STUDYING GAMIFICATION AS A TOOL FOR COLLECTING DATA

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ABSTRACT
It is already knowledge that games themselves are good at motivating their players, usually by focusing on three main cores, time, rewards, and pleasure. The core of gamification is the user, in the case of gamification, being treated like a player, therefore any system that the player interacts with, how to motivate they are consequently driving the result of said system. This research aimed to analyze the application of the concept of avatar gamification in a digital platform. For this, analyzes of the profile of different users of this platform were carried out to find out if it was possible to identify the psychological profile of everyone according to the concepts of Bartles (1996). The result found indicates that, although the platform allows customization and priority level of what the user can demonstrate on their profile page, the available elements made it possible to identify trends for only three player profiles on the platform.

KEYWORDS
Design, Avatar, Game, Gamification.

1. INTRODUCTION
It is already knowledge that games themselves are good at motivating their players, usually by focusing on three main cores, time, rewards, and pleasure. The core of gamification is the user, in the case of gamification, being treated like a player, therefore any system that the player interacts with, how to motivate they are consequently driving the result of said system. Therefore, the more the designer understands its audience, who are playing their product, both at the current time and prospective, the easier will be to design features that will drive their behavior towards the game’s goal (Zichermann & Cunningham, 2011).

Nannan Xi and Juho Hamari (2019) wrote an article about the relationship between gamification, brand engagement, and brand equity, where they asked 824 users from the Xiaomi and Huaweii communities about different gamification tools, they interacted within each of them. One of the issues concluded by the researchers was the fact that they could not generalize their results to another community or on a broader scale due to their methodology, their gamification elements were first grouped and then analyzed, instead of being identified and analyzed individually so they could generalize the results afterward.

This article proposes to take a few steps back regarding Nannan Xi and Juho Hamari’s (2019) article to have results that can be generalized to a different culture or community of people. The article takes the element of gamification, groups them, separates them into different categories, and then collects information about how the users interact with these elements. Our goal is to use one single gamification element, in this case, we chose the ‘avatar’ element, to collect data and information about the platform’s users to create personas and then base those personas in game’s psychology profiles to figure out which gamification-type of tool the developers should focus on according to their target audience. The idea is that studying first a gamification element ‘avatar’ that can collect real data about the target audience can lead to proper categorization of the remaining gamification elements based on gamer’s psychology, which therefore allows better generalization of results.
2. PROCEDURES

The procedure adopted for this research is the case study aims, according to Gil (2002), to carry out an in-depth study of one or a few objects in a way that allows broad and detailed knowledge of the object of study. Complementing Gil, Dresch, et al. (2015) state that it is a research method used to investigate a problem within a context in which they occur, through comparison of data collected by the research, which seek to identify theoretical categories that can serve to generate new theories, therefore, the case study aims to describe a phenomenon, test theory, and create theory.

According to Gil (2002), of the purposes mentioned for the use of this research method, the ones that best fit the present investigation are (i) to describe the situation of the context in which a particular investigation is being carried out and (ii) to explain the causal variables of a given phenomenon in very complex situations that do not allow the use of surveys and experiments.

Complementary to Gil (2002), to reach the objectives of research on a case study, according to Dresch, et al (2015), the research must go through some steps: (i) define the conceptual structure, where it seeks to consult the existing literature related to the research topic and describe propositions & demarcate research boundaries, (ii) plan the cases, in this step it will be selected which objects of study will be used as an example to carry out the in-depth study, defining itself which and how they will be analyzed, (iii) collect data from the defined object of study, record what was found when in contact with the object of study, (iv) data analysis, prepare an analysis from the collected data, seeking to group them according to their similarities and identify causal relationships, (v) generate a report, demonstrate the theoretical implications of the study.

Following this methodology, this research, therefore, proposes to analyze the 'avatar' gamification element in different profiles of a platform to understand this phenomenon for the future exploration of this concept as a tool for collecting data from platform users. First, then (i) a theoretical survey will be carried out on the concepts of game design, gamification, and avatars (ii) followed by the selection of the object of study, in this case, the use of the gamification concept on avatars within the Steam sales platform by through the search for user profiles that fit within the concepts established in the first step. Define (iii) the different public profiles of platform users to analyze the content and later (iv) cross-reference information present in the profiles with the concepts raised in the theoretical foundation. Finally (v), generate a discussion about the implications of the research according to the results found.

3. GAME DESIGN & GAMIFICATION

Throughout history, games have gained different functions and practices, according to McGonigal (2011), games can be defined according to common characteristics present in the structure of their experiences, being composed of goals, rules, feedback system, and voluntary participation. The goal is related to the player's purpose when participating in the game, according to the expected result of the developed activities (McGonigal, 2011). Being able to portray, at the end of the game, according to the completeness of these activities or one of its sections, contemplating the completion of a task that guides the player (Vianna et al., 2013). Subsequently, the rules ground the space of possibilities to complete the goals, stimulating creative and strategic perception (McGonigal, 2011). Its function is to balance the possibilities of the game, to predict behavior according to the players' actions (Vianna et al., 2013).

The feedback system helps in the motivation process corresponding to the player's progression, as a metric of the established goal (McGonigal, 2011). In addition to providing a performance return to user interactions with activities, related to their actions (Vianna et al., 2013). Voluntary participation is consistent with the player's consent to the structure of the game, its optional and intentional presence per the characteristics of the challenge (McGonigal, 2012). It complements the consensus between the system and the user, and its disposition to the proposed conditions (Vianna et al., 2013).

Due to the digital industry, gamification was spread in the second half of 2010 (Deterding, 2011), from a TED conference by Jane McGonigal, an American designer on the subject (Vianna et al., 2013). For McGonigal (2011) the motivational retribution found in games results in positive emotions, showing its applicability in experience planning, considering the perspective of game developers in solving problems. Burke (2015) explains that, although gamification shares characteristics with video games and reward programs, according to the user's voluntary involvement in systems that feature interactive mechanics, it differs
in its primary motivator. According to the author, the purpose of games is exclusively for entertainment, in which the experience planning is consistent with the player's immersion. Reward programs have the purpose of creating value for the consumer in transactions and rewarding them with tangible gratifications on an already established performance. Otherwise, the purpose of gamification is aimed at engaging at an emotional level, with the perception of value over actions through the user's process, according to solutions that re-signify the meaning present in their behavior. This motivation is the result of intrinsic and extrinsic rewards, in which the participation and autonomous actions of the user, added to constant feedback, result in the achievement of significant goals (Burke, 2015). Its definition can be analyzed in contrast to other concepts, according to Deterding et. al. (2013) in Figure 1, differing from toys and playful design on the horizontal axis. Considering play as a playful and spontaneous activity (Vianna, et. al., 2013).

In this context, games are distinguished from forms of entertainment by the consistency of their characteristics, limiting the game space with rules and objectives (Gray; Brown; Macanufo, 2010). In the same way, gamification uses game elements but differs in the totality of elements used (Alves, 2015). Considering the resources found in games to build gamified experiences, Werbach and Hunter (2012) present the components in the way the game is played, according to dynamics, mechanics, and components. The existing modules in the user experience reside in their dynamics, corresponding to patterns based on actions responsible for the direction and structure of the system. Activity states, on the other hand, are classified by their mechanics, in-game practices, and behaviors, composing the use and foundation of their components. As a foundation, we have its components according to analogies that give function to the game system (Alves, 2015).

Dynamics are abstract concepts present in the experience system, which help in the development of activities. According to the authors, the main dynamics are (i) Constraints: Stimulate strategic thinking by limiting the possibilities of completing an objective; (ii) Emotions: Motivate the player by completing the proposed objectives according to an information feedback system; (iii) Storytelling: Explain the circumstances of the game in its context to engage the player; (iv) Progression: Rewarding the player's advancements in proportion to the recognition of their activities and; (v) Relationship: Interacting socially within the game environment.

To give action to the dynamics, mechanics are explored, defining the possibilities of interactions, according to procedures that govern a game. (Vianna et.al., 2013). Unlike the rules found in the structure of a game with access to players, the mechanics of a game are interconnected to their experience, according to the descriptive mechanisms that influence the game's outcome. (Adams; Dormans, 2012). Considering that the players are the protagonists of the game (Vianna et.al., 2013) and that the design of experiences is focused on the user, Alves (2015) highlights the existence of different variations of players, having types of learning and temperaments distinct.

Bartle (1996) describes that these distinct behaviors can be classified according to the way people interact with the game. Composed of four abstract terms evidenced in the player's motivation process, referenced as socializers, explorers, achievers, and killers (Figure 2).
Each quadrant categorizes the extreme of interest in the players' motivations, the horizontal axis divides the player's preference between interacting with other players or exploring the game universe, while the vertical axis defines the player's choice to interact with the game system or act about him (Bartle, 1996). Achievers are the type of players interested in acting in the game world, are driven by the game's objectives, like to accumulate points, levels, and rewards that make you stand out from other players. On the other hand, explorers are motivated by interaction with the game, they seek to know all the information about the game system and for them, this discovery is the reward. When the interest is turned to interaction with other players, we have socializers, emphasizing collaboration between users and seeking the social aspect of a game. Finally, assassins categorize players with a competitive spirit, have a desire to become skilled among their peers, and crave a reputation for their abilities.

4. PERSONAS & AVATARS

It is possible to interpret the typologies proposed by Bartle (1996) as positioning strategies and exploration of optional niches. Considering that its polarization is objective the characteristics of each quadrant, we can relate each of these as extremes of personalities and consequent opportunities for investigation, aimed at developing research that has part of their user process in a gamified system or games. Present in another field of knowledge, aimed at explicit assumptions about their actions. Personas assist in the empathetic decision-making process by creating a user-oriented focus of engagement (Adlin, Pruitt, 2010).

Personas are simulated representations of characters to represent a user or group of peers comprehensively, are used in research and development of projects aimed at people, aiming at the comprehensive interpretation of data, and are related to the study of similar social behaviors. It is a tool that makes use of qualitative and quantitative data to better understand the customer of a brand, product, or service, and predict their actions in controlled environments. (Herskovitz, Crystal, 2010; Cooper, et.al., 2007). Its use is not limited only to user creation and development processes for specific products, but also to any system that can include the user as part of its process, visible in its participation as a creative tool in different development methods. To create a persona, a process of documenting common characteristics, conceived through information, is necessary.

According to Nielsen et.al (2015), based on a market analysis regarding the persona development processes of different organizations, the characteristics necessary to compose a persona involve demographic factors, personality types, lifestyles, day-to-day life. day of the individual, performance scenarios, simulated situations, and especially the relationship between the user and the brand, in the connection of the experience with its products and services, among more information, with the general objective of empathically understanding the needs of the consumer. On the other hand, in the literal representation of the user in digital systems, we find avatars, as to dimensions of data that, combined with the identification of typologies of players, offer relevant data for the construction of a persona of a gamified system, presented in the next section.

Avatars are manifestations of a user of the digital environment, applied as a graphic or pictorial representation of two-dimensional and three-dimensional universes. They act as a mechanical extension representing a personal profile and aim to simulate an identity providing a customized experience. (Alves, 2015). This involvement and immersion in the digital environment are based on the principle of new forms of entertainment along with sensory exposure and the user's procedural authority, which enable significant opportunities for narrative entertainment (Murray, 2003). According to Castranova (2003), avatars come from
the expansion of digital environments and the need to present their users through interfaces, due to their natural evolution, have expanded to video games and other systems and interfaces we use. They can be represented by choices that simulate characteristics of a profile in the system, carrying meanings associated with the symbols. As a form of simple visual identification shown in the example in Figure 3, when registering a new user in the Windows XP operating system, the user is suggested to associate a pictorial image and a set of characters to represent their environment in the system.

Figure 3. Avatar

In addition, Teichrieb (1999) presents two representation possibilities for avatars: (I) a graphical user representative, as in the previous example, and (ii) a representative capable of developing additional functions, acting as intelligent agents governed by rules of interactions. According to the author, when used as information agents, the premises of the development of (a) actions based on simple rules, with the capture of sensors, (b) reactive to external actions, concerned with the state of the environment, are governed by (a) cognitive systems, storing the state of the environment and assimilating its characteristics with the environment and (d) optimizers performing activities combined with the current situation of the environment. According to Muray (2003), the proportionality of digital immersion is associated with a good resolution of the environment in which the user is inserted. In this way, avatars represent a positive alternative to the degree of involvement of virtual systems (Teichrieb, 1999) Therefore, it is essential to understand how the interaction with avatars can impact the user experience and the beginning of this ideation how can we understand the impact that personalization.

5. DISCUSSION

Following the established procedures, after a theoretical survey on the topics of game design, gamification, avatars & personas, we sought to establish how to identify in each Steam platform user profile, possible indicators following the hypothetical-deductive logic for profile identification of each user within the quadrant proposed by Bartles (1996). For this, the profile of different users was analyzed to identify whether it was possible to establish a psychological profile to the profile, if so, where the user fits within the concept of Bartles (1996), and if not, what information was lacking to reach a conclusion regarding this user. The first profile analyzed will be used to find out which elements are present on the profile page and which of these elements are fixed or changeable according to the user's desire.

These identifiers will help in the analysis of each of the profiles, consequently, the choice of identifiers that are adjustable can better reflect its psychological profile. About the user himself, he has the option to modify his name, profile picture, and a brief description of himself. In addition, the user can customize their profile page, being able to change the background image, theme, which insignia are highlighted, which are their favorite groups, they can also change privacy options, such as public profile or not. The part of personal highlights is more flexible for the user to highlight what is of most interest to him, where depending on the item he chooses to highlight, it may be a better indicator on establishing what kind of psychological profile he fits within the concept of Bartles (1996).

For privacy reasons, all information that could expose the identity of a user of any of the profiles analyzed here will be suppressed, and only public Steam profiles will be used. For this article, 50 different profiles were analyzed to seek information that allows the identification of their archetype of player. Within these profiles, 20% presented insufficient information for a complete analysis, among the remaining 80% we picked three users to be discussed below which had highlighted indicators that enable their identification in one of Bartles’ archetypes (1996), the rest present information that indicates characteristics of different archetypes, but not the possibility to highlight one.
User 01, represented by figure 4, chose as a brief description of himself to redirect the viewer to two different websites, the first called SteamLadder, used to identify the rank of the Steam user profile within the ecosystem, and the second called SteamRep, which evaluates the user's reputation within the same ecosystem, both sites indicate that the player has characteristics of an achiever, as he wants to show his achievements through his reputation & ranking.

On their profile page, the user chose to demonstrate as the main highlight elements such as the number of achievements and the percentage of avg game completion rate of 91%, suggesting that on average the player completes 91% of the available achievements, not only does he seek to be a completionist, as he also likes to expose his achievement collection to other users, the rest of his profile is aimed at demonstrating his achievements in different ways. As the player chooses mostly to expose highlighted elements of their achievements, such as rank level or percentage of achievement of goals, the player fits the profile of Achiever proposed by Bartle (1996) without presenting other elements that could indicate another psychological profile.

User 02, represented by figure 5, did not describe in his profile information any element that would indicate his psychological type, however, in his profile, he chose as an image, one that symbolizes action, in addition, the player mostly presents games of player-versus-player profiles, in addition, the profile has a much lower rate of goal achievement within games. Therefore, the lack of exposure of specific elements demonstrates that he does not have an achiever tendency, but the high preference and recorded time in games like Counter-Strike: Global Offensive (almost two thousand hours of game), a popular shooting game First-person video that pits the player against another player, and other similar games like PUBG: Battlegrounds (837 hours of gameplay), demonstrate an inclination to be a killer type player, who is more interested in games where he can enter in conflict with others.

Figure 4. Achiever profile

Figure 5. Killer profile
User 03, represented by figure 6, placed personal information such as his or her tastes as a description in his profile, the idea of being open to new interactions with other users, such as exchanging items. The user follows this information by highlighting in their profile a long list describing their tastes such as major games, television shows, movies, music, artists, food, and drink, as well as prerequisites for accepting new friend requests. In addition to the focus on providing personal information for new relationships with other platform users, the player is present, at the time of this research, in 57 different user groups on the Steam platform, more than the 15 groups that user 02 is in, but less than the 210 that user 01 is, in addition, the player currently has around 295 friends added to the platform, compared to user 01 keeps this information private and user 02 has 147 added. The player also demonstrates an aptitude for the player versus player games, having as a favorite game, Counter-Strike: Global Offensive, which gives him the connotation of being a killer type of player.

Figure 6. Socializer profile

Overall, although the profile has elements of a killer-type player, because it places a strong emphasis on social issues, as a prerequisite for adding user 03 to your friend's list, it indicates that the user is more concerned about socializing with users who have the same or similar profile, so he is likely to be categorized as a socializer’s profile user. In these three users chosen for analysis, it was possible to see that there are clear indicators and preferences of each one of the users that enable the inclination of their psychological profile within the concepts established by Bartles (1996). User 01, despite having some elements that can be categorized as socializers, such as the high number of group participation, his number of friends was private, and the rest of the information in his profile showed a tendency to prioritize his achievements inside the steam platform. User 02 also follows the same logic, he has some characteristics of an achiever’s profile, but he prioritizes information about games in preference to the player against player, which indicates a killer-type player profile. On the other hand, user 03, like user 02, in the sense that he has a taste for player versus player games, but in his profile, he is more concerned with demonstrating his personality, and citing prerequisites for other players who want to interact with him on the platform.

What these three mentioned users have in common, along with the availability of the information available on the Steam platform for player customization, is the fact that it is difficult to define how prone the user is to the explorer profile, as few indicators allow the player exposes his preference for exploration over the other three profiles, possibly the best indicator is hours played in games that allow the player to explore in an open universe, but this type of example is not easily replicated on any gamified platform that wants to identify if your user profile is of the explorer type.

6. CONCLUSION

This research goal was to analyze the application of the concept of avatar gamification in a digital platform. For this, analyzes of the profile of different users of this platform were carried out to find out if it was possible
to identify the psychological profile of everyone according to the concepts of Bartles (1996). The result found indicates that, although the platform allows customization and priority level of what the user can demonstrate on their profile page, the available elements made it possible to identify trends for only three player profiles on the platform.

For a future gamified system that uses the concept of the avatar to collect data on the psychological profile of each user, to identify how to proceed with the development of the platform according to the target audience, it is necessary to establish options for the user who identify them clearly and less subjectively what his preferences are. Because with only information found in the Steam user profile, it is possible to find an inclination to a type of archetype, but it is not possible to say with 100% certainty. In the ideal situation, the gamified system should allow the designer or project manager to draw conclusions with a higher level of confidence.

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