Peak-end rule in narrative videogames: analysis of players' perceptions on social media about "The Last of Us Part II" and "God of War"

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ABSTRACT

The peak-end rule is a psychological heuristic that describes how people remember experiences based on the most extreme or peak moment, and on the final moment. This experience tends to influence people in how they judge the overall quality of something, particularly in video games. The most intense and/or exciting moment of the game, and its conclusion, are the important factors in determining the player's willingness to continue playing, the memorization, and the dissemination. Through an exploratory analysis of the perceptions of players on social networks, regarding the video games "The Last of Us Part II" and "God of War", it was found that it is essential that the games have a peak and an ending to produce the positive effect and, consequently, be recognized by the gaming community, making these games as the most representative, remarkable and finished.

CCS CONCEPTS

• **Software and its engineering** → Software organization and properties; Contextual software domains; Virtual worlds software; Interactive games; • **Human-centered computing** → Interaction design; Interaction design process and methods; User centered design.

KEYWORDS

Peak-end Rule, Player experience, Video games, Games ending, Social media

1 INTRODUCTION

People often make decisions based on their previous experience, remembering the feelings they had at the time, such as pleasure,

disgust, fear, or surprise [1]. Human memory is biologically limited and imperfect, as the limits of memory affect the ability to process information when it is stored for long periods of time [2]. Fredrickson and Kahneman (1993) identified the peak-end rule as a psychological tool that try to understand what leads to a positive or negative retrospective memory, based on the most intense and final periods [3], so "the peak–end rule focuses our memories around the most intense moments of an experience and the way an experience ends" [4]. This heuristic is characterized by the most extreme and final set of impressions as a mediator for global evaluations of experiences [5]. According to Gigerenzer and Tood (1999) the peak-end rule can serve for comparisons of experiences, in addition it saves the cognitive cost of recalling them [1].

Despite the scarcity of studies regarding the peak-end rule in the context of video games, it is possible to verify that the players' affective retrospective memory is a determining factor in game retention [3]. This area in particular proves to be an interesting means for peak-end rule effects since the quality of the experience (difficulty, balance, game time, etc.) can have a direct influence on the player's perspective and evaluation [6]. In this way, games can generate momentary experiences that are stronger than others, allowing experimentation with the sensitivity of peak-end rule effects [6]. It is important to note that for the peak-end rule experience to happen, it is necessary to reach the end of the game. In this way, the ending is considered one of the most important moments because it creates meaning to the story [7] and to the experience that the player went through. This paper presents a brief exploratory and preliminary analysis of the peak and final narrative moment of the games "The Last of Us Part II" and "God of War", using the opinions and comments of the player community on social media. It is important to note that each person understands his or her experience of the game in a unique way, so the response to it is also individual [14]. So the end of the game can be understood as the end of the narrative or as the moment when the player manages to complete and collect everything. The present study focuses on the ending of the game narrative as the moment of peak-end rule analysis.

2 METHODOLOGY

This study aims to find out the perceptions of players at the peak and end of the games "The Last of Us Part II" (2020) and "God of War" (2018), which are the narrative games most appreciated by players [8, 9]. To this end, an exploratory analysis was made of the social networks in which the gaming community disseminates

opinions and criticisms. In fact, game developers recognize the significance of online communities for the effective engagement of both single-player and multiplayer games 10. In this way, the social networks used were Twitter, Facebook, and Reddit, as well as websites with gaming content where it is possible to discuss and express opinions (Gamesradar+[1], Gamers Decide[2], Watchmojo[3], NPR[4], Student Edge[5] and Entershanement Reviews[6]). Reddit was used, namely in the groups "The Last of Us" and "God of War", because it is visible the constant sharing of opinions about video games. This platform has become popular in the gaming context as it allows fans to easily find like-minded communities and participate in asynchronous discussions about shared interests, as well as reinforce moments of nostalgia among users 11.

2.1 The Last of Us Part II (2020)

Released on June 19, 2020 for the Playstation 4, "The Last of Us Part II" is the continuation of the story of "The Last of Us" game that had already been released in 2013. This second part was given as the most finished narrative game in its year of release 12. Part II takes place five years after the journey across the post-pandemic United States in which Ellie and Joel live in a community of survivors. However, a violent event interrupts the peace they sought, and Ellie embarks on a journey to seek justice. Throughout the game, the character is confronted with the physical and emotional consequences of her choices 13.

2.1.1 The peak and the end. It turned out that one of the most commented moments by the gamer community, refers to the moment when Ellie sings to Dina "Take On Me". For some it was one of the best moments, 15–17 for others a tragedy 18, 19. However, from the many comments found on social networks such as Twitter and forums, this moment provided an emotional impact on the player in such a way that makes him need to disseminate it and, indirectly, preserve it by the publications and comments that are being created (Figure 1). For this reason, the referred moment is considered as the peak moment of the game in the present study.

Regarding the end of the game, the satisfaction of the players is visible 20, 21. The emotional experience had a tremendous impact, perceptible through players' comments (Figure 2).

The emotional charge associated with the end of the game also promotes a moment of reflection for some of the players: "I think 'The Last of Us Part II' has changed me a bit as a person. It made me very aware of the little things in my life that I take for granted, the kinds of things you do not appreciate until they are ripped away forever. It's easy to get lost in the darkness of the world, but it's necessary to look at the things that bring you light" 22. After 2 years since the game's release, the community regarding the game's ending is still raising questions: "Are you happy with the ending of part 2?" 23, being noticeable quite complete and reasoned opinions from players who possibly finished the game in 2020.

Figure 1: Comments about the "Take On Me" moment from "The Last of Us Part II", on Twitter
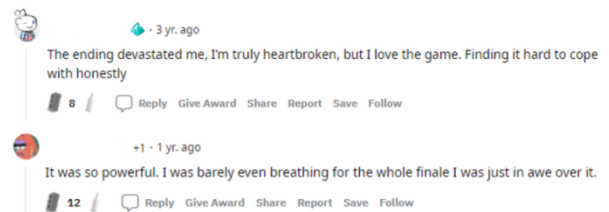

Figure 2: Comments taken from the Reddit forum regarding the ending of the game "The Last of Us Part II"

2.2 God of War (2018)

"God of War" concerns the journey taken by Kratos and his son (Atreus), in which Kratos is forced to learn to control the anger that defines him while exploring a dangerous world with Atreus. It is in this world that Kratos struggles to survive and more than that, teach his son to do the same 24. Released in 2018 for Playstation and PC, "God of War" won awards including for best narrative and best game at the British Academy Film Awards (BAFTA) 25. Additionally, it reached the top of most completed games on Playstation 4 26.

2.2.1 The peak and the end. One of the most striking experiences of "God of War" shared by gamers community, concerns the moment when the characters meet the World Serpent 27–29 (Figure 3), in which the serpent reveals that is willing to help Kratos and Atreus, because it understands their pain. This scene is described as "(. . .) one of the most remarkable moments of the entire game" 29.

The encounter with the serpent is also remembered by its voice, and there are several opinions that show that this memorable element: "Of all the sounds in last year's "God of War", the voice of the World Serpent is perhaps the most memorable" 30. Thus, this moment is considering the peak for "God of War" players.

Regarding the end of the game, "God of War" was developed so that after the credits pass (which ends the story) there is still the possibility of watching a final cutscene. The opinions regarding the game's ending show the players' approval, as can be seen through one of the examples in Figure 4.

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Figure 3: Comments observed on Reddit regarding the World Serpent sound

Figure 4: Comment present on Twitter regarding the ending of "God of War"

Additionally, through the analysis it was found that at the end, one of the most remarkable and commented moments refers to the discovery that Atreus is actually Loki 27, 28, 31. This moment is seen as one of the most impactful in the entire game: "'God of War' is full of memorable moments throughout its exciting adventure, but nothing has come close to Atreus' twist when developer Santa Monica Studio revealed that the son of Kratos is Loki." 32. This stronger momentary experience makes the peak-end rule theory suitable and usable, and this ending is likely to always be remembered by players.

3 CONCLUSIONS AND NEXT STEPS

The peak-end rule is a psychological heuristic that determines that the memory of an experience is evaluated through the intensity of the peak and the end of it. The work related to this heuristic has been focused on the area of psychology and medicine, leaving aside the human-computer interaction area and the context of games, where research is still quite residual. The importance that the peak-end rule has in the area of video games is central because the player's positive experience and memorization is a direct consequence for the popularity and success of a video game, since the memory of the experience will lead to the dissemination of the content, and in turn, more players will be interested in playing it. This heuristic also proves to be important in the context of game completion. The fact that an ending is intense induces players to memorize the experience. In other words, the way the game ends strengthen it, which consequently makes it more discussed since the ending is impactful.

In the case of the analysis performed in this article, the comments observed on the social networks were mainly related to the players' perceptions of the most popular moments in "The Last of Us Part II" and "God of War". Although the analysis was also extended to the social network Facebook, it was found that there was not a great diversity of comments, so most players tend to prefer Reddit

for sharing opinions. In addition to Reddit, there are also several gaming websites with the main purpose of posting gaming content and opinions, and these sources were widely used for the analysis. It was not possible to find out if the comments made by players had a large time interval in relation to the moment experienced by them in the game, in order to analyze the effectiveness of the peak-end rule, however it was still possible to verify how it can work in video games.

Since in this study a first exploratory analysis related with the peak-end rule in well-known narrative video games was carried out, it is intended in the future to create and make available questionnaire surveys and to perform focus groups with players in order to assess their memories and understand what elements of game design are considered by them in the peak and end moments. Additionally, it will be interesting to understand in further research how identity and player types may influence peak choice in games.

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