

Fundamental Components of the Gameplay Experience

Analysing Immersion

Introductory Note

This co-authored paper is based on research that originated in 2003 when our team started a series of extensive field studies into the character of gameplay experiences. Originally within the *Children as the Actors of Game Cultures* research project, our aim was to better understand why particularly young people enjoy playing games, while also asking their parents how they perceive gaming as playing partners or as close observers. Gradually our in-depth interviews started to reveal a complex picture of more general relevance, where personal experiences, social contexts and cultural practices all came together to frame gameplay within something we called game cultures. Culture was the keyword, since we were not interested in studying games and play experiences in isolation, but rather as part of the rich meaning-making practices of lived reality.

In retrospect, our analysis of immersion has maintained much of its significance, and I must again thank my co-author Laura Ermi, who as a trained psychologist also was the main author during the construction of research instruments and in the analysis of our findings. I personally profited not only by learning immensely from Laura, but also from the interdisciplinary team work that later led us to study casual games and gamers, as well as social games played on Facebook and elsewhere. This was also a direction that best reveals the inevitable limitations of the present paper.

Not all players and game experiences are as powerfully oriented towards immersion as the others; this is something that we already hint at the end of the paper as we discuss THE SIMS 2 as proving to be a less immersive game than some others. Yet, apparently this game was much preferred and enjoyed by some players, probably in part because of its playful and casual, toy-like characteristics. Therefore, strong immersion cannot be directly equated with a 'good game experience', even while it might mean a 'powerful game experience'. As the game takes complete hold of a player's faculties – of their mind and hands as well as imaginations – it inevitably also blocks off certain other directions. Particularly in social situations a less immersive game might be preferred, so that it is possible to divide attention to social interactions with other people, in addition to the stimulus provided by the game. The model presented in this paper can nevertheless be used to understand and evaluate how the different elements in more casual games also involve a degree of (casual) gameplay challenge, an incentive for imagination and some sensory attractions.

After this work was first published in 2005, I have developed a more comprehensive view into how games can be approached within a wider setting of cultural, societal and intellectual contexts in my book *An Introduction to Game Studies. Games in Culture* from 2008. A key distinction in that book relies on the dual structure model: the 'surface' of digital games as digital audiovisual media is equally as important for understanding games and gameplay experiences, as the 'core gameplay' which is at the heart of playful interaction. This is effectively a continuation of the SCI-model presented in this paper, as it builds upon the ontological differences between challenge, which is at the core of playful action, and visual, auditive and fictional elements that relate to everything else that frames these challenges into certain kinds of experiences. Game experiences differ on the basis of

see video recording of this *DIGAREC Keynote-Lecture* on:

http://info.ub.uni-potsdam.de/multimedia/show_projekt.php?projekt_id=72#72
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these relationships: sometimes the gameplay becomes the focus of our attention, sometimes it is the fictional universe in which the game is situated, sometimes it is the graphic splendour that emerges as the real reason why we play a particular game. None of them is worse than another. Games are what we make out of them – what we do with them, what we think about them, speak about them, and even the ways in which we approach them in scholarly practice have an effect of how the meaning and experience of games becomes constructed.

Wishing you all productive gaming

Frans Mäyrä – Tampere, May 31, 2010

Introduction: Players, Experiences and Fun

There has been a relative boom of games research that has focused on the definition and ontology of games, but its complementary part, that of research into the gameplay experience, has not been adopted by academics in a similar manner. This is partly due to the disciplinary tilt among the current generation of ludologists: a background in either art, literary or media studies, or in the applied field of game design, naturally leads to research in which the game, rather than the player, is the focus of attention. Yet, the essence of a game is rooted in its interactive nature, and there is no game without a player. The act of playing a game is where the rules embedded into the game's structure start operating, and its program code starts having an effect on cultural and social as well as artistic and commercial realities. If we want to understand what a game is, we need to understand what happens in the act of playing, and we need to understand the player and the experience of gameplay. In this chapter, we discuss the ways in which the gameplay experience can be conceptualized, provide a model that organizes some of its fundamental components, and conclude with an assessment of the model with some directions for further research.

Human experience in virtual environments and games is made of the same elements as all other experiences, and the gameplay experience can be defined as an ensemble made up of the player's sensations, thoughts, feelings, actions, and meaning-making in a gameplay setting. Thus it is not a property or a direct cause of certain elements of a game but something that emerges in a unique interaction process between the game and the player. It has also been suggested that games are actually more like artifacts than media (Hunicke et al. 2004). Players do not just engage in ready-made gameplay, but also actively take part in the construction of these experiences: they bring their desires, anticipations and previous experiences with them, and interpret and reflect the experience in that light. For example, a certain gameplay session might be interpreted as fun, challenging, and victorious until one hears that a friend of the player reached a better score effortlessly, after which it might be reinterpreted as closer to a waste of time. Experiences are also largely context dependent: the same activity can be interpreted as highly pleasant in some contexts but possibly unattractive in other kinds of settings (Blythe/Hassenzahl 2003). The social context is central to gameplay experiences, which was also illustrated by the example above.

Looking at the discourses of current digital game cultures, 'gameplay' is used to describe the essential but elusive quality defining the character of a game as a game, the quality of its 'gameness.' In their book on game design, Rollings and Adams (2003:199) decline to define the concept because, according to them, gameplay is "the result of a large number of contributing elements". Yet, anyone who plays games long enough will form their own conception of bad or good gameplay on the basis of their experience. This experience is informed by multiple significant game elements, which can be very different in games from different genres, as well as by the abilities and preferences of the players. This starting point can further be illustrated by a quote from Chris Crawford (1982:15):

I suggest that this elusive trait [game play] is derived from the combination of pace and cognitive effort required by the game. Games like *TEMPEST* have a demonic pace while games like *BATTLEZONE* have far more deliberate pace. Despite this difference, both games have good game play, for the pace is appropriate to the cognitive demands of the game.

This definition actually translates gameplay into a particular balanced relation between the level of challenge and the abilities of the player. Challenge consists of two main dimensions, the challenge of speed or 'pace' and 'cognitive challenges.' The quality of gameplay is good when these challenges are in balance with each other, and what the appropriate balance is obviously depends on the abilities of the player. On the other hand, one of the most influential theories of fun and creative action, the flow theory by Mihaly Csikszentmihalyi (1991), identifies the 'flow state' as a particularly successful balance of the perceived level of challenge and the skills of the person. In this highly intensive state, one is fully absorbed within the activity, and one often loses one's sense of time and gains powerful gratification. Digital games are generally excellent in providing opportunities for flow-like experiences since the challenges they present are often gradually becoming more demanding, and thus players end up acting at the limits of their skills. In addition, the feedback given to the player is immediate. The activity of playing a game is a goal in itself.

People play games for the experience that can only be achieved by engaging in the gameplay. In other words, a game's value proposition lies in how it might make its players think and feel (Lazzaro 2004), and 'fun' is the ultimate emotional state that they expect to experience as a consequence of playing (Bartle 2004). Expectations and enjoyment are shaped by the schemas that players have. A player can, for example, recognize the genre of a game by observing various genre-typical details and then use her schema of that genre to inter-

pret those details (Douglas/Hargadon 2000). Brown and Cairns (2004) have noted that players choose games they play according to their mood, and it is to be expected that people especially seek games that elicit optimal emotional responses or response patterns (Ravaja et al. 2004). Thus, when choosing to play a certain game, one might anticipate it to create certain types of experiences.

However, fun and pleasure are complex concepts. Playing games does not always feel fun: on the contrary, it quite often appears to be stressful and frustrating. Experiences that are usually classed as unpleasant can be experienced as pleasurable in certain contexts (De-Jean 2002). So, what makes, for example, failing fun? Klimmt (2003) has applied Zillmann's excitation transfer theory and proposed that the suspense, anxiety and physical arousal elicited by playing are interpreted as positive feelings because players anticipate a resolution and a closure such as winning the game or completing the task. When players manage to cope with a given situation successfully, the arousal is turned into euphoria, and the players experience this kind of cycle of suspense and relief as pleasurable. Klimmt has constructed a three-level model of the enjoyment of playing digital games, the first level of which consists of the interactive input-output loops, the second of cyclic feelings of suspense and relief, and the third is related to the fascination of a temporary escape into another world.

Grodal (2003) regards digital games as a distinctive medium because they allow what he calls "the full experiential flow" by linking perceptions, cognitions, and emotions with first-person actions. The player must have and develop certain skills, both motor and cognitive, in order to engage in gameplay. It is widely acknowledged that digital gameplay experiences are based on learning and rehearsing (Gee 2003, Koster 2005), and according to Grodal (2003) it is the aesthetic of repetition that characterizes the pleasures of gameplaying. In the first encounter with a new game, the player experiences unfamiliarity and challenge and starts to explore the game. After enough

effort and repetitions, the player can get to a point where they master the game, and game playing eventually reaches the point of automation and does not feel as fun any longer. Thus, games can be considered as puzzles that the players try to solve by investigating the game world (Newman 2004).

When playing games, it is not enough to just sit and watch and possibly activate some cognitive schemas. Instead, the player must become an active participant. When successful, this type of participation leads to strong gameplay experiences that can have a particularly powerful hold on the player's actions and attention. This basic character of gameplay becomes even clearer when we study the way immersion is created in playing a game.

Immersion as a Component of the Gameplay Experience

Pine and Gillmore (1999) have categorized different types of experiences according to two dimensions: participation and connection. The dimension of participation varies from active to passive participation and the dimension of connection varies from absorption to immersion. Absorption means directing attention to an experience that is brought to mind, whereas immersion means becoming physically or virtually a part of the experience itself. Four realms of experience can be defined with these dimensions: entertainment (absorption and passive participation), educational (absorption and active participation), aesthetic (immersion and passive participation) and escapist (immersion and active participation). In terms of this categorization, gameplay experiences can be classified as escapist experiences, where in addition to active participation, immersion also plays a central role.

Furthermore, the concept of immersion is widely used in discussing digital games and gameplay experiences. Players, designers, and researchers use it as well, but often in an unspecified and vague way

without clearly stating to what kind of experiences or phenomena it actually refers. In media studies, the concept of “presence” has been used with an aim to assess the so-called immersivity of the system. There are different ways to define the sense of presence, but on the whole, the concept refers to a psychological experience of non-mediation, i.e. the sense of being in a world generated by the computer instead of just using a computer (Lombard/Ditton 1997). As immersion can be defined as “the sensation of being surrounded by a completely other reality [...] that takes over all of our attention, our whole perceptual apparatus” (Murray 1997:98) immersion and presence do not actually fall very far from each other, and are in fact often used as synonyms. However, since the term ‘presence’ was originally developed in the context of teleoperations it also relies heavily on the metaphor of transportation. In the context of digital games, we prefer using the term “immersion,” because it more clearly connotes the mental processes involved in gameplay.

It is often taken for granted that a bigger screen and better audio quality equal greater immersion (Newman 2004). It is of course likely that the audiovisual implementation of the game has something to do with immersive experiences, but it is by no means the only or even the most significant factor. McMahan (2003:69) has listed three conditions to be met in order to create a sense of immersion in digital games: the conventions of the game matching the user expectations, meaningful things to do for the player, and a consistent game world. Genre fiction encourages players to form hypotheses and expectations and, according to Douglas and Hargadon (2000), pleasures of immersion derive from the absorption within a familiar schema. On the other hand, meaningful play as defined by Salen and Zimmerman (2004) occurs when the relationships between actions and outcomes are both discernable and integrated. Discernability indicates letting the player know what happens when they take action, and integration means tying those actions and outcomes into the larger

context of the game. And just like any manipulation, acting in the game world requires relevant functionality and ways to access this functionality (i.e., usability) (Hassenzahl 2003). Thus, the audiovisual, functional, and structural playability as defined by Järvinen, Heliö and Mäyrä (2002) can be seen as prerequisites for gameplay immersion and rewarding gameplay experiences. On a very basic level, it can be argued that it is the basic visual-motor links that enable experiences of immersion even in games in which the graphics are not very impressive (Klimmt 2003, Grodal 2003). The increasing demand on working memory also seems to increase immersion (Gee 2003). For example, an increase in the difficulty level may cause an increase in the feeling of presence (Douglas/Hargadon 2002).

Brown and Cairns (2004) have presented a classification that categorizes immersion into gameplay in three levels of involvement. Ranging from “engagement” via “engrossment” to “total immersion,” their model is useful in pointing out how the amount of involvement may fluctuate. However, this approach nevertheless fails to adequately respond to the qualitative differences between different modes of involvement, which is also apparent in the clear individual preferences different players have in different game types or genres. Brown and Cairns see total immersion as a synonym for presence. They agree that immersion seems to have many common features with flow experiences. However, in the context of digital games flow-like phenomena seem only to be fleeting experiences, which in turn suggests that they are something different from flow as traditionally conceived. Thus, the flow-like experiences related to gameplay could be called “micro-flow” (Blythe/Hassenzahl 2003) or “gameflow” (Järvinen et al. 2002), for example.

Funk, Pasold and Baumgardner (2003) have created a gameplay experience questionnaire in order to investigate the effects of exposure to fantasy violence. They developed a measure that concentrates on what they call “psychological absorption”, but does not

differentiate between different kinds of gameplay experiences even though the theoretical model presented suggests that there are at least two kinds of experiences: absorption and flow. We argue that in order to understand what games and playing fundamentally are, we need to be able to make qualitative distinctions between the key components of the gameplay experience, and also relate them to various characteristics of games and players. In this chapter, we approach immersion as one of the key components of the gameplay experience and analyze its different aspects.

The Attractions of Digital Games

The starting point of our research was the twofold perspective we gained in 2003 while interviewing Finnish children who actively played digital games alongside with their parents, who mostly did not play such games themselves (Ermi et al. 2004). The parents expressed concern because they thought that their children became too intensely emotionally immersed, or too involved with the game fiction, while playing. They agreed with the common conception that it was particularly the realistic and high-quality graphics and audio of contemporary games that explained their immersive powers. In contrast, the children thought that the emotional immersion and involvement in fiction was typically stronger for them while reading a good book or while watching a movie. They emphasized the role of the characters and storylines in this kind of experience, while they also acknowledged often becoming immersed in games, but in different ways than in literature or cinema, in which emotional identification or engrossment was more common for them than in games.

Well, you immerse yourself more into a book, I think. I don't know many reasons for that, but at least I lose myself more into books than in games. In games I usually only just play, or then I sort of follow the plot, but in books it is kind of more exciting, because

the plot is the main part, and in games the main part is moving things yourself and such, in games the plot is just secondary. (Boy, 12 years)

When discussing games, children stated that the main difference between games and novels or movies was the games' interactivity: the opportunity to make decisions, take actions, and have an effect on the gameplay. Some of them also considered this to be the most immersive aspect of games. In movies I do not identify with the main character at all. I just watch what he does. But in a book, if I read about the actions of some main character, then I identify with him as I would be the character myself. Or at least I immerse myself more into it. But in a game you immerse yourself most of all, because you actually do things with that guy, with that character, most of all. (Boy, 11 years)

Another thing that clearly separated children's experiences with games from their experiences with books and movies was the social quality of gameplay. Children often played together with their friends and siblings, and games were notable discussion topics on schoolyards etc.

When in it [a book] you can go and figure with your own brain like, ok, now it [the character] is doing this and that. [...] Yes it [a game] is a bit different, as you can say to your friend that hey, look this is doing this and that, but in books you cannot really, because you are not reading with your friend. (Girl, 10 years)

As we were curious about these different ways of perceiving game "immersion," we studied the responses further and analyzed the children's accounts of playing games and the different holding powers they had recognized in games in order to shed some light on the structure of the experience.

In the light of the interviews, the pleasures of gameplay derive from several different sources (Ermi/Mäyrä 2003); see Figure 1. According to the children, the *audiovisual quality and style* was one of the central aspects of good digital games. For example, good-looking graphics could make the game more appealing, and well-functioning camera angles were associated with good playability. However, children perceived game aesthetics in different ways. Some of them especially liked cartoon style graphics, whereas others felt they were too childish and preferred as realistic looking graphical style as possible.

Children also analyzed the various ways in which the *level of challenge* was balanced in games quite carefully.

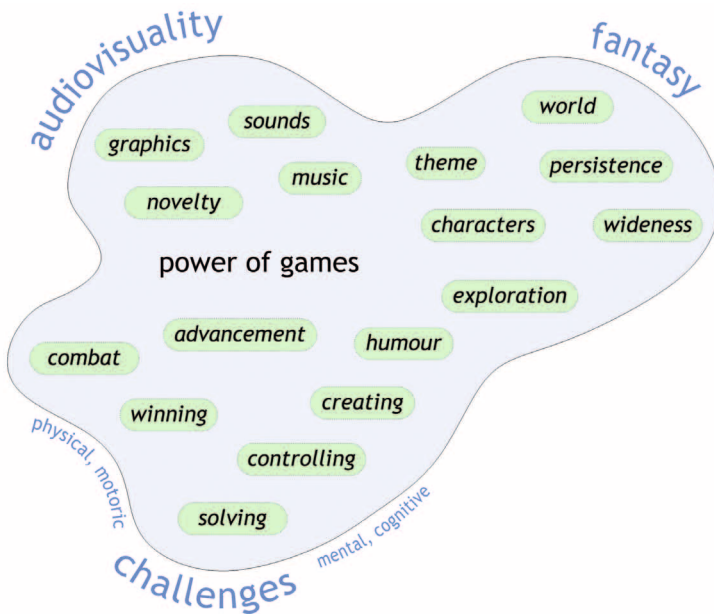


Fig. 1: Elements Related to Pleasurable Gameplay Experiences that Emerged in the Interviews with the Children (Ermi/Mäyrä 2003)

The pleasure derived from playing was strongly related to experiences of succeeding and advancing, and uncertainty of the final outcome was an important factor in the overall suspense of playing. The challenges of gameplay seemed to be related to two different domains: to sensomotor abilities such as using the controls and reacting fast, and, secondly to the cognitive challenges. Even though pure puzzle games were not very popular, children liked games in which problem solving was an integral part of the storyline or adventure of the game.

Thirdly, children considered *imaginary world and fantasy* to be central in many games. For them, the game characters, worlds and storylines were central elements of the games they liked to play. One important aspect of the imaginary worlds was that children could do things in them that were not possible or even acceptable in their everyday lives, for example beating up a policeman or having two children living in a big house without any adults. After analyzing these observations, we followed the principles of grounded theory approach to create a theory that accounted for the findings.

A Gameplay Experience Model

Our research suggests that the gameplay experience and immersion into a game are multidimensional phenomena. The issue here is not that parents would have drawn the wrong conclusions while observing their child's playing, or that the children themselves would not be able to understand their own immersion experiences. Rather, the answer is that immersion is a many-faceted phenomenon with different aspects that can appear and be emphasized differently in the individual cases of different games and players.

In the gameplay experience model presented here (abbreviated as SCI-model, on the basis of its key components; see Fig. 2), gameplay is represented as interaction between a particular kind of a game and a particular kind of a game player. Our model is a heuristic representation of key elements that structure the gameplay experience.

It is not intended to constitute a comprehensive analysis, but rather designed to guide attention to the complex dynamics that are involved in the interaction between a player and a game. The complex internal organization of a “game” and a “player” in particular are left schematic here, as the focus is on the consciousness structured by the interplay, rather than on an analysis of games or players in themselves. The gameplay experience can be perceived as a temporal experience, in which finally the interpretation made by the player also takes into account other information such as peer influence, game reviews, and other frames of sociocultural reference.

The first dimension of a gameplay experience that we distinguish is the *sensory immersion* related to the audiovisual execution of games. This is something that even those with less experience with games – like the parents of the children that were interviewed – can recognize: digital games have evolved into audiovisually impressive, three-dimensional and stereophonic worlds that surround their players in a very comprehensive manner. Large screens close to player’s face and powerful sounds easily overpower the sensory information coming from the real world, and the player becomes entirely focused on the game world and its stimuli.

Another form of immersion that is particularly central for games, as they are fundamentally based on interaction, is *challenge-based immersion*. This is the feeling of immersion that is at its most powerful when one is able to achieve a satisfying balance of challenges and abilities. Challenges can be related to motor skills or mental skills such as strategic thinking or logical problem solving, but they usually involve both to some degree.

In several contemporary games the worlds, characters and story elements have also become very central, even if the game would not be classifiable as an actual role-playing game. We call this dimension of game experience, in which one becomes absorbed with the stories and the world, or begins to feel for or identify with a game character,

imaginative immersion. This is the area in which the game offers the player a chance to use their imagination, empathize with the characters, or just enjoy the fantasy of the game.

For example, multi-sensory virtual reality environments such as CAVE (Cruz-Neira et al. 1992), or just a simple screensaver, could provide the purest form of sensory immersion, while the experience of imaginative immersion would be most prominent when one becomes absorbed in a good novel. Movies would combine both of these. But challenge-based immersion has an essential role in digital games since the gameplay requires active participation: players are constantly faced with both mental and physical challenges that keep them playing. Since many contemporary digital games have richer audiovisual and narrative content than, for example, classic *Tetris*, these three dimensions of immersion usually mix and overlap in many ways. In other words, the factors that potentially contribute to imaginative immersion (e.g., characters, world, and storyline) are also apparent in the interaction design (e.g., goal structures) and the audiovisual design (how goals, characters and, the world are represented and perceived) of well-integrated game designs.

The overall significance of a game for a player can be greater than the sum of its parts. In our model, 'meaning' is the part through which a player makes sense of their play experience and constructs their interpretation of the game against the backdrop of the various personal and social contexts of their life. Thus it relates to the traditions of pragmatics, phenomenology, and cultural studies as much as to that of semiotics or psychology in a conceptual sense. The contexts of a gameplay experience also include factors such as who the player is (in terms of the rich complexities of personal histories), what kind of previous experience they have with this game or game genre, and how cultural and social factors affect the role games have in their life in more general terms. In addition, situational contexts can have a decisive role in structuring the experience: Who is the game

played with? Is there a specific reason to play this game right at that moment? Is the player playing to vent frustrations, for example, or is the significance of this gameplay in the shared moments with friends? All these various contextual factors have their distinctive roles in the interpretation of an experience and are therefore included in the model.

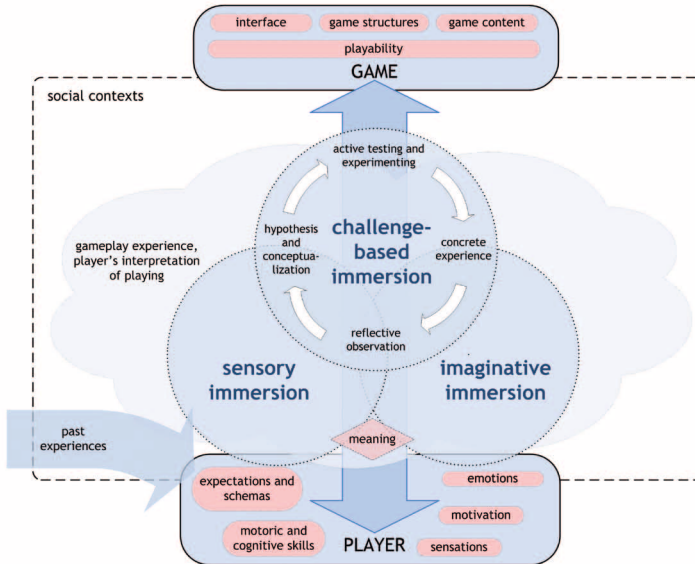


Fig. 2: SCI-Model Identifies the Three Key Dimensions of Immersion that are Related to Several Other Fundamental Components, which Have a Role in the Formation of the Gameplay Experience

The Gameplay Experience Model in Practice

After creating the model, we were interested to find out how the different aspects of immersion actually appear in contemporary digital games. We constructed a questionnaire that initially consisted of thirty statements addressing the three aspects of gameplay immer-

sion and responses given on a 5-point Likert scale. In March 2005, we invited players of certain popular games to evaluate their experiences of these games. The respondents were recruited from among thousand Finnish participants that had filled in another game-related online questionnaire. The games were chosen on a twofold basis: on one hand, we had to pick games that were played among the informants and on the other hand, we tried to cover as wide a range of different kinds of game genres as possible. The games and the amount of the completed gameplay experience self-evaluation questionnaires are shown in Fig. 3.

WORLD OF WARCRAFT (2004)	35
HALF-LIFE 2 (2004)	34
GRAND THEFT AUTO: SAN ANDREAS (2004)	25
HALO 2 (2004)	21
CIVILIZATION III (2001)	20
THE SIMS 2 (2004)	20
FLATOUT (2004)	17
STAR WARS: KNIGHTS OF THE OLD REPUBLIC II: SITH LORDS (2005)	16
ROME: TOTAL WAR (2004)	16
NETHACK (1987)	14
PRO EVOLUTION SOCCER 4 (2004)	13
NEVERWINTER NIGHTS (2002)	9
NHL 2005 (2004)	7
<i>TOTAL</i>	<i>247</i>

Fig. 3: The Distribution of the Completed Gameplay Experience Self-Evaluation Questionnaires into Different Digital Games

There were 203 respondents altogether, but since some of them evaluated two different games, the total amount of completed gameplay experience self-evaluation questionnaires was 247. Almost all of the respondents were male (91%), THE SIMS 2 being the only exception with 55% of the responses given by females. The age of the respondents varied between 12 and 40 years (mean 21.4 years). The

platform used for playing was a PC computer in 73% of the cases, but HALO 2 was played only on Xbox and GRAND THEFT AUTO: SAN ANDREAS only on PlayStation 2. In the majority of the cases, the game was played as a single-player game (75%), but WORLD OF WARCRAFT was played as a multiplayer game on the Internet. In a few cases (4%) the game was played as a multiplayer game in which the players also shared physical location.

After examining the correlations between the thirty questionnaire items with explorative factor analysis, some of the statements were eliminated so that the number of items was reduced to eighteen. The scale of sensory immersion consisted of four statements related to the capturing of senses done by the game (e.g., "The sounds of game overshadowed the other sounds of the environment"), the scale of challenge-based immersion of seven statements addressing the orientation to goals and flow-like experiences (e.g., "The game challenged me to try to reach the limits of my abilities"), and the scale of imaginative immersion included seven statements that measured how involved the player and their imagination were with the game (e.g., "I identified with how the game characters felt in different situations"). Cronbach's alphas for this sample were 0.69, 0.73, and 0.82 respectively.

It is not possible to go through the results in great detail here, and again we emphasize that the main goal was to develop and validate our model. In that respect, the first obvious finding when looking at the data is that the immersion levels in the examined games were quite high overall, so that no game with almost non-existent immersion experience was found. This is an understandable consequence of the fact that our informants were analyzing gameplay experiences from games that were their personal favorites. It would no doubt be possible to also obtain results from the different end of the spectrum if random or less-favored games and not as enthusiastic players would be examined. Nevertheless, the results appear to support the SCI-model and the questionnaire derived from it.

Comparing games that fall on the opposite ends of the scales is illuminating. The sensory immersion is experienced as particularly strong in *HALF-LIFE 2* and lowest in *NETHACK*, as we expected. The role of audiovisual technology is clear: the sensory experience provided by an old game from an ASCII graphics era appears distinctly different from that provided by the latest three-dimensional game engines.

The situation is different as we turn to the results from the analysis of challenge-based immersion. Here *NETHACK* is the game that acquired the top score, followed by *CIVILIZATION III*, *ROME: TOTAL WAR* and *PRO EVOLUTION SOCCER 4*. These games are interesting also in the sense that they probably provide players with distinctly different kinds of challenges: *NETHACK* with those of a seemingly simple dungeon game that actually provides players with an endless supply of complex puzzles linked to randomly generated items and interactions, *CIVILIZATION III* and *ROME: TOTAL WAR* with the predominantly strategic challenges in warfare and empire-building scenarios, and *PRO EVOLUTION SOCCER 4* testing players' reactions and coordination skills at a faster speed. The lowest challenge-based immersion rating of the examined games was that of *THE SIMS 2*, which can be related to its non-competitive and toy-like basic character.

Imaginative immersion, the third component of the model, is at its strongest in role-playing games and plot-driven adventure games, again confirming expectations how the scale should operate. *STAR WARS: KNIGHTS OF THE OLD REPUBLIC 2*, *HALF-LIFE 2*, and *NEVERWINTER NIGHTS* lead the statistics, with *PRO EVOLUTION SOCCER 4*, the rally game *FLATOUT* and strategy games *CIVILIZATION III* and *ROME: TOTAL WAR* inhabiting the other end of the scale. The result is logical since games with characters and storylines provide players with more possibilities to identify with something in the game and use their imagination.

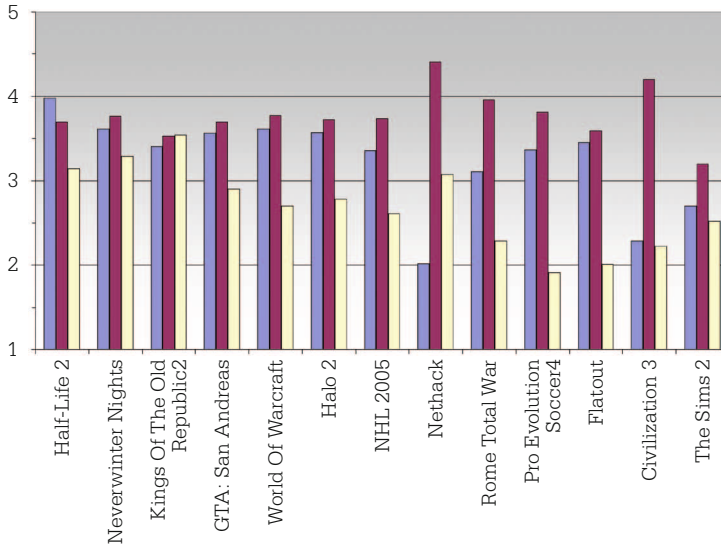


Fig. 4: The Average Amount of Each Immersion Type Reported by the Players in Different Digital Games (the Total Amount of Immersion Reported is Highest on the Left-Hand Side)

There are several interesting aspects of the results that invite further research. Summing up mean values of all the three components of gameplay immersion, HALF-LIFE 2 appears to be the overall strongest game in immersing its players. On the other end, the experience of playing THE SIMS 2 is apparently not felt as immersive. However, it would be a mistake to claim that HALF-LIFE 2 was a better game than THE SIMS 2 on this basis. It may well be that the more 'casual' character of THE SIMS 2 gameplay is one of the reasons behind its appeal for these particular players. THE SIMS 2 was also the only one of the examined games with a notable amount of female respondents, but the relatively low evaluation of immersion is not related to the gender of the informants, since females gave overall higher evaluations to the immersion in that game than men.

Conclusions and Future Work

To each and every one of the above ‘explanations’ it might well be objected: ‘So far so good, but what actually is the fun of playing? Why does the baby crow with pleasure? Why does the gambler lose himself in his passion? Why is a huge crowd roused to frenzy by a football match?’ This intensity of, and absorption in, play finds no explanation in biological analysis. Yet in this intensity, this absorption, this power of maddening, lies the very essence, the primordial quality of play. (Johan Huizinga, *Homo Ludens*)

This research has been driven by a desire to better understand the nature of gameplay experience. In the existing research which we synthesized in the beginning of this chapter, there proved to be several useful observations and conceptualizations that address or can be applied into the study of gameplay. Nevertheless, there is a need for a game-specific model that would take the diversity of contemporary digital games into account, and that would address its full complexity. We have presented one version of such a model in this chapter, while also acknowledging the need for further research.

In the future, we will test and fine-tune the questionnaire further, and also look into the applicability of the model for evaluation of gameplay characteristics both within a controlled environment and as a part of pervasive gameplay experience evaluation. The games examined here represent only a fraction of the variety of games. For such purposes, new applications of the model will be needed, as well as further extensions of the evaluation criteria to include dimensions of experience relevant to game types that are not played with a personal computer or game console and television screen. It is also necessary to broaden the conception and evaluation of gameplay experiences to include all the other components presented in the model besides immersion. For example, what is the role of emotions, social contexts and players’ expectations and interpretations, and how do the different aspects of gameplay immersion link to the characteristics of the player and features of the game?

In a sense, this research has at this point opened more questions than it is able to answer. For example, it would be highly relevant and important to further examine the role of social and cultural contexts for the gameplay experience. Do the pre-existing expectations and experiences with related games determine the gameplay experience with a new one, and to what degree? And finally, what are the exact interrelationships and relative weights of the components included in our model? It might also be possible that game players are able to switch from one attitude or repertoire of game playing into another one, and the gameplay experience will vary on the basis of such “eyeglasses” or filters. How much does the situational context really affect the way games are experienced? As usual in research, when new knowledge is created, new horizons into the unknown and unexplored are also opened up.

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