
Catching the game: multi-method approaches to understanding gaming experiences

Eduardo H. Calvillo G3mez
Nuevas Tecnologías de la
Información
Universidad Polit3cnica de
San Luis Potos3
San Luis Potos3, M3xico
eduardo.calvillo@gmail.com

Paul Cairns
Computer Science
Department
University of York
York, UK
paul.cairns@york.ac.uk

Pablo Romero
IIMAS
Universidad Nacional
Aut3noma de M3xico
(UNAM)
Ciudad de M3xico, Mexico
pablror@unam.mx

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Abstract

In this paper we present our position in how to understand better the player's experience. We argue that the gaming experience is a complicated phenomenon to isolate because it depends on many factors; more over, it is also linked to human nature. We base our arguments in our expertise in studying different aspects of the gaming experience, in particular Flow and Embodiment, Immersion and the Core Elements of the Gaming Experience, as well as from a research methods perspective.

Keywords

user experience, research methods, games, game experience

ACM Classification Keywords

H.5.m [Information interfaces and presentation (e.g., HCI)]: Miscellaneous.

General Terms

Human Factors

Introduction

The user experience of playing video games is a tricky phenomenon to measure. Users seem to go through a lot of different momentary experiences while playing; and those moments are a direct response of the interaction of the user with the game through time. So, to understand the experience it is necessary to know the different stimuli that provoked the experience in the user as well as being able measure the

experience in some way. Moreover, the experience is not limited to a single point of time, it can be traced back to previous experiences, it can also linger in the user while it is being processed and it can be influenced by the experiences of others [8]. Not only that, we can have different types of experience as a response to the same stimuli: a user can reach immersion, flow, or just enjoyment, but may be only slightly.

All these ingredients are what makes the study of the gaming experience a very active field. It allows to build a rich corpus of elements that are part of the experience. Extrapolating Huizinga's approach of Homo Ludens [6], videogames are a part of the human nature but not primarily for their technical expertise, but because of the experience they provide. Thus the study of the experience of playing videogames helps us to understand a part of the human nature.

User experience is a rich subjective and moreover unreproducible outcome of play. Methodologically speaking, the breadth of the possible experiences allows for very different methods to collect the elements of the experience. And even if all those methods are rooted in traditional research methods, such as qualitative or quantitative approaches, most of them are used in conjunction with a multilevel approach to try to help and isolate particular elements of the experience. It could be argued that such a division of experience may miss the holistic nature of the phenomenon [14], but the evidence to date is that there is much to be gained from this analytic approach and is leading to deep understandings of the process that leads to user experiences. Additionally, the methods for a holistic understanding of experience are currently in their infancy and so have not so far provided the impact that more traditional approaches have.

In this position paper we present our thought regarding the experience of playing videogames. First we discuss the approach from a research methods perspective, we then present results in different elements of the experience that we are working on: immersion, flow, embodiment and the core elements of the gaming experience. We are aiming this paper

towards the issue of better understanding of player experience.

Research Methods for the Gaming Experience

The study of the gaming experience benefits from all the aspects of research methods. We can collect qualitative or quantitative datum of the experience. It can come from interviews, questionnaire, bio-sensing devices or observations. And we can collect them from controlled settings or from naturalistic settings. We can combine them, mix them, or adjust them to our necessities; we can even study games by using games as part of our research methods [2].

The research method, or combination thereof, that is used is dependent on what we are trying to understand. One method can help us separate or identify a particular section of the experience, then other method can help dissect an element of that part and so on. In the remaining of the paper, we describe the different parts of the experience that we are studying, and the role that multi-methods had in it.

Flow and Embodiment

There has not been a consensus on a uniform way to conceptualise, operationalise and measure flow in different studies [5] and it has even been suggested, for example, that flow might have different causal factors and characteristics for different computing areas [12]. The problem with such a view is that different studies might be examining different phenomena, and probably not flow at all [13].

Romero and Calvillo Gamez have proposed a view of flow based on notions of embodied interaction and phenomenology that attempts to conceptualise and operationalise this concept in a uniform way [10]. One of the main characteristics of this view is considering flow as *effortless attention*, a state of deep concentration that is perceived as effortless. People perceive this experience as their attention being effortlessly carried by a current, hence the analogy with flow. This state can be contrasted with that of effortful attention, in which people

have to spend a significant amount of effort to intentionally focus and maintain a deep concentration on specific stimuli [11]. In both cases attention is high but in the former the effort to concentrate is perceived as low while in the latter is perceived as high. This distinction can be established in user experience self-reports by asking the questions: *how much did you concentrate?* and *how hard was it to concentrate?* [4].

Traditionally, flow studies have employed self-reporting methods like questionnaires; however other methods, physiological correlates for example, have already been used in flow studies [9]. Employing physiological correlates methods seem quite appropriate in the context of an embodied view of flow. However, to the best of our knowledge, this has not been done yet.

Immersion

Immersion is one of the basic experience that gamers seek when playing games [1]. Even though the term is widely used, the meaning of this term in gaming is still not fully understood. A qualitative study was conducted to find out what players mean when they say there are immersed. The results found immersion to be a graded experience where players only entered the highest states of immersion, which could be equated to flow, for fleeting moments before returning to a less heightened but no less satisfying state of immersion. The study also suggested that when immersed, players describe themselves as "in the game" even when many games, like Tetris, provide no virtual world to occupy. A further qualitative study [7] helped to show that players meant one of two things by this: either that they felt present within the game world mediated by the characters of the game; or they were simply indicating their high level of involvement.

Having clarified the meaning of these terms, it was then possible to more carefully investigate immersion through the use of a questionnaire. This was developed based on the qualitative work and validated in a large scale naturalistic study. That process helped to identify some of the components

of gaming that lead to immersion. The questionnaire also lent itself to providing a measure of immersion which was subsequently used as a way of quantifying and therefore experimentally manipulating immersion.

Core Elements of the Gaming Experience

The Core Elements of the Gaming Experience [3] were identified as the necessary but not sufficient conditions to build a positive gaming experience. If they are absent, then the experience of the player would be poor. But if they were present, it would not necessarily imply that a good experience would ensure.

To study this aspect of the experience, it was necessary to use a qualitative method (Grounded Theory) to identify the elements and their relationships; followed by questionnaire design to isolate the elements; and Structural Equation Modeling to validate the elements and the relations among them.

Pointers and Future Direction

In this paper we argued that for a better understanding of player experience it is necessary to isolate elements of the experience by using a multimethod approach. This is because the gaming experience is a rich and subjective outcome of play. This stands in contrast to a holistic approach to human experience but nonetheless seems to be revealing a rich seam of research findings.

Besides research methods, another important aspect that has to be taken into account is the research philosophy that is leading our research endeavours. Do we follow a positivist perspective? That is, experience can be wholly captured experimentally? Or a critical constructivism where experiences are constructed as a result of communicating about them? The type of research philosophy also marks the method we chose. Just as the research question leads to the proper research method, the research philosophy leads to the research question. We want to take the opportunity of participating in

this workshop to at least pose the question to other participants regarding the research philosophy they follow.

We see that the in future directions, to understand the experience we can divide it in two tracks: New Experimentalism where experiments demonstrate the effects of games on people without necessarily understanding the mechanisms that lead to these effects; and another track driven by teleology where the outcome of gameplay is of primary concern and whether experience is an extrinsic or intrinsic aspect of games. In other words, we are focusing either on the outcome or the process of the experience.

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