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UNDERSTANDING PLAYFUL USER EXPERIENCE THROUGH DIGITAL GAMES

ABSTRACT

It has been commonly acknowledged that the acceptance of a product depends on both its utilitarian and non-utilitarian properties. The non-utilitarian properties can elicit generally pleasurable and particularly playful experiences in the product's users. Product design needs to improve the support of playful experiences in order to fit in with the users' multi-faceted needs. However, designing for fun and pleasure is not an easy task, and there is an urgent need in user experience research and design practices to better understand the role of playfulness in overall user experience of the product. In this paper, we present an initial framework of playful experiences which are derived from studies in interactive art and videogames. We conducted a user study to verify that these experiences are valid. We interviewed 13 videogame players about their experiences with games and what triggers these experiences. The results indicate that the players are experiencing the videogames in many different ways which can be categorized using the framework. We propose that the framework could help the design of interactive products from an experience point of view and make them more engaging, attractive, and most importantly, more playful for the users.

Keywords: Playfulness, Playful User Experience, Design, Digital Game, Interactive Product, Videogame

1 INTRODUCTION

We live in an experience economy where consumers constantly seek new kinds of experiences from the products they use. Focusing on effectiveness and efficiency of the user is often considered to be an adequate design goal for the success of a product or a service. This indicates designer focus on usability testing when developing a product. However, Hassenzahl et al. argue that when evaluating the perceived quality of the interactive product, both pragmatic and hedonic attributes should be evaluated [15]. HCI researchers have argued that product design should not only concentrate on improving effectiveness and efficiency, but designers should think about how users experience the product and how to design something that is pleasurable to use [19]. As Norman states: “*technology should bring more to peoples' lives than the improved performance of the tasks: it should add richness and enjoyment*” [25, p.111]. Moreover, positive emotions are essential for the sake of curiosity and ability to learn new things [25], and thus, for using the product more frequently. Jordan has proposed a hierarchical concept of utility, usability, and pleasure to fulfill consumer needs [19]. Shneiderman also points out that user interface and interaction designers should seek ways of increasing fun aspects in products [32].

In order to better understand what we mean by interactive products producing playful experiences, the reader should consider Nokia Sports Tracker, Flickr®, Tumblr, Google Earth, Facebook, and even Wikipedia as examples of such products.

User experience has been studied for some time in the HCI domain and researchers have proposed various models to cover different aspects of it. User experience of a product is personal, implicating that a user's skills, knowledge, previous experiences of similar products, and expectations will affect to the user's perception of the new product [21]. User experience consists of experiences that are elicited when the user interacts with the product and emotions and feelings that are result of interactions [8, 30]. The interaction occurs always in some physical and social context and therefore,

context has impact on user experience [e.g. 11, 16, 24]. Understanding users, tasks, and the context in which the product is used, are critical issues of the success of the product design. User experience has often been described with attributes such as fun, joy, and pleasure [14], suggesting that design should focus on user's enjoyment.

Even though many researchers have emphasized the importance of non-functional aspects in product design, there have only been isolated studies [e.g. 31, 38, 41] on playful experiences in the interaction design of products such as email clients. These studies have concentrated on audiovisual enhancements, layout, or navigation with very little functional changes or new content. Furthermore, there are other studies which have analyzed playfulness from a theoretical point of view and tried to understand how it appears in interactive products and what affects the playfulness [39, 40]. Despite of these efforts, there is very little knowledge of what these playful experiences actually are. HCI researchers seem to have mostly ignored a vast domain of products, namely videogames that offer playful and pleasurable experiences for the users.

Videogames have been a popular form of entertainment for more than three decades. In many people's minds, videogames have set the levels of excellence for interactive products. We feel that videogames provide an interesting field for studying how to design products which aim at providing enjoyable, pleasurable and playful experiences to a user. In addition, videogames introduce novel interaction solutions that may be used in utilitarian products as well [9]. Pagulayan et al. address the main differences between videogames and utilitarian products [26]. According to them, a utilitarian product is a tool and the design intention is to make tasks easier, more efficient, less error-prone, and increase the quality of the results. Videogames, instead, are intended to be pleasurable to play and sufficiently challenging.

In this paper, we present an initial framework of playful user experiences which are derived from a study conducted by Costello and Edmonds [6]. We have extended their categories with the results from several game studies to make the framework more complete and usable outside the interactive art context. We conducted a user study to verify that these experiences are real, and for that purpose, we interviewed videogame players to learn what kinds of experiences appear when they are playing videogames. We present the results from the study and propose that these categories could be applied in the design of interactive products to make them more engaging, attractive, and most importantly, more playful for the users.

2 RELATED WORK

In this section, we describe some of the earlier work that has studied playfulness. When we look at the definitions of 'playful' proposed by different scholars, we begin to appreciate the broad scope of experiences that can be considered playful. Even the concept of play itself has been, and still is even after a more than a century of studies, an elusive concept with a multitude of diverging (and sometimes converging) theories, definitions and approaches. Sutton-Smith [35] in his *Ambiguity of Play* tries *"to bring some coherence to the ambiguous field of play theory by suggesting that some of the chaos to be found there is due to the lack of clarity about the popular cultural rhetoric that underlie the various play theories and play terms."* Sutton-Smith proposed the following:

1. The rhetoric of play as progress which states that animals and children adapt and develop during play in order to prepare for the adult life.
2. The rhetoric of play as fate where the choices and outcomes of our actions are dictated by destiny, luck or whatever.
3. The rhetoric of play as power which sees play as a representation of conflict and as a way to establish and enforce the power status of the winning players.
4. The rhetoric of play as identity as *"a means of confirming, maintaining, or advancing the power and identity of the community of players"* [35, p.10].
5. The rhetoric of play as the imaginary as applied to creativity and "playful improvisation" in arts and other aspects of life.
6. The rhetoric of self where the focus is on the enjoyment or fun aspect of the participating players themselves.
7. The rhetoric of play as frivolous as in cases where play is regarded as something unnecessary, even foolish.

The current discussion is focusing on the rhetoric of self as we are trying to tackle the issue of “fun” in playful interactive products, although the rhetoric of progress, power, and the imaginary are also relevant when discussing the possible biological functions of play, sports, and role-playing games. Sutton-Smith’s proposal gives us an overview of how one can approach games, but leaves us unable to define play. Burghardt [4] has proposed five criteria to distinguish play from other kinds of activities. Burghardt claims that “*all five criteria must be met in at least one respect before the play label can be confidentially attached to any specific instance of behavior*” [4, p.79] Burghardt’s criteria are:

- “[...] the performance of the behavior is not fully functional in the form or context in which it is expressed; that is, it includes elements, or is directed towards stimuli, that do not contribute to current survival.”
- “[...] that the behavior is spontaneous, voluntary, intentional, pleasurable, rewarding, reinforcing, or autotelic.”
- “[...] that it differs from the ‘serious’ performance of ethotypic behavior structurally or temporally in at least one respect: it is incomplete (generally through inhibited or dropped final elements), exaggerated, awkward, or precocious; or it involves behavior patterns with modified form, sequencing or targeting.”
- “[...] the behavior is performed repeatedly in a similar, but not rigidly stereotyped, form during at least a portion of animal’s ontogeny.”
- “[...] the behavior is initiated when an animal is adequately fed, healthy, and free from stress (e.g. predator threat, harsh microclimate, social instability) or intense competing systems (e.g., feeding, mating, predator avoidance). In other words, the animal is in a ‘relaxed field’.”

The second and third criteria, that the behavior is pleasurable, rewarding or reinforcing and that the behavior is exaggerated, are important characteristics of playful experiences. The fourth criterion is evident in playful interactive products as the main activity is usually characterized by repeated similar, but not stereotypical, actions performed by the player in order to, for example, reach the different levels of goals of the game. The first and the fifth criteria are, at the same time, obvious and problematic in the case of playful interactive products. Playing is something which does not contribute to immediate survival, although gambling and professional sports contradict this. Playing happens normally outside the normal pressures of everyday life, but at the same time playing, for example, a quick game of Minesweeper during working hours can be used for alleviating the stress of the workplace; the player brackets off the stressful environment by playing the game.

The exaggerated and “useless” movements, awkward positions, and modified action sequences can be explained as caricatures of the actions [17] themselves, but as according to the definition of free play, the clear goal structures are still missing. More game-like play behavior such as play fighting (rat pups) and chasing (dogs) have implicit goals of overcome and contact, and it is clear from the behavior of the animals that there are winners in these games. In both cases of play fighting and chasing, the “losing” animal clearly indicates that the winning condition has been met, i.e. there has been a failure or losing closure. Here we can see the seeds for explicit and codified games we humans play. The goal structures can be analyzed using analytical tools, such as the game design patterns defined by Björk and Holopainen [3], used for describing human games. The book section describing goals and goal structures includes such patterns as Overcome, Exploration, and Contact which appear in many cases of animal play behavior.

The terms ‘play’ and ‘game’ refer to two intertwined, but still different things. Some scholars on videogames, including Frasca, use the terms ‘paidia’ and ‘ludus’ to define the difference between play and game. Frasca has adapted these two terms from the seminal work by Caillois [5] whose original idea was to distinguish between “free play” and “formal play”, but he uses them differently. Paidia and ludus can be seen as the opposite ends of a huge range of activities. Ludus is a form of play with rules that define winners and losers, while paidia is a form of play that does not do this [10]. The difference between ludus and paidia is often, but not always, in whether or not the play activity produces a winner.

Wolf and Perron propose that play is greatly dependent on the attitude of the player: “*It is the player’s state and presence of mind that determine this free activity and make acceptable the given though arbitrary rules. The fun of play is the fun of the player. This is one of the fundamental characteristics of play and games.*” [27 p.240] While the terms paidia and ludus define a continuum between free play

and formal play, the concept of playful approach can be identified around the middle of the continuum. According to Fullerton, Swain & Hoffman [12 p.88], “*Play [in the sense of encompassing both paidia and ludus] is recognized as a way of achieving innovation and creativity because it helps us see things differently or achieve unexpected results. A playful approach can be applied to even the most serious or difficult subjects because playfulness is a state of mind rather than an action*”. A playful approach involves deriving playful experiences from everyday activities and products. Like paidia, being engaged in a playful approach may not have a clear beginning, end, and goal, and it may not appear as playful to a casual observer of the activity. A playful approach means approaching any subject matter or activity with the same attitude as in play: as something that is not serious and that (does not have to have) real-world consequences.

Our hypothesis is that playful experiences emerge from interactive products that allow users to have a playful approach while using them. Thus, it is valuable to gain understanding on how to design products with such properties. In the specific case of the utilitarian product, even though some features enable “getting the job done”, features eliciting a playful approach can lead to using the product for longer period and the user enjoys getting the job done with that particular product.

3 PLAYFUL EXPERIENCE

The main purpose of playful experience research is to understand what aspects constitute the enjoyment of using a product, what kinds of experiences the product can elicit, and how to design something that elicits a certain kind of experience. Attributes such as ‘fun’ and ‘pleasure’ are abstract, and there are uncertainties as to how the different possibilities for supporting playful experiences can be addressed in design. Furthermore, there are huge variations between users in what they find pleasurable or fun [e.g. 23]. For some users, fun consists of hard challenges that stretch their abilities to the extreme, while for others, a pleasurable experience is casual [34] social interaction, aesthetics and beauty. For these reasons, there is a need for more specific categorizations of what kinds of playful experiences the designers are about to address in the design.

3.1 Game Elements

Videogames provide a good opportunity for product designers to explore how to design something that focuses on playful user experience aspects, already at the design phase. Competition in the game industry is hard and gaming experience becomes a crucial factor to differentiate similar kinds of game titles. If a gaming experience is not optimal, players can easily switch to another game. Therefore, it is presumable that game designers have some methods that they use to ensure a reasonably good gaming experience and certain gaming experience is not achieved by chance, but it is intentional.

There are several game models proposed in game design literature, but for our research, we have chosen to use the model developed by Garris et al. [13]. Their model is a composite of several other models that other game researchers have compiled. However, what makes this model particularly interesting is that Garris et al. have used it as a basis of their work, in which they have developed instructional games designed to enhance learning. Our objective is similar in the sense that we try to learn issues from the game design and utilize them in utilitarian product design.

There are six elements in the game model. These give a good understanding of elements that exist in any game, but they might be applied to other domains as well. Fantasy, Control and Rules seem to exist in any interactive product, because they define the boundaries inside which the user needs to act with the product. Sensory Stimuli have been traditionally used to enhance the appeal of the user interface of any product. However, the main focus has been on visual stimuli, but auditory and tactile stimuli are increasingly important as well. Mystery and Challenge are elements which are not usually intentionally designed into utilitarian products, but these two elements can be seen as interesting opportunities to increase playfulness, assuming that they are designed with care.

3.2 Playful Experience Categories

Several game researchers, media artists and designers have aimed to classify various pleasures, elements, uses, gratifications and experiences of play. The aim of such analyses is to inform designers [e.g. 2, 18] or to understand the underlying fundamental elements of pleasure or play [e.g. 1, 5]. So far, one of the most comprehensive models or frameworks of pleasurable experiences has been published by Costello and Edmonds [6]. They studied the pleasures of play through assembling the views of six earlier researchers to a framework, deriving thirteen pleasure categories through cross-referencing:

Creation, Exploration, Discovery, Difficulty, Competition, Danger, Captivation, Sensation, Sympathy, Simulation, Fantasy, Camaraderie and Subversion. The pleasure framework creates an interesting contrast with the more usual user experience paradigm that focuses on usability issues. We consider their work a particularly valuable starting point for the study of playful experiences, as they are oriented towards interactive artworks that necessitate non-trivial input from the audience. However, in the published form, their framework is perhaps too focused on the research of pleasurable playful interfaces in interactive artworks. Our interests are in the broader domain of playful experiences, and in particular, in how to design utilitarian products that elicit playful experiences.

Thus, in order to adjust and expand the analysis done by Costello and Edmonds, we have added the works of several additional researchers and designers to the pool of analyses (Figure 1), producing the first version of the Playful Experience framework (hereafter ‘PLEX’). The analyses we have added to the pool discuss experiences [20, 28], pleasures [18], emotions [22] and elements [37] of play, as well as the reasons people play [2, 42]. All such analyses discuss the fundamental issue: Why people play, what are the properties of playful products that attract people into using them.

As a result of this analysis, we decided to make three considerable changes to Costello and Edmond’s framework, in order to broaden it to better suit all kinds of playful experiences of the interactive products. Our first, and possibly the most important, change to the framework is that we have moved the focus from playful pleasures to playful experiences to indicate that not all such experiences are always pleasurable. We have added a particular category of *Suffering* for experiences of frustration, irritation, anger and humiliation often relevant to play. While suffering is sometimes only a result of bad design, it is also often necessary for good game experiences: If we consider Csikszentmihalyi’s [7] flow theory, it is obvious that creation of flow experiences necessitates, at times, unpleasant pressure in the form of challenges.

Secondly, we have changed the labels of two pleasure categories. We changed the category label *Danger* to *Thrill*, as playing rarely involves actual danger [see 1], and thrill is a more appropriate term to describe these experiences of mediated danger. We also changed category label *Camaraderie* to *Fellowship* in order to broaden this major experience that includes many forms of social interaction, ranging from camaraderie in shooter games and the long-lasting communality in Massively Multiplayer Online Role Playing Games (MMORPG) to the networked interaction of social websites. Further, we have changed *Creation* to *Expression* to broaden it as well, to include creative expression without permanent outcomes.

Thirdly, we have added six new categories. A feeling of *Control* is relevant to playful interactive products, as the feeling of empowerment is highly pleasurable in products such as Google Earth. The second new category, *Nurture*, is a special, even primordial form of interaction that is shown most purely when people play with *Tamagotchi*, but it also relates to player-avatar relationships and teaching new players in MMORPGs. While we have picked nurture from Kubovy [22], its applicability to *Tamagotchi*, *The Sims*, and even some sports manager games seems obvious. The experience category *Completion* is central to all forms of collection, narration and achievement type of activities. *Sadistic* experiences¹ are about destruction, cruelty and inflicting harm, things that are often discussed in the context of multi-player games [e.g. by 2], where many players engage in “grief play”. *Submission* is the experience of submitting to the rules and committing oneself to a larger social construct; a game, a team or a guild. Finally, *Suffering* is a catch-all category for all the unpleasant but necessary play experiences, from anger to frustration that often seems to be inseparable from games.

4. EXPERIMENT

In order to evaluate the playful experience framework, we are conducting a series of experiments which try to identify how users experience different products and which experiences are feasible to pursue in utilitarian product design. There are two main questions to be answered in these experiments. Firstly, are the experience categories valid, especially the new categories which we added to the existing framework defined by Costello and Edmonds. Secondly, are we missing some essential categories of playful experiences which are relevant in interactive products?

¹ According to *The American Heritage Dictionary of English Language* “sadism” means “The deriving of pleasure or the tendency to derive pleasure, from cruelty”. While sadism is often associated with sexuality, we use the word with a non-sexual meaning.

Groos	Caillois	Csikszentmihalyi	Apter	Garneau	LeBlanc	Järvinen	Poels, de Kort & Isselsteijn	Sweetser & Wyeth	Kubovy	Bartle	Yee	Costello & Edmonds	Preliminary PLEX framework
Pleasure of being a cause		Creation		Creation	Expression	Expression						Creation	Expression
												Exploration	Exploration
		Problem solving		Discovery	Discovery	Discovery			Curiosity	Explorers	Achievement	Discovery	Discovery
				Intellectual problem solving		Intellect						Difficulty	Challenge
				Application of skill	Challenge	Challenge		Challenge		Achievers		Competition	Competition
	Competition	Competition		Advancement								Danger	Thrill
Aesthetic sympathy	Chance	Risk & Chance		Thrill of danger		Luck	Suspense					Captivation	Captivation
				Immersion & Beauty			Flow	Immersion			Immersion	Sensation	Sensation
	Vertigo		Arousing Stimulation	Physical Activity	Sensation	Sensation	Sensory immersion					Sympathy	Sympathy
												Simulation	Simulation
Pleasure of make believe	Simulation											Fantasy	Fantasy
		Friendship & Relaxation	Fiction & Narrative	Narrative		Narrative							
				Fantasy		Fantasy	Imaginative immersion						
				Love & Social interaction	Fellowship	Fellowship	Social presence	Social interaction	Sociality	Socializers	Relationship Leadership	Camaraderie	Fellowship
			Negativism & Cognitive Synergy	Comedy								Subversion	Subversion
				Power			Competence & Control	Control & Feedback	Virtuosity	Killers	Grief		Control
									Nurture	Socializers	Relationship		Nurture
				Completion						Achievers	Achievement		Completion
						Sadism				Killers	Grief		Sadism
					Submission								Submission
						Masochism	Negative Affect		Suffering				Suffering

Figure 1 Comparative analysis used as a foundation of the study described in this paper. Turquoise boxes describe the Costello and Edmonds's model. Green boxes are additions we have included to the analysis of playful experiences. See Table 2 for definitions of each playful experience category

In this paper, we report the first experiment in which we study videogames in order to find out how players experience games and what kinds of experiences the games can elicit. We decided to start with videogames because they usually elicit experiences at a fast pace and the players can experience the game in many different ways. We selected three games: *Grand Theft Auto IV*, *The Sims 2*, and *Spore* for this study. *GTA IV* attracts mostly male players with fast cars, big guns, music, humor and “immoral” behavior. *The Sims 2* is a game in which a player creates families and builds houses in which the families can live their lives. The game characters go to work, get married, raise children and do ordinary things. The player has limited control of the lives of the characters, called Sims. The game probably attracts female players. *Spore* is an action and strategy game where the player is responsible of the evolution of a species. The player controls the development of a creature through different stages, starting from the cell stage and finishing with the colonization of other planets. During the evolution, the player is able to select abilities the creature will have and how it interacts with other creatures.

Each game represents a different game genre, and is likely to elicit different experiences in the players. We chose these three popular games, as we assumed that they are good at producing powerful and desirable experiences. All three games are also very large: *GTA* and *Spore* have several play modes, while *The Sims 2* supports free and creative play. Indeed, our hypothesis was that studying *GTA* alone could provide us with some evidence of most of the playful experiences defined in our framework, but including other two games will probably make it more obvious.

4.1. Participants

We recruited 13 participants for interviews, four players of *GTA* and *Spore* and five players of *The Sims 2*. All participants were adults with a thorough experience with the games (Table 1). All participants were active players, who played digital games at least on a weekly basis.

Table 1 Participants' demographic and game experience data

Game	Participants	Demographics	Game Experience
<i>Grand Theft Auto IV</i>	Male: 4 Female: -	Average age: 32 ($\sigma=1.25$, min=31, max=34)	On average 40 hours
<i>The Sims 2</i>	Male: 1 Female: 4	Average age: 31 ($\sigma=5$, min=26, max=39)	From 50 hours to several years
<i>Spore</i>	Male: 4 Female: -	Average age: 30 ($\sigma=5.65$, min=26, max=38)	On average 20 hours

4.2. Procedure

The participants were interviewed using semi-structured questions. In addition, we used a loose version of the laddering method [29] in order to find out the fundamental aspects why the players are experiencing the game in certain ways. Initially, we asked both generic questions and questions particularly related to our PLEX categories. For example, “Please tell me the topmost impressions you have from playing *GTA*?” is a generic question, while the following one seeks to find evidence of Sadism specifically: “Did you ever harm your Sims intentionally? How did you feel about that?” Further questions were asked based on the answers. For example, if the topmost feeling of *GTA* player was that the game was “convincing and impressive”, we asked further questions on what the interviewee meant with “convincing” and “impressive”, to gain a more detailed understanding of the experiences.

The interviews were quite comprehensive. For example, the *GTA* interview had 20 questions regarding general feelings, driving, chases, difficult missions, failures, buddies, girlfriends, radio channels, illegal activities, character customization, freedom of choice, realism, nightlife, multi-player, most intense experiences, and negative experiences. The interview questions were tailored for each game in the study. We inquired about the game in general and about issues relevant to each game specifically.

The interviews were one to one interviews and they lasted from half an hour to one hour. The interviews were audio recorded and transcribed for qualitative data analysis. All interviews except one was conducted in Finnish (quotations used in this paper are the authors' translations). In the analysis, we first removed all statements that had been directly prompted by the interviewer. For instance, if the interviewer erred in asking “Was it thrilling to drive fast?”, we disregarded any comments on thrill that followed the question.

Then we analyzed the transcripts in order to find direct statements, indirect statements, and negations showing traces of the different experiences. For instance, “*It is always fun to play a god*” was categorized as direct evidence of Control, even though the exact word does not appear in the statement. A statement where the interviewee said that she avoids playing romantic scenes in *The Sims 2* when playing with her daughter was interpreted as indirect evidence of Eroticism (in the context of the interview). A statement that *GTA* allows too little character customization compared to *World of Warcraft*, where you can express yourself as a “creative fashion designer”, was interpreted as evidence of Expression through negation – even while *GTA* did not elicit Expression here, the comment indicates the relevance of Expression based on the experiences from another product.

5. RESULTS

We will go through every proposed playful experience category in order, discussing the evidence we found from the interviews. Strong priority has been given to direct statements, and indirect statements have only been used to support direct statements. As our study is not quantitative, and our sample for each game was small, we do not present number comparisons between games: The purpose of this study was to validate and develop the PLEX framework, not so much compare those games.

Captivation: As Captivation was largely based on Csikszentmihalyi’s [7] concept of flow, it was not surprising that plenty of evidence was found from all three games. Most of the players implied they had e.g. lost the sense of time during play or played longer than they had originally planned.

Challenge: More than half of the participants discussed challenges directly. While *Spore* interviewees said that more Challenge would have been needed, some *The Sims 2* players were happy without any challenge. Players of all games also said that they learn while playing the games. Two *Sims 2* players said that there is no challenge at all in the game, while two others did find it challenging.

Completion: One half of the interviewees spoke about the pleasure of completion. “*It’s like yeah, I’m reaching the destination*”, “*It felt like getting rid of a burden*”. This experience was largely regarded as positive, but at least one interviewee said that it is also a sad feeling.

Competition: As all the games in the sample were *mainly* single-player games, few interviewees had played against other players. Nevertheless, a *Sims 2* player talked about “*competing against the clock*” in some challenges, while a *Spore* player said that he enjoys winning when competing against the computer.

Control: Half of the players discussed Control. In *Sims 2* and *Spore*, Control is manifested in playing the god, while in *GTA* the feeling can come from the good performance of a car. One *Spore* player stated that he wanted to become powerful in order to gain more control and confidence in the game.

Discovery: One third of the players had had feelings of Discovery. They had found places in *GTA* and *Spore*, and discovered new things and behavior about their Sims during the game.

Exploration: Exploration took many forms. In *GTA* and *Spore* it was about exploring virtual space, but in *Sims 2* the exploration was also about the Sims’ behavior. *Sims 2* was also regarded as exploration of oneself, as one player explored with different kinds of family setups and different kinds of sexuality. Another player said that she explored different lifestyles, wondering if she could live in an alternate fashion.

Expression: Both *Spore* and *Sims 2* allowed expression, especially in the sense of creating items, objects, and characters. *GTA* players supported this finding through negation; Limits of the character customization was criticized, and the players brought up their disappointment in comparison with various other games.

Fantasy: Especially *Sims 2* was regarded as fantastic world away from everyday life, and as a place where players can make stories happen. *GTA* was discussed like a movie: The players appreciated the tragic, ugly, disgusting and filthy storyline of the game.

Fellowship: The male NPCs of *GTA* elicited feelings of Fellowship and were appreciated by the players. The “*feeling of authentic male bonding*” was especially strong when fighting alongside them.

Nurture: Both *Spore* and *Sims 2* elicited some Nurture, as children grew up and the creatures felt real. The *Sims* children and the *GTA* girlfriends were also disliked for their constant need of attention.

Sadism: Three *Sims 2* players occasionally mistreated their Sims in a sadistic fashion, while two others strictly denied it. All *GTA* players also liked to occasionally kill bystanders and create a hassle. Many players stated that this is fun because you can do such things with no consequences and burden in the game afterwards.

Sensation: Half of the players appreciated the audiovisual sensations. *GTA* players even found the question strange, as the good audiovisual quality of video games is considered obvious.

Simulation: *GTA* and *Sims 2* were considered lively and authentic, even though many players specified that these games are not considered realistic. The games are places where players simulate things that cannot be done in real life.

Submission: We had expected to find submissive experiences from players belonging to teams or guilds, or from players who found that they were confounded by the game rules and restrictions (as Suits’ [36] discussion on *lusory attitude* would make one assume). However, in this study those experiences did not show up, except for feelings of frustration that we categorized under Suffering.

Subversion: Two *Sims 2* players stated that they like to experiment with “*less socially acceptable*”² things, such as homosexuality, in the game. In *GTA*, Subversive experiences were elicited especially by the satire and irony on the various society-critical radio channels of the game. All players brought up their personal values, and discussed how they either followed them or broke them in play.

Suffering: Along with captivation, various experiences of suffering came up most commonly. They included boredom, anxiety, irritation, frustration, anger, panic, worry, stress and feeling of routine while playing the game. Many interviewees realized the value of these feelings in the context of play.

Sympathy: While the *GTA* characters often elicited Fellowship, the Sims elicited sympathy almost in all players. Sympathy was manifest in feelings of happiness and sadness on behalf of them. Some players of *Spore* and *Sims 2* explicitly denied feelings of sympathy towards the game characters.

Thrill: The feeling of speed was the most common source of thrill in these three games, even though the players also claimed that they were not scared while playing the game. One interviewee stated that he finds it pleasurable to feel the adrenaline produced through play.

As a result, we decided to remove Submission from the PLEX framework for now. In addition to confirming 18 of the 19 categories from the pooled analyses above, we used open questions to discover further experiences. The following two categories emerged in the process of the analysis:

Eroticism: *Sims 2* and *GTA* elicited erotic experiences. One *Sims 2* player mentioned that the game allows her to create erotic fantasies that produce sexual arousal, while another commented that *Sims 2* is erotic, and thus she avoids romantic affairs when playing with her daughter. Sihvonen discusses the cultures of *Sims 2* [33], providing detail and insight on e.g. erotic, subversive and sadistic play practices. Two of the *GTA* players experienced the sleazy night life of *GTA* at least slightly erotic: “*Well yeah I did go watch [the strippers] occasionally, but you know you get better stuff from the Internet*”.

² The quoted interviewee found homosexuality politically incorrect. The fact that the authors of this paper disagree with the view does not lessen the value of the statement as evidence of subversive play.

Relaxation: Unwinding, relaxation and pastime were referred to by half of the interviews, and was undeniably a central gratification of all these games.

6. DISCUSSION

The interviews gave support to the existence of 20 categories of playful experiences in the games *The Sims 2*, *Grand Theft Auto IV* and *Spore*. All the final categories (Table 2) were mentioned on numerous occasions and in the context of at least two different games. Roughly speaking, approximately 18 categories were found in *Sims 2*, 17 in *GTA* and 16 in *Spore*. This finding indicates that digital games exploit a large and nuanced experiential palette.

Table 2 Definitions of PLEX Framework Categories

Category	Description
Captivation	Experience of forgetting one's surroundings
Challenge	Experience of having to develop and exercise skills in a challenging situation
Competition	Experience of victory-oriented competition against oneself, opponent or system
Completion	Experience of completion, finishing and closure, in relation to an earlier task or tension
Control	Experience power, mastery, control or virtuosity
Discovery	Experience of discovering a new solution, place or property
Eroticism	Experience of sexual pleasure or arousal
Exploration	Experience of exploring or investigating a world, affordance, puzzle or situation
Expression	Experience of creating something or expressing oneself in a creative fashion
Fantasy	Experience of make-believe involving fantastical narratives, worlds or characters
Fellowship	Experience of friendship, fellowship, communality or intimacy
Nurture	Experience of nurturing, grooming or caretaking
Relaxation	Experience of unwinding, relaxation or stress relief. Calmness during play
Sadism	Experience of destruction and exerting power over others
Sensation	Meaningful sensory experience
Simulation	Experience of perceiving a representation of everyday life
Subversion	Experience of breaking social roles, rules and norms
Suffering	Experience of frustration, anger, boredom and disappointment typical to playing
Sympathy	Experience of sharing emotional feelings
Thrill	Experience of thrill derived from an actual or perceived danger or risk

We are by no means certain that these 20 categories capture the entire scope of digital gaming or playfulness. There are some additional categories currently under consideration: While at least disgust, humor, cuteness, identification, and tragedy are lacking in the comparative analysis presented in Figure 1, the interviews gave some indication that they could possibly be included into the framework. The deeper we have looked into playful experiences, the richer the landscape has turned out to be. In simulative games, many experiences are rather similar to ordinary life experiences. For example, game-mediated discovery, exploration, satire, and eroticism are perceived in a fashion similar to the way satire and eroticism are perceived when mediated outside games. In social online games, such as *EVE Online*, the entire spectrum of social experiences may be present, including friendship, love, camaraderie, communality, admiration, pride, trust, relationship, leadership, patriotism, shame, jealousy, envy, greed, grief, hatred, to mention a few. It is in fact difficult to come up with an experience that could not be experienced (in some form) as a part of play. Indeed, the question remains: Are “playful experiences” any more finite than the group of “human experiences”?

As long as this kind of categorization is not founded on psychological grounds, it will remain a somewhat arbitrary construction as a design and evaluation metaphor that focuses attention on some experiences while implicitly hiding others. This arbitrary nature always leaves open a number of questions; for example: “How does classical tragedy fit into the PLEX framework?”, “Is Challenge the right place for all learning experiences?” and “Should Exploration and Discovery be merged into one category?” Therefore, we are continuing studies on these experiments and in the future we will also evaluate other products than games to see if these findings are still valid.

It seems obvious that in future iterations, the PLEX framework needs to be focused and refined. One prospective avenue of investigation is building fewer and larger categories and sorting specific

experiences inside those categories. For instance, the Suffering category could be opened up to differentiate anger, frustration, boredom and anxiety, while the Fantasy category might include various more specific experiences related to simulation, imaginative immersion and narrative experiences. From such a modular collection, appropriate elements could be chosen for each particular evaluation.

7. CONCLUSIONS

In this paper, we have presented the first version of the playful experiences framework which is based on the pleasurable experience framework defined by Costello and Edmonds [6]. We extended their categories by reviewing several game studies which have identified game experiences that are important in videogames. As a result, we defined 19 playful experience categories that could be useful when designing products outside of the game domain. In order to validate these experience categories, we conducted a user study and interviewed 13 players about their experiences with videogames. The interview results indicated that the players are experiencing the games in many different ways which can be found in the playful experience categories that we defined. The players found, for example, the feeling of control, expression and even sadism while they were playing the games. However, there were also two new experiences that were missing from our initial definitions, namely *Eroticism* and *Relaxation*. The study results revealed that both of these experiences are relevant and the players are seeking these kinds of experiences when they are playing the games. Even though the list of playful experience categories is not a scientific representation of the psycho-physiological reality of human experience, it can be used as an aesthetic tool for the design and evaluation of non-utilitarian features of the products that can make the products more engaging, attractive and playful for users.

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