simplest one that have 2 players or multiplayer games that require 5, 6 or more players.

These dimensions serve as a guide or as a model that takes player behaviors, temperaments, motivations, involvement, fun and mentalities into account – categories that usually matter most because they signify relationships between the players and their actions and interactions between each other or NPCs, either influencing them or annoying them.

5.3 Future Work

5.3.1 Larger sample and research methods

Future work should include a larger number of participants to further develop the framework, and research how do different player types and roles view themselves in games, from leaders, tanks, healers and damage dealers. Having more answers would be beneficial for better development of the framework as we would have more data to analyze.

The work would use additional qualitative and quantitative methods and deeper analysis of the given research. The broadening of the research methods could result in more precise data. By looking at the possible options for the research methods, we think that the observation would be one of the optimal ones where we could see player behavior and engagement together. This can be done online through listening participant’s voices or by watching the group and note their body movement, facial expressions and, of course, changes in voice.

5.3.2 Player motivation

The research should validate the player type differences in the results and further test the participant's motivations in video games. This is because these motivations can be derived from Bartle's proposed player types as each motivation can be connected to it. For example, the Killer type would enjoy the competition as well as the Achiever type. The Explorer would probably love the completion and the Socializers the relatedness and purpose. This would also be a good topic to write about as players are motivated by many things when playing video games. These motivations can shape the gameplay and give the players an opportunity to show off their skills to others. Discovering specific motivations for each player type would be an interesting research topic.

Fan-Chen Tseng (2011) divides players by segmenting them into motivation with three categories: 1) the aggressive gamers, 2) the social gamers and 3) the inactive gamers. To him/her, the social attributes are not independent, but combined with other attributes. They indicate the player's intentions, rather than behavior. He also states two factors crucial for the motivational factors, which are the need for exploration and aggression. The need of exploration includes exploring the game content, maps and identities. The aggression factor is all about killing the opponents and winning over other gamers. The aggressive gamers score high on both motivational factors, while the social gamers score high on the exploration factor. The inactive gamers are somewhat in-between. They are scoring low on the exploration factor and just a little bit higher on the aggressive factor.

5.3.3 Achievers and Explores also socialise

Likewise, further research could focus on all player types, not only on Killers and Socializers who are acting and interacting with and on the players, but also on Achievers and Explorers. These two player types also have their social aspects and it would be interesting to see their point of view on the social aspects, primarily because they also sometimes go together with formed groups on their adventures in virtual worlds.

5.3.4 In-depth interview analysis

Future work would also include an in-depth and complex analysis of the questionnaire answers and the interview in which the answers would be compared to find differences and similarities between player types.

The player types might have something in common that connects them in their interests and by looking at those similarities and differences, we could advance the framework or even make additional framework for each player type with their own corresponding traits for each proposed dimension.

The differences and similarities would be divided into their own sections in which they would be thoroughly analyzed and connected to the existing framework.

5.3.5 The shared involvement

The research results showed us that players might be leaning towards different player type, have diverse temperaments or might pursue different goals in games. One thing is certain, they all want to be a part of their guild and have a sense of belonging. This brings us towards *shared involvement* which can be seen as the main involvement category for this dissertation.

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Glossary

Achievement: In-game defined trophy or a badge a player gets after completing certain tasks.

Avatar: Player representation in the game world.

Boss enemy: A computer controlled enemy that must be defeated at the end of a game, dungeon or raid, and that is usually harder to defeat than a common enemy.

Class: A character class is a profession or a job used to describe the role of the character in the game.

Discord: A voice and text chat application for gamers, developed by Discord Inc. 2005.
<https://discordapp.com/>

Endgame: Playing the hardest game content at maximum player level.

Experience points: Unit of measurement given to the player or playable characters when progressing through the game by completing quests, missions or defeating enemies.

Guilds: Organized group of players who play together. Also known as clans.

Level: A section in the game through which the player progresses.

Loot: Items obtained by players over the game course.

Mage: A role-playing game class that is a spellcaster wielding powerful offensive and defensive spells.

Multi User Dungeons: Virtual worlds that include interaction, combat and role-playing between the players and computer generated characters or enemies.

Non playable character: Any character in a game which is not controlled by a player.

Player versus Environment: A type of game in which players fight against computer-controlled enemies, usually containing a narrative.

Player versus Player: A type of game in which players are fighting against other players.

Role-playing: Assuming the role of a character in the game.

Vanity items: Rare items in games that are no longer obtainable or require certain tasks to get them. They are usually present in the game for a small amount of time.

Voice chat: Communication via voice over IP technologies, commonly used in multiplayer games to discuss strategies and talk to other members of the team.

Quest: A task in games that the player (or a group of players) needs to complete to get the reward. It is also known as mission.

Raids: A scenario where a number of players try to defeat harder enemies and bosses which give better rewards.

Rogue: A role-playing game class that uses stealth to sneak through shadows, dispatching unaware enemy.

Specialization: Subtype of a character class that can change playstyle and grant powerful abilities.

Warrior: A role-playing game class whose skills are strength and physical combat while using heavy weaponry and armour.

Appendix I: Questionnaire form

The scale (1-5) in the following tables and figures implies the rating:

1. Completely disagree
2. Partially disagree
3. Do not agree or disagree
4. Partially agree
5. Completely agree

PART I

1. Gender:
 - Male
 - Female
2. Name (you can use your real name or in-game name):

3. Why do you play video games:
 - Relaxation
 - Escapism from reality
 - It's my hobby
 - It improves my sight and reflexes
 - I like the challenge
 - Other: _____
4. How often do you play video games?
 - Daily
 - Weekly
 - Monthly
 - Rarely
 - Other: _____
5. How long do you play games, weekly?
 - Less than 5 hours

- 5-10 hours
- 10-20 hours
- 20-30 hours
- More than 30 hours

PART II

6. I think of myself as a gamer

1 2 3 4 5

7. I consider myself as a:

- Hardcore gamer
- Semi-hardcore gamer
- Casual gamer
- Other: _____

8. What kind of games do you play?

- Action
- Adventure
- Combat
- Educational
- First-person shooter (FPS)
- Horror
- Massively Multiplayer Online (MMO)
- Platform
- Puzzle
- Racing
- Real-time strategy (RTS)
- Role-playing (RPG)
- Shooter
- Simulations
- Sport
- Stealth
- Other: _____

9. You prefer to play:

- Single-player games
- Multiplayer games

Justify:

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10. I like to interfere with the functioning of the game world or the play experience of other players

1 2 3 4 5

11. I like to accumulate status tokens by beating the rules-based challenges of the game world

1 2 3 4 5

12. I like to discover the systems governing the operation of the game world

1 2 3 4 5

13. I like to form relationships with other players by telling stories within the game world

1 2 3 4 5

14. Rank the following:

What is crucial for a good video game?

1 2 3 4 5

- a. Graphics
- b. Audio
- c. Ability to create
own character
- d. Immersion
- e. Competition
- f. Challenging quests
- g. Rewards

15. Out of immersion categories, which is the most important to you?

- Kinesthetic (performing actions)
- Narrative (being invested in the story)
- Spatial (a simulated world that is perceptually convincing)
- Ludic (distinction between player attitudes and actions taken in game)
- Shared (communication, relationship forming and teamwork)
- Affective (player's active input, decisions, escapism to virtual world)

Justify:

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16. Rate the immersion categories to your preferences:

1 2 3 4 5

- a. Kinesthetic (performing actions)
- b. Narrative (being invested in the story)
- c. Spatial (the simulated world is perceptually convincing)
- d. Ludic (distinction between player attitudes and actions taken in game)
- e. Shared (communication, relationship forming and teamwork)
- f. Affective (player's active input, decisions, escapism to virtual world)

17. How important is it to you that your character is as optimized as possible?

- Very important
- Somewhat important
- Not important

Justify:

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18. How often do you use character optimization toolkits?

- Always
- Often
- Seldom
- Never
- I don't know what character optimization toolkits are

19. I like to study and check various guides in order to improve my gameplay

1 2 3 4 5

20. Paying to level up is worth the cost

- Agree - I can start preparing for end-game right away
- Disagree - I prefer to experience the whole content

Justify:

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21. What aspect of video games you like the most?

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22. What's your favorite game? Why?

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PART III

23. Do you consider gaming as a form of socializing when it comes to multiplayer games?

- Yes
- No

Justify:

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24. Do you believe that online gaming transforms/shapes your social life? In which way?

- Yes
- No
- Indifferent

Justify:

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25. Have you ever formed a good friendship with someone you met in an online video-game?

- Yes
- No

26. What social aspects do you personally enjoy when playing MMOs?

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sollicitudin at, tincidunt eget nisi. Nullam ut mauris turpis.

27. With whom do you play online games (or games in general)?

- _____

28. Do you prefer playing games alone or with a group?

- I am a team player
- I prefer going on adventures alone

29. How much do you enjoy group quests or other group related objectives in game?

- A lot
- A little bit
- Not at all

30. How often do you find yourself having meaningful conversations with other players?

- Always
- Often
- Sometimes
- Never

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31. Rank the following social concepts of video games:

1 2 3 4 5

- Social interaction
- Establishing new friendships
- Doing in-game content
with my clan/ guild/ friends
- Meeting new people

Appendix II: Interviewee Bartle test

screenshots

20 participants took the Bartle test. We got 6 Socializers, 5 Killers and Explorers and 4 Achievers. The screenshots below are their results, sorted out by player type. Because the participants wanted to stay anonymous, they will be assessed as Interviewee #.

KILLERS

- Interviewee 1

The Bartle Test of Gamer Psychology

You are 73% Killer

What Bartle says:

♣ Killers get their kicks from imposing themselves on others. This may be "nice", ie. busybody do-gooding, but few people practice such an approach because the rewards (a warm, cosy inner glow, apparently) aren't very substantial. Much more commonly, people attack other players with a view to killing off their personae (hence the name for this style of play). The more massive the distress caused, the greater the killer's joy at having caused it. Normal points-scoring is usually required so as to become powerful enough to begin causing havoc in earnest, and exploration of a kind is necessary to discover new and ingenious ways to kill people. Even socialising is sometimes worthwhile beyond taunting a recent victim, for example in finding out someone's playing habits, or discussing tactics with fellow killers. They're all just means to an end, though; only in the knowledge that a real person, somewhere, is very upset by what you've just done, yet can themselves do nothing about it, is there any true adrenalin-shooting, juicy fun.

You are also:

53% Socialiser

47% Achiever

27% Explorer

- **Interviewee 2**

The Bartle Test of Gamer Psychology

You are 67% Killer

What Bartle says:

♣ Killers get their kicks from imposing themselves on others. This may be "nice", ie. busybody do-gooding, but few people practice such an approach because the rewards (a warm, cosy inner glow, apparently) aren't very substantial. Much more commonly, people attack other players with a view to killing off their personae (hence the name for this style of play). The more massive the distress caused, the greater the killer's joy at having caused it. Normal points-scoring is usually required so as to become powerful enough to begin causing havoc in earnest, and exploration of a kind is necessary to discover new and ingenious ways to kill people. Even socialising is sometimes worthwhile beyond taunting a recent victim, for example in finding out someone's playing habits, or discussing tactics with fellow killers. They're all just means to an end, though; only in the knowledge that a real person, somewhere, is very upset by what you've just done, yet can themselves do nothing about it, is there any true adrenalin-shooting, juicy fun.

You are also:

53% Socialiser

47% Achiever

33% Explorer

- **Interviewee 3**

The Bartle Test of Gamer Psychology

You are 60% Killer

What Bartle says:

♣ Killers get their kicks from imposing themselves on others. This may be "nice", ie. busybody do-gooding, but few people practice such an approach because the rewards (a warm, cosy inner glow, apparently) aren't very substantial. Much more commonly, people attack other players with a view to killing off their personae (hence the name for this style of play). The more massive the distress caused, the greater the killer's joy at having caused it. Normal points-scoring is usually required so as to become powerful enough to begin causing havoc in earnest, and exploration of a kind is necessary to discover new and ingenious ways to kill people. Even socialising is sometimes worthwhile beyond taunting a recent victim, for example in finding out someone's playing habits, or discussing tactics with fellow killers. They're all just means to an end, though; only in the knowledge that a real person, somewhere, is very upset by what you've just done, yet can themselves do nothing about it, is there any true adrenalin-shooting, juicy fun.

You are also:

53% Socialiser

53% Achiever

33% Explorer

- **Interviewee 4**

The Bartle Test of Gamer Psychology

You are 67% Killer

What Bartle says:

♣ Killers get their kicks from imposing themselves on others. This may be "nice", ie. busybody do-gooding, but few people practice such an approach because the rewards (a warm, cosy inner glow, apparently) aren't very substantial. Much more commonly, people attack other players with a view to killing off their personae (hence the name for this style of play). The more massive the distress caused, the greater the killer's joy at having caused it. Normal points-scoring is usually required so as to become powerful enough to begin causing havoc in earnest, and exploration of a kind is necessary to discover new and ingenious ways to kill people. Even socialising is sometimes worthwhile beyond taunting a recent victim, for example in finding out someone's playing habits, or discussing tactics with fellow killers. They're all just means to an end, though; only in the knowledge that a real person, somewhere, is very upset by what you've just done, yet can themselves do nothing about it, is there any true adrenalin-shooting, juicy fun.

You are also:

60% Explorer

53% Achiever

20% Socialiser

- **Interviewee 5**

The Bartle Test of Gamer Psychology

You are 80% Killer

What Bartle says:

♣ Killers get their kicks from imposing themselves on others. This may be "nice", ie. busybody do-gooding, but few people practice such an approach because the rewards (a warm, cosy inner glow, apparently) aren't very substantial. Much more commonly, people attack other players with a view to killing off their personae (hence the name for this style of play). The more massive the distress caused, the greater the killer's joy at having caused it. Normal points-scoring is usually required so as to become powerful enough to begin causing havoc in earnest, and exploration of a kind is necessary to discover new and ingenious ways to kill people. Even socialising is sometimes worthwhile beyond taunting a recent victim, for example in finding out someone's playing habits, or discussing tactics with fellow killers. They're all just means to an end, though; only in the knowledge that a real person, somewhere, is very upset by what you've just done, yet can themselves do nothing about it, is there any true adrenalin-shooting, juicy fun.

You are also:

53% Achiever

47% Explorer

20% Socialiser

SOCIALIZERS

- **Interviewee 1**

The Bartle Test of Gamer Psychology

You are 80% Socialiser

What Bartle says:

♥ Socialisers are interested in people, and what they have to say. The game is merely a backdrop, a common ground where things happen to players. Inter-player relationships are important: empathising with people, sympathising, joking, entertaining, listening; even merely observing people play can be rewarding - seeing them grow as individuals, maturing over time. Some exploration may be necessary so as to understand what everyone else is talking about, and points-scoring could be required to gain access to neat communicative spells available only to higher levels (as well as to obtain a certain status in the community). Killing, however, is something only ever to be excused if it's a futile, impulsive act of revenge, perpetrated upon someone who has caused intolerable pain to a dear friend. The only ultimately fulfilling thing is not how to rise levels or kill hapless drips; it's getting to know people, to understand them, and to form beautiful, lasting relationships.

You are also:

47% Explorer

47% Achiever

27% Killer

- **Interviewee 2**

The Bartle Test of Gamer Psychology

You are 80% Socialiser

What Bartle says:

♥ Socialisers are interested in people, and what they have to say. The game is merely a backdrop, a common ground where things happen to players. Inter-player relationships are important: empathising with people, sympathising, joking, entertaining, listening; even merely observing people play can be rewarding - seeing them grow as individuals, maturing over time. Some exploration may be necessary so as to understand what everyone else is talking about, and points-scoring could be required to gain access to neat communicative spells available only to higher levels (as well as to obtain a certain status in the community). Killing, however, is something only ever to be excused if it's a futile, impulsive act of revenge, perpetrated upon someone who has caused intolerable pain to a dear friend. The only ultimately fulfilling thing is not how to rise levels or kill hapless drips; it's getting to know people, to understand them, and to form beautiful, lasting relationships.

You are also:

40% Explorer

40% Achiever

40% Killer

- **Interviewee 3**

The Bartle Test of Gamer Psychology

You are 73% Socialiser

What Bartle says:

♥ Socialisers are interested in people, and what they have to say. The game is merely a backdrop, a common ground where things happen to players. Inter-player relationships are important: empathising with people, sympathising, joking, entertaining, listening; even merely observing people play can be rewarding - seeing them grow as individuals, maturing over time. Some exploration may be necessary so as to understand what everyone else is talking about, and points-scoring could be required to gain access to neat communicative spells available only to higher levels (as well as to obtain a certain status in the community). Killing, however, is something only ever to be excused if it's a futile, impulsive act of revenge, perpetrated upon someone who has caused intolerable pain to a dear friend. The only ultimately fulfilling thing is not how to rise levels or kill hapless drips; it's getting to know people, to understand them, and to form beautiful, lasting relationships.

You are also:

60% Explorer

40% Achiever

27% Killer

- **Interviewee 4**

The Bartle Test of Gamer Psychology

You are 80% Socialiser

What Bartle says:

♥ Socialisers are interested in people, and what they have to say. The game is merely a backdrop, a common ground where things happen to players. Inter-player relationships are important: empathising with people, sympathising, joking, entertaining, listening; even merely observing people play can be rewarding - seeing them grow as individuals, maturing over time. Some exploration may be necessary so as to understand what everyone else is talking about, and points-scoring could be required to gain access to neat communicative spells available only to higher levels (as well as to obtain a certain status in the community). Killing, however, is something only ever to be excused if it's a futile, impulsive act of revenge, perpetrated upon someone who has caused intolerable pain to a dear friend. The only ultimately fulfilling thing is not how to rise levels or kill hapless drips; it's getting to know people, to understand them, and to form beautiful, lasting relationships.

You are also:

53% Explorer

40% Killer

27% Achiever

- **Interviewee 5**

The Bartle Test of Gamer Psychology

You are 53% Socialiser

What Bartle says:

♥ Socialisers are interested in people, and what they have to say. The game is merely a backdrop, a common ground where things happen to players. Inter-player relationships are important: empathising with people, sympathising, joking, entertaining, listening; even merely observing people play can be rewarding - seeing them grow as individuals, maturing over time. Some exploration may be necessary so as to understand what everyone else is talking about, and points-scoring could be required to gain access to neat communicative spells available only to higher levels (as well as to obtain a certain status in the community). Killing, however, is something only ever to be excused if it's a futile, impulsive act of revenge, perpetrated upon someone who has caused intolerable pain to a dear friend. The only ultimately fulfilling thing is not how to rise levels or kill hapless drips; it's getting to know people, to understand them, and to form beautiful, lasting relationships.

You are also:

53% Achiever

47% Explorer

47% Killer

- **Interviewee 6**

The Bartle Test of Gamer Psychology

You are 100% Socialiser

What Bartle says:

♥ Socialisers are interested in people, and what they have to say. The game is merely a backdrop, a common ground where things happen to players. Inter-player relationships are important: empathising with people, sympathising, joking, entertaining, listening; even merely observing people play can be rewarding - seeing them grow as individuals, maturing over time. Some exploration may be necessary so as to understand what everyone else is talking about, and points-scoring could be required to gain access to neat communicative spells available only to higher levels (as well as to obtain a certain status in the community). Killing, however, is something only ever to be excused if it's a futile, impulsive act of revenge, perpetrated upon someone who has caused intolerable pain to a dear friend. The only ultimately fulfilling thing is not how to rise levels or kill hapless drips; it's getting to know people, to understand them, and to form beautiful, lasting relationships.

You are also:

53% Explorer

33% Achiever

13% Killer

ACHIEVERS

- **Interviewee 1**

The Bartle Test of Gamer Psychology

You are 93% Achiever

What Bartle says:

♦ Achievers regard points-gathering and rising in levels as their main goal, and all is ultimately subservient to this. Exploration is necessary only to find new sources of treasure, or improved ways of wringing points from it. Socialising is a relaxing method of discovering what other players know about the business of accumulating points, that their knowledge can be applied to the task of gaining riches. Killing is only necessary to eliminate rivals or people who get in the way, or to gain vast amounts of points (if points are awarded for killing other players).

You are also:

67% Killer

27% Explorer

13% Socialiser

- **Interviewee 2**

The Bartle Test of Gamer Psychology

You are 60% Achiever

What Bartle says:

♦ Achievers regard points-gathering and rising in levels as their main goal, and all is ultimately subservient to this. Exploration is necessary only to find new sources of treasure, or improved ways of wringing points from it. Socialising is a relaxing method of discovering what other players know about the business of accumulating points, that their knowledge can be applied to the task of gaining riches. Killing is only necessary to eliminate rivals or people who get in the way, or to gain vast amounts of points (if points are awarded for killing other players).

You are also:

53% Explorer

53% Killer

33% Socialiser

- **Interviewee 3**

The Bartle Test of Gamer Psychology

You are 80% Achiever

What Bartle says:

♦ Achievers regard points-gathering and rising in levels as their main goal, and all is ultimately subservient to this. Exploration is necessary only to find new sources of treasure, or improved ways of wringing points from it. Socialising is a relaxing method of discovering what other players know about the business of accumulating points, that their knowledge can be applied to the task of gaining riches. Killing is only necessary to eliminate rivals or people who get in the way, or to gain vast amounts of points (if points are awarded for killing other players).

You are also:

80% Killer

33% Explorer

7% Socialiser

- **Interviewee 4**

The Bartle Test of Gamer Psychology

You are 67% Achiever

What Bartle says:

♦ Achievers regard points-gathering and rising in levels as their main goal, and all is ultimately subservient to this. Exploration is necessary only to find new sources of treasure, or improved ways of wringing points from it. Socialising is a relaxing method of discovering what other players know about the business of accumulating points, that their knowledge can be applied to the task of gaining riches. Killing is only necessary to eliminate rivals or people who get in the way, or to gain vast amounts of points (if points are awarded for killing other players).

You are also:

67% Killer

47% Explorer

20% Socialiser

EXPLORERS

- **Interviewee 1**

The Bartle Test of Gamer Psychology

You are 53% Explorer

What Bartle says:

♦ Explorers delight in having the game expose its internal machinations to them. They try progressively esoteric actions in wild, out-of-the-way places, looking for interesting features (ie. bugs) and figuring out how things work. Scoring points may be necessary to enter some next phase of exploration, but it's tedious, and anyone with half a brain can do it. Killing is quicker, and might be a constructive exercise in its own right, but it causes too much hassle in the long run if the deceased return to seek retribution. Socialising can be informative as a source of new ideas to try out, but most of what people say is irrelevant or old hat. The real fun comes only from discovery, and making the most complete set of maps in existence.

You are also:

53% Killer

47% Achiever

47% Socialiser

- **Interviewee 2**

The Bartle Test of Gamer Psychology

You are 60% Explorer

What Bartle says:

♣ Explorers delight in having the game expose its internal machinations to them. They try progressively esoteric actions in wild, out-of-the-way places, looking for interesting features (ie. bugs) and figuring out how things work. Scoring points may be necessary to enter some next phase of exploration, but it's tedious, and anyone with half a brain can do it. Killing is quicker, and might be a constructive exercise in its own right, but it causes too much hassle in the long run if the deceased return to seek retribution. Socialising can be informative as a source of new ideas to try out, but most of what people say is irrelevant or old hat. The real fun comes only from discovery, and making the most complete set of maps in existence.

You are also:

60% Socialiser

47% Achiever

33% Killer

- **Interviewee 3**

The Bartle Test of Gamer Psychology

You are 53% Explorer

What Bartle says:

♣ Explorers delight in having the game expose its internal machinations to them. They try progressively esoteric actions in wild, out-of-the-way places, looking for interesting features (ie. bugs) and figuring out how things work. Scoring points may be necessary to enter some next phase of exploration, but it's tedious, and anyone with half a brain can do it. Killing is quicker, and might be a constructive exercise in its own right, but it causes too much hassle in the long run if the deceased return to seek retribution. Socialising can be informative as a source of new ideas to try out, but most of what people say is irrelevant or old hat. The real fun comes only from discovery, and making the most complete set of maps in existence.

You are also:

53% Achiever

53% Socialiser

40% Killer

- **Interviewee 4**

The Bartle Test of Gamer Psychology

You are 53% Explorer

What Bartle says:

♣ Explorers delight in having the game expose its internal machinations to them. They try progressively esoteric actions in wild, out-of-the-way places, looking for interesting features (ie. bugs) and figuring out how things work. Scoring points may be necessary to enter some next phase of exploration, but it's tedious, and anyone with half a brain can do it. Killing is quicker, and might be a constructive exercise in its own right, but it causes too much hassle in the long run if the deceased return to seek retribution. Socialising can be informative as a source of new ideas to try out, but most of what people say is irrelevant or old hat. The real fun comes only from discovery, and making the most complete set of maps in existence.

You are also:

53% Socialiser

47% Achiever

47% Killer

- **Interviewee 5**

The Bartle Test of Gamer Psychology

You are 67% Explorer

What Bartle says:

♣ Explorers delight in having the game expose its internal machinations to them. They try progressively esoteric actions in wild, out-of-the-way places, looking for interesting features (ie. bugs) and figuring out how things work. Scoring points may be necessary to enter some next phase of exploration, but it's tedious, and anyone with half a brain can do it. Killing is quicker, and might be a constructive exercise in its own right, but it causes too much hassle in the long run if the deceased return to seek retribution. Socialising can be informative as a source of new ideas to try out, but most of what people say is irrelevant or old hat. The real fun comes only from discovery, and making the most complete set of maps in existence.

You are also:

47% Achiever

47% Socialiser

40% Killer