Assessing Player Motivations and Expectations within a Gameplay Experience Model Proposal

Samuel Almeida[1,2], Ana Veloso[1], Licínio Roque[2], and Óscar Mealha[1]

[1] CETAC.MEDIA, Dept. of Communication and Art, University of Aveiro, Aveiro, Portugal
{sja,aiv,oem}@ua.pt
[2] CISUC, Dept. of Informatics Engineering, University of Coimbra, Coimbra, Portugal
lir@dei.uc.pt

Abstract. This work explores a Gameplay Experience Model proposal centered on the dynamic interaction and interplay that exists during video game play. Two elements are key in the model – the Video Game and the Player – defined by a group of dimensions and characteristics that can influence each other during game play. A study was carried out with 40 individuals that played a video game during multiple rounds. After each round players answered a questionnaire on their experience and how the model characteristics manifested during the game. Results collected from the questionnaires were analyzed to assess how game related characteristics influence player Expectations and Motivations.

Keywords: Gameplay Experience, Video Game, Player, Expectations, Motivations, Model.

1 Introduction

Among the many discussions within the realm of video games, one of the most widely debated relates to the experience of playing games. Commonly used concepts to describe game experiences are *immersion* [1–3] and *flow* [4], for example. Other studies [2, 5, 6] have developed specific models that characterize the nature of the gameplay experience. We consider these examples 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 and work towards creating, ideally, a satisfying gameplay experience. Furthermore, there lacks a model that equally balances and characterizes the dynamic interaction described. The work presented here seeks to fill the identified gap, by presenting a conceptual model that characterizes our interpretation of the gameplay experience – a twofold experience, considering it both the process and the outcome – and which attributes equal importance to the video game and the player. Furthermore, we present results from a study steered towards partially validating the *Motivations* and *Expectations* dimension of the model within a specific context.

D. Reidsma, H. Katayose, and A. Nijholt (Eds.): ACE 2013, LNCS 8253, pp. 497–500, 2013.

2 Gameplay Experience Model Proposal

The model proposed here identifies the key characteristics that help construct the gameplay experience. The model looks to equally balance the two elements we believe are essential in the construction of the gameplay experience – the video game and the player – and is sustained on the initial premise that gameplay experiences result from the interaction between a game and the player [2]. Fig. 1 represents the proposed Gameplay Experience Model, including the video game and player elements, and respective supporting dimensions and characteristics.

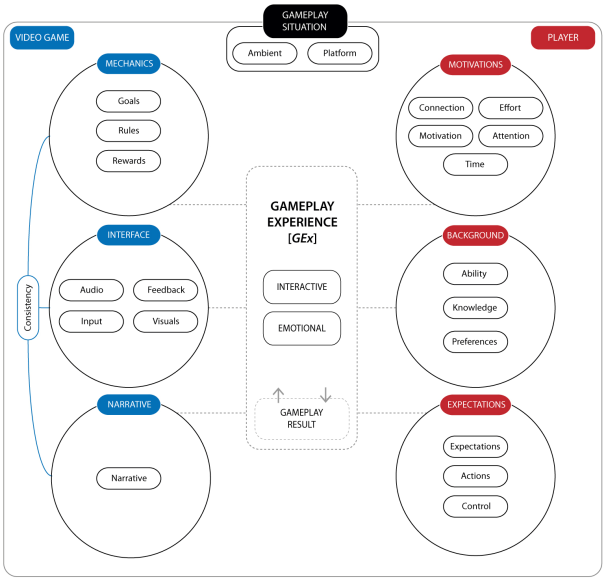

Fig. 1. Holistic view of the proposed Gameplay Experience Model

Developed from a literature review analysis and focus group results, the model considers the gameplay experience as a twofold experience: it is both an interactive experience (process) and an emotional experience (outcome). During game play, these experiences can influence each other and are shaped by the multiple characteristics of the model, defining the outcome of the experience. Initially, the model considers a *Gameplay Situation*, characterized by an 'ambient setting' (e.g. time of day) and a 'platform setting' (e.g. PC or console). The ***Video Game*** element incorporates four dimensions: *Mechanics* (Goals, Rules, Rewards), *Interface* (Visuals, Audio, Input, Feedback), and *Narrative* (is itself a dimension and characteristic). Connected to the video game element is *Consistency*, a characteristic that refers to the balance established between the three dimensions. The ***Player*** element incorporates three dimensions: *Motivations* (Motivation, Attention, Effort, Time, Connection), *Background* (Preferences, Ability, Knowledge) and *Expectations* (Expectations, Action, Control).

3 Model Validation through Case Study

A study was carried out to demonstrate possible connections among dimensions and characteristics of the model, focusing mainly on *Motivations* and *Expectations*. We hypothesized that *(i)* changes in rules and visuals influence player expectations; and *(ii)* changes in rules and visuals influence player motivations. Data was collected with a *Pre-Questionnaire* (*PQ*) and a *Gameplay Experience Questionnaire* (*GExQ*), including 27 items (measured on a 5-point Likert scale) and developed specifically to measure the presence of each characteristic in participants' interpretation of the experience. The game – 'ReCylce', a multi-player First-Person Shooter developed by Moura [7] – consisted in three game maps with differences among them. Each map M1 (base map), M2 (more energy loss) and M3 (smaller map) was played twice. After the first three rounds ($M1_1$, $M2_2$, $M3_3$), players responded to the *GExQ*.

4 Preliminary Results

Data from the *PQ* and *GExQ* was processed from 40 participants with different playing experiences. In order to measure the possible evolution of the *Motivations* and *Expectations* dimension, multiple statistical tests were applied using SPSS.

Three ***Expectations*** dimension (ED) variables (ED_{M1}, ED_{M2}, and ED_{M3}) were computed based on four questionnaire items. Based on the mean scores results, there was a small increase in *Expectations* from the first round M1 (*M=3.556, SD=0.627*) to the second M2 (*M=3.594, SD=0.627*) and the third M3 (*M=3.656, SD=0.757*), suggesting changes in rules (M2) and visuals (M3) reflected on players' expectations. Three Paired-Samples *t-tests* were applied to statistically compare the means for three variables (ED_{M1}, ED_{M2}, ED_{M3}). In the first test (M1/M2), *t=-0.422, p=0.675*, which is not statistically significant. For the second test (M1/M3), *t=-0.75, p=0.458*, indicating the differences in means for MD_{M1} and MD_{M3} are not statistically significant. In the third test (M2/M3), *t=-0.527, p=0.601*, which is also not statistically significant. Considering our hypothesis (Hyp. 1) and study sample, there is no statistical evidence that alterations in game rules (M2) or visuals (M3) have an effect on player expectations. Three ***Motivations*** dimension (MD) variables were computed based on 10 questionnaire items. Based on the mean scores results, there was an evident increase in the mean value of *Motivations* from the first round map M1 (*M=3.633, SD=0.494*) to the second M2 (*M=3.715, SD=0.540*) and third M3 (*M=4.010, SD=0.705*), also suggesting that the changes in game rules and visuals increased player motivations. Three Paired-Samples *t-tests* were applied to compare the means for the three variables (MD_{M1}, MD_{M2}, MD_{M3}). In the first test (M1/M2), *t=-1.159, p=0.253*; which is not statistically significant. In the second test (M1/M3), *t=-3.798, p=0.000*; indicating the differences in the means for MD_{M1} and MD_{M3} are statistically significant. In the third test (M2/M3), *t=-2.899, p=0.006*, which is also statistically significant. Considering our hypothesis, there is statistical evidence to show that game visuals (M3) alone or combined with rules (M2) influence player motivations. However, rules (M2) alone do not influence motivations.

5 Conclusion

The work explored here presents a gameplay experience model proposal that equally balances two key elements in our interpretation of the gameplay experience: the video game and player, each considering several dimensions and respective characteristics.

In order to demonstrate the relation between multiple dimensions of the model, a study was carried out with a video game and 40 participants. Based on collected data, despite a visible increase in both players' *Expectations* and *Motivations* across all three game maps, these results do not have statistical significance with *Expectations*, but are significant with *Motivations* in two statistical tests. Further studies showed no statistically significant differences between genders in terms of *Motivations*, while *Expectations* did significantly differ according to gender.

With this study we have looked to initially validate multiple dimensions of the model. While initial results show some relation among the dimensions, further statistical studies are recommended to continue looking into these relations. Also, the model can be further explored and its potential studied, namely looking into the 'Interactive Experience' based on game metrics. Analyzing metrics can possibly provide further insight into the questionnaire results and how they reflect in the multiple dimension variables and the emotional experience of the game.

Acknowledgments. Thanks to Labs.SAPO, Arnaldo Moura and Rui Rodrigues; thank you to those that participated in the study. Our acknowledgment to the institution 'FCT' for funding this project PhD grant no. SFRH/BD/66527/2009.

References

1. Brown, E., Cairns, P.: A grounded investigation of game immersion, pp. 1297–1300 (2004), doi:http://doi.acm.org/10.1145/985921.986048
2. Ermi, L., Mäyrä, F.: Fundamental Components of the Gameplay Experience: Analysing Immersion (2005)
3. Jennett, C., Cox, A.L., Cairns, P., et al.: Measuring and defining the experience of immersion in games. Int J. Hum. -Comput. Stud. 66, 641–661 (2008), doi: http://dx.doi.org/10.1016/j.ijhcs.2008.04.004
4. Csíkszentmihályi, M.: Flow: The Psychology of Optimal Experience (1990)
5. Gámez, E.H.C., Cairns, P., Cox, A.L.: Assessing the Core Elements of the Gaming Experience 288 (2010)
6. Fernandez, A.: Fun Experience with Digital Games: a Model Proposition. In: Leino, O., Wirman, H., Fernandez, A. (eds.) Extending Experiences: Structure, Analysis and Design of Computer Game Player Experience, pp. 181–190. Lapland University Press, Rovaniemi (2008)
7. Moura, A., Roque, L.: ReCycle Report. Universidade de Coimbra (2011)