The Video Game and Player in a Gameplay Experience Model Proposal

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Abstract

The video game medium, embedded within one of the most lucrative industries today, is developed to entertain and create satisfying experiences for the game player. Extensive work has been developed on these experiences, exploring concepts such as immersion or flow, or centering on specific experience-related models. However, we consider that these do not fully portray the nature of the gameplay experience – a dynamic interplay between a video game and the player. This work summarizes a Gameplay Experience Model proposal centered on the dynamic interaction that exists during video game play. We describe the development of the proposed model, centered on a literature review process and complemented with two focus group sessions where the gameplay experience and its characteristics were discussed. Posteriorly, the conceptual model is explored in terms of its various elements and dimensions, in addition to its applicability in game contexts.

Author Keywords

Gameplay Experience, Video Game, Player, Model

ACM Classification Keywords

K.8.0 [Personal Computing]: General—Games

Introduction

Similar to many other media industries, the success with video games relates to the resulting experience from interacting with the game. The discussion of these experiences is a widely debated topic, and has been contemplated under the names of gaming, player or gameplay experience, and how these are formed and how they can be measured. Widely used concepts to describe game experiences are *immersion*, *flow* and *presence*, for example. Moreover, other studies [1–3] have looked beyond these concepts and built specific models that characterize the nature of the gameplay experience.

Our interpretation of the gameplay experience suggests that it is the result of a dynamic interplay between the video game and the player. A video game is developed based on a group of characteristics that play a role in the player's consumption of the media. Furthermore, the player contributes to the creation of his experience by bringing to game playing his personal motivations, expectations regarding the game and developed abilities that influence the overall experience. We consider that there lacks a model which equally balances and characterizes the dynamic interaction described above.

The work presented here seeks to fill this identified gap, by presenting a conceptual model to characterize our interpretation of the gameplay experience – a twofold experience, where it is both the process and the outcome. Here, we explore in some detail the development of the proposed model, built upon a literature review process which considered mainly characteristics related to immersion and flow; and

posteriorly complemented with information gathered through two focus groups.

Related Work and need for a new Model

Multiple studies [1–7] have reflected on the global concept of the user experience in video games, appropriating concepts such as 'player', 'gaming' or 'gameplay' experience. These studies focus on the essence of these experiences, how they are formed and how they can be measured. Takatalo et al. [7] suggest the user experience is a term that includes concepts such as 'immersion', 'presence', 'fun', 'involvement', 'engagement' and 'flow'.

Briefly looking into some of the ideas explored in these studies; Brown & Cairns [8] divide immersion into three levels: engagement, engrossment and total immersion; McMahan [9] explores immersion as based on three conditions: users' expectations, users' actions and conventions; Ermi & Mäyrä [1] present a gameplay experience model focused on immersion divided into three components: sensory, challenged-based and imaginative immersion. Considering flow, *"a state in which individuals are so involved in an activity that nothing else seems to matter"* [10], work on the concept and the optimal experience are based on the ideas introduced by [10]. Various flow related studies [11–13] are based on the basic ideas of the concept and further explore it in terms of its development and measurement [13] or game related contexts [11,12].

However, the gameplay experience is more than these concepts, individually or considered simultaneously. Other studies [1–3] have focused on presenting models that characterize and represent the gameplay experience process. The SCI Model (Sensory,

Challenge-based and Imaginative Immersion) [1] focuses on immersion and its diverse manifestations in different games and with different players. The model details player-related characteristics involved in the forming of the experience. However, it lacks clarity on how these characteristics influence the experience as well as how referred game structures can influence a player's attitude towards a game. The CEGE Model (Core Elements of the Gaming Experience) [2] reflects on the necessary conditions to provide a positive experience while playing video games, presenting the core elements of the interaction process that build the experience. The basis of the CEGE is the game and the interaction between it and the user, which they call 'puppetry'. Video game is a guiding element for 'Game-play' and 'Environment', while Puppetry is a guiding element for 'Control', 'Ownership' and 'Facilitators'. Fernandez [3] contributed with a Game Experience Model, defending a framework that further clarifies the relationship among game components. The model suggests the experience is built upon three moments (before, during, and after the experience) where model elements act upon and influence other elements, and that fun is the result of the experience.

Despite the important contributions of each of these studies, we consider they do not fully grasp the extent of the gameplay experience and our interpretation of its key actors: the video game, the player and the multiple relations that result from their interplay, working towards creating – ideally – a satisfying gameplay experience.

Gameplay Experience Model Development
The development of the proposed model followed and is grounded on a two stage process: an initial literature review followed by two focus group sessions.

Initial Gameplay Experience Premise
The initial premise of our model considers the gameplay experience as a result of the interaction process between a video game and the individual that plays the medium – the player [1]. These two elements are the cornerstones of the model, from which the rest of the model is constructed. In order to further characterize each of these elements, supporting model characteristics were collected from literature review and focus groups.

Literature Review
The first stage of development was based on the analysis and collection of gameplay experience related characteristics from a literature review process. Various authors [1,8–14] were considered, focusing primarily on the concepts of immersion and flow, two widely used concepts in describing the gameplay experience. Each of these studies is also built on a specific development process, including literature reviews, grounded theory method, observation and interviews.

Looking initially at **Immersion**, McMahan [9] defines three conditions that create a sense of immersion in a virtual environment or a 3D computer game, summarized in the concepts of (i) user *expectations*, (ii) user *actions*, (iii) *consistency*. Brown & Cairns [8] affirm that immersion can be divided into three levels – engagement, engrossment and total immersion – where certain barriers must be overcome in order to move to the next level. The barriers to each level

include *time, effort* and *attention* for engagement; *visuals*, *tasks*, *plot* for engrossment; *empathy* and *atmosphere* for total immersion. Ermi & Mäyrä [1] structure the gameplay experience according to three dimensions: sensory immersion, with relevance to the *audio* and *video* aspect of the game; challenge-based immersion, referring to the balance of *challenges* and *abilities*; and imaginative immersion, related to players becoming absorbed with *characters*, *story* and the *game world*.

Considering **Flow**, existing work embraces the original ideas presented by Csíkszentmihályi [10]. Flow – the optimal experience – considers eight factors [10]: (i) a *challenging activity* requiring *skill*; (ii) a merging of *action* and awareness; (iii) clear *goals*; (iv) direct, immediate *feedback*; (v) *concentration* on the task at hand; (vi) a sense of *control*; (vii) a loss of *self-consciousness*; (viii) an altered sense of *time*. Additional studies [11–14] have picked up on these eight factors and adapted them to their own needs, while remaining core characteristics that can promote a state of flow.

From this initial process, a preliminary gameplay experience model was developed based on the multiple characteristics identified. The model distributed the highlighted characteristics among two vertical axis – player and video game – and three additional horizontal partitions – *immersion*, *flow* or *immersion + flow*.

Focus Groups
To further explore the gameplay experience and develop on the preliminary model, a second moment of work was carried out. The second stage of development consisted in focus group sessions. Two focus group sessions were held during October 2012, at two different Portuguese Universities. Both focus groups gathered a heterogeneous set of individuals with different game-related activities (e.g. some were enthusiastic game players; others frequently play videos games, but also actively develop work and research game-related topics). One group consisted in 10 participants (seven men, three women); the other group in six participants (four men, two women). Sessions lasted on average two hours.

The focus group sessions were divided into four parts. Part one (i) consisted in an introduction of the objectives of the focus group. Participants were introduced to the topic of discussion – video games and the gameplay experience. Participants were asked to reflect on game and player-related characteristics that can contribute or define the gameplay experience. Part two (ii) served to discuss the characteristics participants indicated related to video games. Part three (iii) served to discuss the characteristics participants indicated related to the player. Part four (iv) served to discuss possible relationships from the characteristics gathered in parts II and II, as well as a possible categorization of these characteristics.

From each focus group, characteristics related to Video Games and Players were isolated for posterior analysis. More than 100 different characteristics were identified in both focus groups as pertaining to the gameplay experience, either related to the Video Game or the Player.

Concerning the video game element, from this group of characteristics, *interface*, *actions*, *learning* and *art* were referred multiple times. Interface, for example, was

described as the 'ease of use', as the technological support, or as the means through which interaction is established with the game.

> "*The experience of the game should not be the experience of dealing with the interface – and dealing with the problems of the interface, instead of playing the game.*"

Balance, one of the few characteristics mentioned in both sessions, was presented by one participant as:

> "*[There should be] balance between the interface and the interaction that is proposed to the player – if the interface is really good but without adequate interaction, there is no balance.*"

On the predictability of the game, one participant explained:

> "*When you already know everything that is going to happen, the experience is lost. That is why in a game where something new happens – even if small – the pleasure is maintained.*"

In addition to balance, coherence, sociability and expectations were the other three characteristics mentioned in both groups.

Looking at the Player element, multiple characteristics were also identified. From this group of characteristics, *motivation*, *expectation* and *interpretation* were referred on more than on one occasion. Player motivations were described as important in order to become engaged with the game. Expectations, for example, were described as:

> "*It essentially is related to life experience. Related to a game, what is expected from a game, what we get from playing the game is highly conditioned by what we've played before.*"

During both focus group sessions, an exercise of characteristic organization was proposed in order to group similar characteristics into a possible single representative characteristic. While this stage of the focus groups did not yield expected single representative characteristics, multiple relationships between the collected game and player related characteristics were established.

Regarding video games, *balance*, *coherence* and *consistency* were always grouped together given their similarities; *interface* and *feedback* were grouped on one occasion, as was *interface* and *sound* in another relationship. *Objectives* and *mechanics* were paired in one relationship; *rules* and *rewards* in another. As for the player component, skills and background were grouped in one relationship; experience and skills in another relationship. Multiple relationships were identified for the various collected characteristics, demonstrating a significant versatility of the concepts.

Given the nature of the participants of the focus groups, this process proved to be important in uncovering various characteristics not identified through literature review. The active involvement with video games from these individuals provided an important contribution to the development of the model.

Posterior to the development stage, the model was organized according to the multiple data sources used. From the literature review – and complimented with ideas from the focus groups – each of the two main model elements (video game and player) were divided into several dimensions. The video game element of the model was divided into three representative dimensions – Mechanics, Interface and Narrative – based on the interpretation of [15], and supported by an additional dimension – consistency – which bonds the previous three dimensions. The player element is also divided into three dimensions – Motivations, Expectations and Background – based on the ideas of [1].

A Renewed Gameplay Experience Model

The gameplay experience model explored here is a conceptual framework for understanding the various elements and characteristics that can play a role in the gameplay experience. The model considers the gameplay experience as a result from of the interaction of a player with a video game during game play.

The model proposed here defines the gameplay experience as a twofold experience – it is both an *interactive* experience and an *emotional* experience. Borrowing the ideas of Dewey (1938) as presented in [2], this model considers the gameplay experience to be both the process and the outcome: it is an interactive experience (the process of playing the game) and an emotional experience (the outcome of playing) – an emotion (or a group of emotions) that results from playing. During the act of video game play, these experiences can influence one another and are shaped by the multiple characteristics of the model. The chemistry of the interactive and emotional experience defines the product of the gameplay experience.

The interactive experience is the manner in which a player operates and approaches a game. It is how the player explores the game space or level; how he or she interacts with other players, non-playable characters or objects; and how the player makes decisions. This process is framed and limited by the game itself, but influenced by the player's background, motivations and expectations. The interactive experience is also influenced by a player's current emotional experience. While playing, a player can also be characterized by a current emotional experience that may possibly vary throughout the game, influenced by the game's directives or the outcomes of a player's actions as he or she progresses. The interactive experience is frequently being influenced by a player's current emotional state: if a player is anxious, he may be less capable of paying attention which reflects on his ability to play; if he is relaxed and stress-free, he may be in a state of flow where everything runs perfectly. This process will affect the gameplay result, which refers to the visible consequences of the game. These consequences can then influence the emotional gameplay experience such that when positive, they can produce positive emotions within the player (e.g. satisfaction, enjoyment, excitement); if negative, they can produce the opposite (anger, despair, indifference). It is also possible that positive or negative consequences alter a player's approach (interactive experience) by changing player motivations (motivations) and actions (expectations), for example. This bi-directional relationship can explain why occasionally players can feel enjoyment and frustration throughout the duration of the game.

Figure 1 represents a holistic view of the proposed gameplay experience.
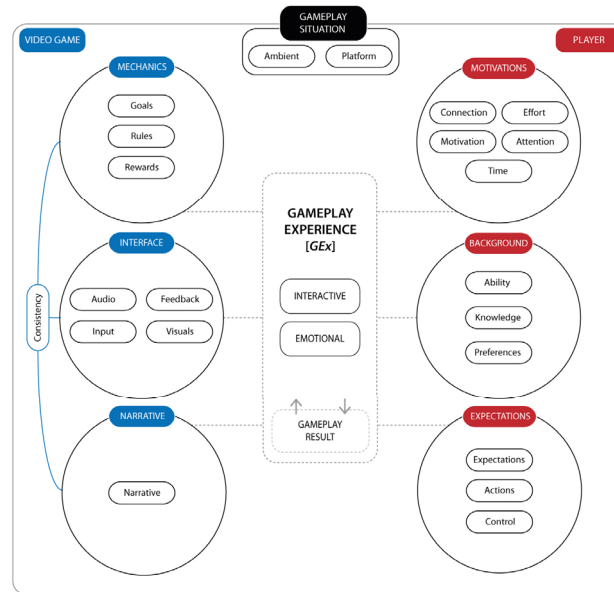

Figure 1. Representation of the proposed Gameplay Experience Model

Model Elements, Dimensions and Characteristics
In addition to its two main elements (video game and player), the model considers a **Gameplay Situation**, a global setting in and through which the act of play takes place. It is exterior to both the player and the game, and is defined by an ambient setting and a platform setting. The ambient setting can be related to the time of day or the place where the game is played; the platform setting refers to the game platform used to play (e.g. console, PC, mobile device). Considering some games can be played across platforms, it is

possible that differences in the games may condition the player's experience. The ambient setting can also limit the experience such that the place where a player engages in playing will limit the possible platforms that can be used to play.

The **Video Game** element of the model incorporates four dimensions: (i) *Mechanics*, (ii) *Interface* and (iii) *Narrative*, each with one or more core characteristics, and supported by an additional (*iv*) *Consistency* dimension.

The *Mechanics* of the game are its rules of organization and operation [15]; the mechanics define what a player can and should do in the game to progress through it; they are the game's rewards and supplements to the player as a result of his actions in the game. Therefore, the Mechanics include 'Goals', 'Rules' and 'Rewards'. *Goals* (i.e. objectives, tasks and challenges) are what a player must do and accomplish in order to progress (or win) in the game. *Rules* are an imperative that overlook and limit the interactions occurring within the game and the outcome of these interactions [16]. *Rewards* – which can differ according to the game and the situation – are something a player receives in return for completing goals or specific objectives, tasks and challenges.

The *Interface* is the look and feel of the game. It is what the player sees and hears, but also how he interacts with the game and is informed on his actions. The interface includes 'Visuals', 'Audio', 'Input' and 'Feedback. *Visuals* are related to how the game looks, in two or three dimensions; it can also be the Heads-up display (HUD), where much of the game information is displayed (e.g. remaining time, quantity of life, game

resources). Audio is the game's sounds, sound effects and music, equally important when compared to visuals in creating atmosphere and for player feedback [15]. *Input* relates to how a player physically interacts with a game through technological support (e.g. keyboard and/or mouse, a joystick, a gamepad, physical movements that are captured, or others. *Feedback* is the game's response (visual or audio) to players' actions.

Narrative refers to the part of the story that is told to the player. All video games can tell a story, even if the story is present in the individual's imagination and created while he plays.

Consistency is transversal to the other three dimensions (mechanics, interface and narrative) and refers to the harmony and balance established between the three dimensions. The consistency of a game is what makes it a solid and enjoyable product, rather than a sum of various parts that do not relate.

The **Player** element of the model incorporates three dimensions: (i) Motivations, (ii) Background and (iii) Expectations, each with one or more core characteristics.

The *Motivations* of a player refer to the necessary conditions that must be met for a player to become motivated to play, or to continue playing. Motivations include 'Motivation', 'Attention', 'Effort', 'Time' and 'Connection'. *Motivation* is the single or multiple incentives for a player to initially play a game and posteriorly, can influence how the gamer plays. Attention (or concentration and focus) is a state where players place all their cognitive and/or physical effort

on a specific goal, objective or challenge. *Effort* refers to the physical or mental investment and energy a player puts towards the game or learning to play. *Time* refers to the quantity of time a player is willing to invest in playing a game, which is more or less according to the resulting motivation to play. *Connection* refers to the players' possible emotional engagement with a game, characters or other elements. Considering the uniqueness of each player, the motivations and reasons for a player becoming *connected* may be different and have distinct origins.

The *Background* of a player is related to his or her personal history, related or not to video games, but which can be applied while playing. Background includes 'Preferences', 'Ability' and 'Knowledge'. *Preferences* are associated to the aspects of a game a player enjoys the most, related to game platforms, genres, visuals or others; and are normally dependent of players' past experiences with games. *Abilities* are a player's collection of learned skills – motor, cognitive or perceptual – which are applied while playing a specific game. *Knowledge* is a repertoire of information that may or not be collected from playing games, but that can be applied during game play.

The *Expectations* of a player refer to what a player anticipates finding within the game, related to game mechanics, interface or narrative, based on his background with similar games or other sources of information. The Expectations dimension includes 'Expectations', 'Action' and 'Control'. *Expectations* refer to the collection of things a player anticipates and hopes to find in a game. However, while a player may expect something from the game, his experience can still be satisfying if what he finds and did not expect is

enjoyable. *Actions* are what the player can do in the game and should, consequently, have some impact in the game and how the player and game progresses [9]. *Control* is related to the freedom the game gives the player to manipulate his game characters or playable objects, as well as the possibility of a player being in a situation where there are no preoccupations of the outcomes of one or more actions.

The Model in Context

The developed model, in addition to its utility as a framework for better understanding the multiple characteristics – related to a game and a player – that can contribute to the gameplay experience, is accompanied by a gameplay questionnaire specifically developed to assess the presence of the multiple model characteristics in a gameplay context. A 27-item questionnaire assesses player's opinions on the presence of model characteristics related to the game and their experience. From the questionnaire results, an analysis can be steered in the desired direction, focusing on the desired model dimensions or specific characteristics. Furthermore, the model also considers the interactive experience which can be assessed according to game metric analysis (where possible, if the game supports metric extraction). The simultaneous analysis of questionnaire results with game metrics can provide insight regarding a players – or group of players – gameplay experience.

Final considerations

In the absence of a gameplay experience model that equally balances player and video game, we propose our interpretation of the referred experience. We introduce a conceptual model proposal that equally highlights the dynamic interplay that occurs between these two elements during the act of game playing. We also explore each of these elements' dimensions and supporting characteristics, which together shape the interactive and emotional experience we consider to be part of the experience. In this work we present the process behind the development of the model, supported on a literature review and two focus groups where the gameplay experience was discussed. The work and model discussed here presents a comprehensive look at the gameplay experience and can further be considered a tool in the analysis of the experience in a defined game playing context.

Acknowledgements

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