Report on Playability: analysing user experience in video games paper

This blog post is a report on ***Playability: analysing user experience in video games*** paper, published as part of the behaviour & Information Technology journal in 2012.

The abstract starts by discussing the current lack of studies relating to the analyses of player experience (PX) within video games and highlights the importance of video games and the economic impact they have on our society. The paper then, still within the abstract, moves on to explain its overall aims which are to discuss and evaluate the areas of user experience (UX) and how this area is insufficient for the evaluation of PX, which has given rise to a new concept called playability within video games. The aim is to present a framework of analysis that can be used to evaluate UX within video games. The abstract then discusses the results which indicate the importance of having a framework to analyse and understand the importance of PX and how players feel when using interactive systems such as video games, this framework aims to help improve their experience during playtime. The abstract concludes by discussing the practical experiment which uses the methods discussed in this paper to help evaluate playability. The papers ***"Keywords: playability; user experience; usability; video games; interactive systems"*** (Playability: analysing user experience in video games Jose´ Luis Gonza´ lez Sa´ nchez a, 2012, p. 1033)

The Introduction starts by discussing Human-computer interaction (HCI) and how this area of study promotes the human factor in computer systems in order to enrich the UX. It explains that videogames are highly interactive systems which aim to entertain a player for recreational reasons and that the video games industry is the most profitable entertainment industry. There is a point raised about how traditional UX analysis methods are an inadequate measurement tool for current game systems and cannot be effectively used to measure to PX. Before the introductory conclusion, there are several research objectives presented that relate to different aspects of the UX and playability such as:

- ***To be able to measure the degree of satisfaction of players in order to help define a positive UX within an electronic entertainment system: Playability.***
- ***To characterise the Player eXperience (PX) (Playability) based on measurable and quantifi-able attributes and properties.***
- ***To evaluate and understand the impact of the elements of a video game on UX across diverse player profiles thanks to a Playability Model.***

- ***To apply a framework for evaluating and improving playability in the video game devel-opment process, in order to improve the UX using playability techniques.***

(Playability: analysing user experience in video games Jose´ Luis Gonza´ lez Sa´ nchez a, 2012, pp. 1033-1034)

The introduction concludes with an overall explanation of the paper's structure and workflow relating to each of the topics areas within.

Section 2.0 of the paper discusses the connection between playability, UX, and PX in video games. Its starts by defining UX as a term which covers a multi-disciplinary area within HCI and that UX investigates the sensations experienced by the user when performing interactive tasks. The paper indicates that UX is generally focused on the pragmatic properties of interaction but does investigate hedonic properties also. The paper goes on to discuss Usability, which is described as being subsumed by UX and focusses on hedonic properties of interaction which video games aim to exploit as they are designed to evoke the emotions of the player for fun and entertainment. Section two concludes with a description about the differences between desktop systems, described as being designed to perform a particle task and video games, which have recreational elements to them, setting them apart from traditional systems. It is this difference that makes UX and usability analysation methods inadequate when looking into the UX of a video game player because there are too many subjective elements to characterise about a player's experience (PX). PX is described as being a broad topic but is a more specific way to measure UX or PX within entertainment systems which are called playability. Table one shows the differences between UX and PX.

Table 1. Different goals to achieve a positive User Experience (UX) and Player Experience (PX) (Lazzaro 2008).

UX goals: productivity	PX goals: entertainment
Task completion	Entertainment
Eliminate errors	Fun to overcome obstacles
External reward	Intrinsic reward
Outcome-based rewards	Process is its own reward
Intuitive	New things to learn
Reduce workload	Increase workload
Assumes technology needs to be humanised	Assumes humans need to be challenged

Table 1: **(Playability: analysing user experience in video games Jose´ Luis Gonza´ lez Sa´ nchez a, 2012, p. 1034)**

Section 2.1. of the paper is a literature review of playability; it starts by describing the term playability which it defines as ***"a term used in the design and analysis of video games that describes the quality of a video game in terms of its rules, mechanics, goals and design. It refers to all the experiences that a player may feel when interacting with a game system. Sometimes, the experience is related with the different ways of interaction among players"*** (Playability: analysing user experience in video games Jose´ Luis Gonza´ lez Sa´ nchez a, 2012, p. 1034) citing works by (Voida and Greenberg 2011). The paper describes one of the most commonly used definitions for playability that refer to the degree in which a game can be fun to play with an emphases on the overall quality of gameplay made up from plot-quality, interaction style and a number of there areas such as responsiveness, pace, intensity, strategy and overall quality of graphics and sound. According to the paper, there are two main lines of research relating to playability:

- ***The analysis and measurement of playability as a quality measurement of the different video game elements and the impact of experience on the user.***
- ***The evaluation of playability as a 'specific usability' and UX measurement in the context of video games.***

(Playability: analysing user experience in video games Jose´ Luis Gonza´ lez Sa´ nchez a, 2012, p. 1035)

Paper continues its literature review by discussing playability as a tool used to measure the quality of video game elements while quoting many different research sources such as:

"Rollings and Adams (2003) present the 'triad of playability', which contains three key elements for identifying the playability of a video game. These are: Core Mechanics (rules, objectives and goals to achieve), Storytelling and Narrative (story line and narrative technique used in the video game) and Interactivity (set of elements that the player can see, hear and interact with in the virtual world). In 'The Art of Game Design' (Crawford 1984), the author indi-cates that playability happens when the gameplay is right and is properly executed, thus observing the importance of interaction with the elements of the video game" (Playability: analysing user experience in video games Jose´ Luis Gonza´ lez Sa´ nchez a, 2012, p. 1035)

"Ben Shneiderman (2004) in 'Designing for Fun: How Can We Design User Interfaces to Be More Fun?' shows that user interfaces for playing should use clear and direct

metaphors for the players, applying attractive graphics, animation and sounds. In Ye and Ye (2004)" (Playability: analysing user experience in video games Jose´ Luis Gonza´ lez Sa´ nchez a, 2012, p. 1035)

"Norman (2004) and Lazzaro (2008) propose that one of the secrets of playability is the management of emotions, where motivation is a key factor in generat- ing a positive experience for the player. If players are continually motivated, the PX will improve" (Playability: analysing user experience in video games Jose´ Luis Gonza´ lez Sa´ nchez a, 2012, p. 1035)

The paper continues its literature review by discussing playability about usability and PX citing multiple research resources concerning the area looking at different perspectives and research approaches.

Section 3.0 aims to characterise the UX within video games relating to playability. Its starts with a summary about the literature review within section 2 and conclude that ***"each study has been performed from different perspectives and with different objectives, thus giving rise to many playability definitions and proposals. These differing objectives may be to improve immersion, motivation, emotion, usability, interactiveness, intuitiveness, fun, and so on"*** and there for ***"There is a clear lack of a common definition of playability or not so ambiguous definition, attributes to help characterise the PX, properties to measure the video game's development process and mechanisms to associate the impact/influence of each video game element in the PX"*** as a result they ***"consider this a significant 'gap', since the different definitions of playability require different criteria to measure it: there are no universals. Furthermore, the lack of attributes to characterise playability means that each study offers a solution, which relates only to its particular scope and interest, making it hard to extrapolate these solutions and apply them to different video games"*** (Playability: analysing user experience in video games Jose´ Luis Gonza´ lez Sa´ nchez a, 2012, p. 1036)

The paper then goes onto define playability ***"as a set of properties that describe the PX using a specific game system whose main objective is to provide enjoyment and entertainment, by being credible and satisfying, when the player plays alone or in company"*** (Playability: analysing user experience in video games Jose´ Luis Gonza´ lez Sa´ nchez a, 2012, p. 1037)

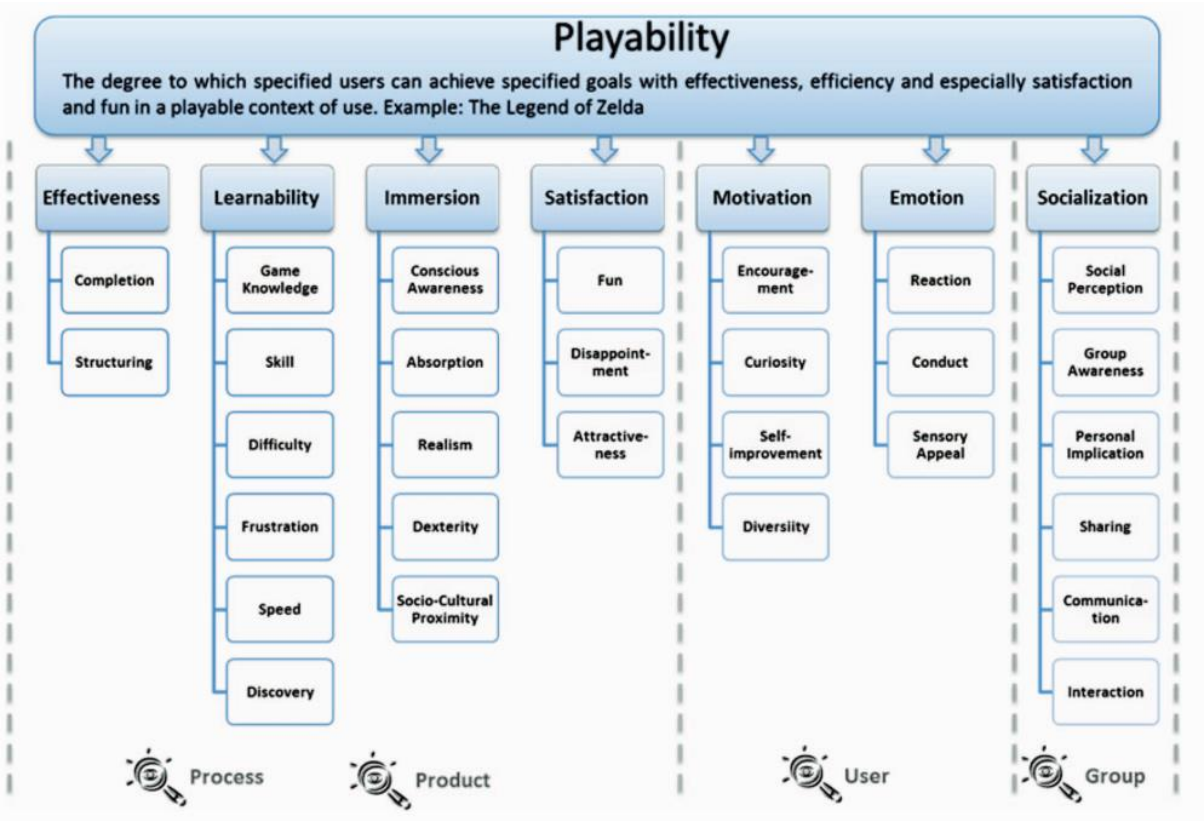

Table 2 (Playability: analysing user experience in video games Jose´ Luis Gonza´ lez Sa´ nchez a, 2012, p. 1038)

Table 2 shows the attributes of playability according to the paper and the properties used to measure them in relation to whether or not they link with UX. Each area of Table 2 is explained in detail within the paper; for example, immersion is defined and then its subjections accordingly. The paper discusses playability as an interrelated concept that has multiple playabilities within it to define the overall UX as shown in table 2. ***"We should stress that playability is not a unitary and indivisible concept but an interrelated set of multiple playabilities that identifies the overall UX. For any game, multiple playabilities interact with each other to show the 'global' playability of a video game.*** (Playability: analysing user experience in video games Jose´ Luis Gonza´ lez Sa´ nchez a, 2012, pp. 1038-1042)

The paper proposes a conceptual measurement concept based on ontology, as shown in table 3. The conceptual model proposed is based on the paper Video game's elements ontology: to analyse the player's experience written by Gonza ´ lez Sa ´ Sanchez, J.L., and Gutie ´ rrez, F.L 2010.

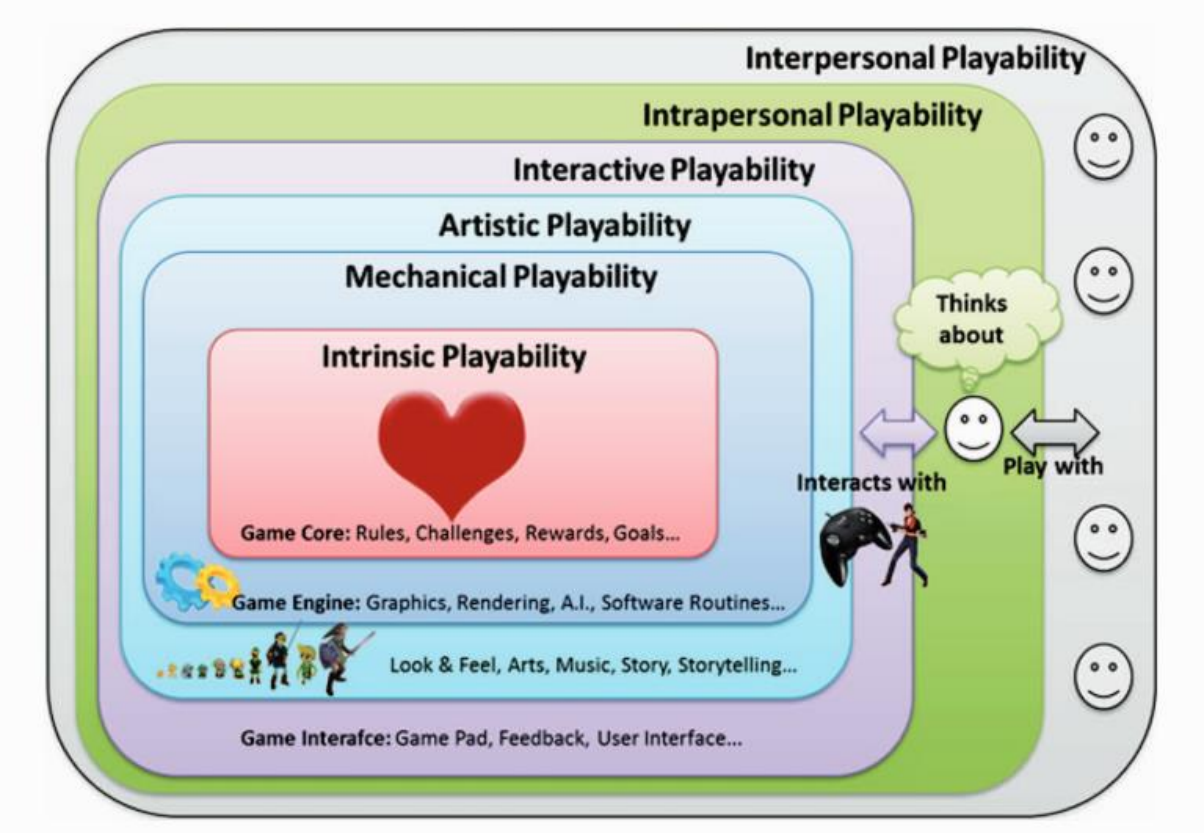

Table 3 (Playability: analysing user experience in video games Jose´ Luis Gonza´ lez Sa´ nchez a, 2012, p. 1043)

The table shows the facets of playability and the relationship they have with video games elements such as the graphics, challenges and rewards and how this relates to the PX and UX or the player. The next sections of the paper detail the practical tests which aim to evaluate the PX of a video game using the playability model presented in the paper as an assessment tool.

The paper concludes by discussing the proposed playability model and how the results of the test support the framework which can measure in detail different aspects of playability concerning the PX, this is because the practical experiments show which elements of play are positive and negative experience in detail are making it easy for a designer to measure the outcomes. ***"As future work, we propose the creation of a design methodology for players following the steps of User Centred Design (ISO 13407) and the ideas discussed in this paper. The main objective of this methodology is to improve the final product experience in 'player centred' video game development"*** (Playability: analysing user experience in video games Jose´ Luis Gonza´ lez Sa´ nchez a, 2012, p. 1050)

Works Cited

Playability: analysing user experience in video games Jose´ Luis Gonza´ lez Sa´ nchez a, b. *.-Z. (2012). Playability: analysing user experience in video games. *Behavour & Infomation Technology*, 1033-1054. Retrieved 11 12, 2019, from https://doi.org/10.1080/0144929X.2012.710648