Revising Immersion:
A Conceptual Model for the Analysis of Digital Game Involvement

Gordon Calleja
Victoria University of Wellington
School of English, Film, Theatre and Media Studies,
Level 8, Von Zeidlitz Building, Kelburn Parade, Wellington, New Zealand
gordon.calleja@vuw.ac.nz
+64210346427

ABSTRACT

Game studies literature has recently seen a renewed interest in game experience with the recent publication of a number of edited collections, dissertations and conferences focusing on the subject. This paper aims to contribute to that growing body of literature by presenting a summary of my doctoral research in digital game involvement and immersion. It outlines a segment of a conceptual model that describes and analyzes the moment by moment involvement with digital games on a variety of experiential dimensions corresponding to six broad categories of game features. The paper ends with a proposal to replace the metaphor of immersion with one of incorporation. Incorporation aims to avoid the binary notion of the player's plunge **into** the virtual environment characteristic of "immersion" while dispelling the vagueness of application that all too often surrounds the term.

AUTHOR KEYWORDS
MMOGs, immersion, involvement, incorporation, player experience.

This paper proposes an analytical model for describing and analyzing players' moment by moment involvement in digital games. The game studies literature archive is steadily increasing in volume, but there has so far been a marked shying away from a structured framework analyzing game involvement and immersion. The first step in establishing such a framework is the identification of a clear set of game involvement specific terms.

Using qualitative methods conducted in conjunction with the PhD project of which this paper is part, I have aimed to create a more detailed map of the phenomena of game involvement, building a vocabulary that acknowledges its varied and complex nature and in so doing contribute to the existing body of literature on game experience. In the process of this explication the model also affirms the importance of positing specific terms for addressing game involvement over other non-ergodic media objects. The aim is thus to enact a framework which will enable game students, theorists and designers to address issues of game involvement in more nuanced ways than the current conceptualizations allow.

The Model

The constituent parts of the model manifest themselves in the player's experience in a complected fashion, each influencing the others in such a way as to make it phenomenologically impossible to extricate one from the other. The experience also occurs with various degrees of intensity, with frequent fluid shifts in attention between one element and another. In order to represent this fluid intermingling of players' experiential intensities I decided to adopt Erving Goffman's [8] metaphor of the "frame", following Gary Alan Fine's [6] appropriation of Goffman's concept in his research on table-top role-playing game communities. Fine, in his book *Shared Fantasy* used Erving Goffman's *Frame Analysis* to identify three frames, which he also refers to as "worlds of meaning" [6] in the context of table-top role playing games. Each frame represents a modality of meaning through which the role playing experience is interpreted and performed. Players switch between frames rapidly and fluidly.

The Digital Game Involvement Model constitutes six frames of involvement structured on two temporal phases: **macro-involvement** and **micro-involvement**. The **macro** phase explores motivational attractors to games that influence sustained engagement through the long-term (as opposed to momentary) aspects of each of the six frames. The **micro** phase of the model focuses on the moment by moment involvement of the game-playing instance. The six frames of involvement correspond to the clusters of emphasis derived from analysis of the qualitative research conducted as part of the larger doctoral project of which this paper forms part. These frames are not experienced in isolation but always in relation to each other; the separation

Situated Play, Proceedings of DiGRA 2007 Conference

here being made for the sake of analysis. These six frames will not apply with equal validity to each and every game; some will clearly be more relevant to certain games than others. The frames and temporal phases outlined in the model are meant to play a descriptive rather than prescriptive role. The aim here is to provide concepts that articulate the salient aspects of digital game involvement. Due to space restrictions this paper will focus on the **micro-involvement** phase and the subsequent intensification of experience represented by '**incorporation**'. The **macro-involvement** phase will be addressed in a separate publication.

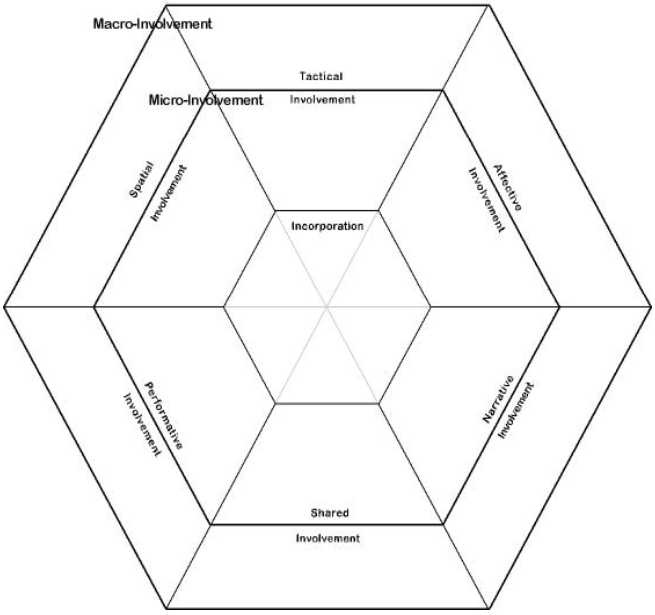

Figure 1: The Digital Game Involvement Model

The investment of attention towards the relevant medium is a prerequisite to any form of media engagement. This in itself does not, however, tell us much about the experiential nature of the engagement. To this end, I will differentiate between general attention directed towards a medium here referred to as "absorption" with "ergodic involvement" denoting a form of involvement which requires "non-trivial effort" [1] on the part of the player to perform the game. Watching a movie will thus be discussed on a different frame of reference than game playing. Treating them as experiential equivalents ignores the specific qualities of each which has at times been the case with game scholarship importing analytical frameworks from other disciplines without modification. The micro-involvement phase will describe forms of ergodic involvement. James Newman [13] questions the validity of the concept of ergodicity in digital games:

> Quite simply, videogames are not interactive, or even ergodic. While they may contain interactive or ergodic elements, it is a mistake to consider that they present only one type of experience and foster only one type of engagement. Play sequences, from where the idea of the interactivity or ergodicity of videogames derives, are framed and punctuated by movie sequences, map screens, score or lap-time feedback screens and so on .

He argues for a separation between what he calls "on-line" and "off-line" engagement, where the former refers to direct player input and the latter denotes viewing of cut-scenes, pre-race fly-throughs, score screens and the like. He places these two types of engagement on two polar ends of an "ergodic continuum".

Newman's formulation has the benefit of acknowledging the multi-dimensional nature of game involvement. He rightly points out that segments like cut-scenes, background story text and the like are important parts of the game. His critique of ergodicity is based on the existence of game segments which lack direct input from the player. Newman equates "non-trivial" effort with this form of input and therefore activities that do not involve direct input like checking in-game maps, formulating plans or waiting for a particular event, are not seen as forms of ergodic activity. But, the effort implicit in the ergodic is first and foremost a **disposition** and readiness to act, not simply the actual pressing of a button or pulling of a joystick. To take one example that exemplifies the problem with this line of argument, let us look at strategy games. These often tend to require periods of seeming inactivity as players plan their next moves and formulate long-term plans. During very involving games, these periods of seeming inactivity can be considerably long, but it would make little sense to label such periods of time as not being part of the game. These periods of strategizing with no outwardly visible performance are exactly what such games are all about. This inconsistency is also applicable to action games. In an FPS game, for example, a player is sitting at a 4th floor window covering a long street with a sniper rifle. There are no enemies in site but the sniper expects them to emerge soon, the street leads to one of the main objectives on the map. Long minutes of inactivity result from such a wait, yet the sniper's job is often defined by this sort of patient waiting. Now, following Newman's logic, these minutes waiting are not a form of ergodic involvement as they only require the player to watch the screen, without effecting any direct input. This argument misses the crucial aspects of the sniper's readiness to act. At any second someone might emerge around that street corner, and the sniper must be ready to deal with them, or the fruits of his/her labour will go to waste. I would argue that in discussing game involvement an indicator of game activity is not simply the direct input of the player or the display of such an action on the screen, but the potential and readiness to act.

Tactical Involvement

In the micro phase tactical involvement represents engagement with all forms of decision making made within the context of the game. This includes both interaction with the formal rules of the game as well as with the broader game environment and other players. Tactical involvement in the micro phase includes all forms of plan formulation and on-the-spot decision making. Whether the decisions made relate to pricing items at the auction house in *World of Warcraft,* planning the team's defensive strategy in a round of *Counterstrike* or deciding how many armies to devote to the siege of Aragon in *Medieval Total War 2*, tactical involvement accounts for the considerations made to asses actions in a landscape of possibilities.

Games tend to be designed in such a way as to have a specified opportunity cost to every meaningful action performed. Using this turn's gathered resources to build an army barracks excludes the possibility of building walls to protect my fledgling town, or extend resource fields that yield more resources, and so on. Decisions tend to have clearly labelled costs and benefits that both facilitate and problematize the process of decision making. Knowledge of repercussions of specific actions serves to decrease uncertainty. But if uncertainty is limited enough and players realize they have the ability to plan far into the future, the situation is problematized by placing responsibility more squarely on the decision maker. This knowledge of consequences can lead to complex cognitive operations that often entail making most efficient use of the (usually limited) resources in order to secure a particular outcome (most commonly winning the game). At times players engage with game systems solely for the pleasure of understanding, decoding and possibly thwarting them.

As opposed to the majority of table top games, strategic planning and action in digital games is more closely aligned, unless the game in question is a simulation of a table top game such as a computerized chess or other turn-based strategy game. In the case of the majority of digital games, the tactical frame is directly related to the performative frame: in the former strategies are formed, in the latter they are acted out. Acting upon a strategy causes a change in the state of the game, which, in the case of digital games, usually involves an element of avatar or piece movement through player input. In S*pace invaders*, the tactical and kinaesthetic options are very simple and tightly bound. The player needs to clear the oncoming waves of aliens by deciding to move left, right or stay in the same place and timing laser beam shots at them, while avoiding alien beams by dodging them or hiding behind three destructible barriers. These simple elements allow the possibility for a strategy that requires quick action to bring it into being. Similarly the formation of a strategy in a multiplayer game of *Counter-Strike* requires rapid execution in order to take effect.

Performative involvement

Performative involvement relates to all modes of avatar or game piece control, ranging from learning controls to the fluency of internalised movement. This frame of involvement requires more conscious attention when the controls call attention to themselves, either because the player hasn't fully mastered them or because a situation demands a complex sequence of actions that are challenging to the player.

Performative involvement is the actualization of tactical involvement representing the execution of established decisions. Planned motion is made manifest by the controlled agent(s) creating a potential for action defined by the movement affordances designed into the virtual environment or world. The space-ship representing the player in *Space Invaders* is able to move left or right and shoot vertically. There is no further potential for motion. Pacman moves in four directions on a two dimensional plane. On the other hand, Max Payne can walk, crouch, sprint and jump, often while aiming and shooting his assailants in normal speed or in 'bullet-time' motion. Here action is slowed down giving the player more time to execute complex manoeuvres to which time is rendered subservient. Fantasies of moving with Neo-like speed are partially assuaged by *Max Payne, Enter The Matrix* and *F.E. A. R*, for above all, the facility to employ bullet-time is an invitation to reproduce on the screen the internally visualised imagery inspired by other media texts that have popularized the concept. Digital games have the more engaging quality of placing the responsibility and thus the satisfaction of those moves upon the player.

In the case of first person view games where the avatar is transparent, hand and finger actions translate into the player's movement in the world, rather than the movement of a manipulated object or character. Thumbing the space key and pressing W in an FPS would be most often interpreted by the player as if they themselves were jumping forward. The lack of an intervening avatar can induce deeper involvement than third person manipulation because it anchors the player more directly in the world.

With third person point of view, the player occupies a double awareness: the player awareness of the surrounding environment portrayed by the camera outside the avatar and that awareness filtered through the avatar. In games that allow for switching between points of view the player needs to keep in mind that if he/she is seeing around the corner, his/her avatar can't and thus when switching back to first person, the player needs to move in order to look around the corner and shoot, for example.

An essential part of game-play is therefore movement. Movement is the key ingredient that enables acting upon the environment and thus the pre-requisite for a sense of agency that is a crucial factor in the game experience. But movement is not only a central component of digital game-play but also an enjoyable part of the experience, particularly when controls are mastered, enabling a fluent

engagement with the environment. Part of this pleasure is the ability to simulate experiences that are not possible in the physical world.

Players of varying skills and preferences tend to attracted to different forms of movement. Some love going as fast as possible down a racing track. Others get lost executing multiple barrel rolls in WWI biplanes. Some get involved in coordinating their actions with other players in frantically paced multiplayer FPSs while others become most involved when sneaking patiently and silently in an area infested by enemies that are unaware of their presence. Others still enjoy the leisurely ride on their *World of Warcraft* mount, taking in the beautifully designed landscape. The important thing to consider is that in all cases, movement is a crucial part of the gaming experience and the freedom of action allowed as well as the learning curve of controls involved will have a major influence on the players' involvement in the game environment as most other aspects of involvement in games are dependent on at least a basic fluency of movement in the environment.

Affective Involvement

The practiced effort required to engage with games places particular emphasis on the need for them to be compelling enough to sustain this effort. But, players will tend to engage with games which they perceive to be more than just mildly compelling, but satisfy, if not surpass, the various cognitive and affective expectations they might have. The cognitive, emotional and kinaesthetic feedback loop that is formed between the game process and the player makes games particularly powerful means of affecting player's moods and emotional states [2, 9]. For those suffering from a lack of excitement, games offer an immediate channel of emotional arousal. Conversely, for those whose work or personal lives are too hectic, the compelling nature of games makes them ideal for shifting one's attention to a performative domain that suits the players' needs: vent frustration through intense first person action, get absorbed in the cognitive challenge of a strategy game or stroll leisurely in aesthetically appealing landscapes. Within media psychology, these tendencies are addressed by the concept of "excitatory homeostasis" that refers to "the tendency of individuals to choose entertainment to achieve an optimal level of arousal"[2]. If one's emotional state is considered to be negative, under-stimulated persons will tend to choose media content that is arousing while over-stimulated persons tend to choose calmer media content. Games offer a variety of participatory means of effecting mood as well as allowing players to tweak game settings to bring about the desired affective change.

Game design, like other forms of textual production is imbued with the rhetorical strategies of affect. But unlike other forms of text this rhetorical power is emphasized by the conjunction of textual interpretation and the performed practice of gaming. The recursive input/output process inherent to digital game interaction has the potential to deliver an experience that extends affect beyond that allowed by other, non-ergodic media. Designers aim to capitalize on these affective qualities by selling a packaged experience that meets the expectations of buyers while engaging the emotions the game aims to arouse. A significant portion of this rhetorical power can be associated with the mode of representation of the particular medium. Game theorists and designers have rightly argued that graphical power is not what makes games compelling. Although it is true that the quality and beauty of visual representation does not, by itself make a compelling game, it would be unwise to discount the evocative power of graphics and sound.

A number of participants have discussed the evocative, mood-changing powers of the aesthetic beauty of MMOGs. The dependence of these virtual worlds on extended participation of players means that their designers need to provide places which create positive emotions for their inhabitants. The creators of *World of Warcraft* were very aware of the effect aesthetics have on players, creating appealing regions with varying palettes of tastefully blended colours and a design policy that aimed to appeal the masses. 8 million paying subscribers confirm the wisdom of Blizzard's design.

Players look for different sorts of experiences in games ranging from the pleasures of aesthetically beautiful and peaceful places, like those described by the *World of Warcraft* participants, to darker and more fast paced action-horror games such as *F.E.A.R.* At times, players will sacrifice great game-play for the chance to have experiences in specific settings they find appealing. Salen and Zimmerman [14] are among a number of game designers who deplore the trend towards improving representation at the cost of innovations in design. There is no doubt that these game designers are right from the perspective of creating interesting game-systems. But we must not forget that digital games, do not only attract players looking for interesting and cleverly designed game-systems, they also attract armies of players whose interest is to live a particular experience: a formula one car driver, a World War 2 sniper, the manager of a football team or a murder victim on the Orient Express. Digital games are not only game-systems, they are also digitally mediated experiences that address the desires generated by movies, literature or free-ranging fantasy.

Shared involvement

One characteristic which distinguishes engagement with digital games from other media objects like literature and film is their ability to place a player controlled agent(s) within the represented environment. This presence is made more compelling when other agents respond to the player, whether these agents are human or AI controlled. This is particularly relevant in the case of games involving avatar control, as it anchors the player firmly to the location both

spatially and socially. The shared involvement frame covers all aspects of communication with and relation to other agents in the game world. Due to the limitation of current AI technology, human controlled agents allow an infinitely wider range of communication as well as responding in more unpredictable ways, making the shared involvement more intense when other humans are present in the environment, whether they are being interacted with directly or act as an audience to the player's actions.

In a single player game, players are free to try different things out without being under the scrutiny of others. No judgements are passed on the player if they fail to meet their goal or make mistakes. In the case of online games, particularly ones that allow for "spectating", or the ability to look through other players' perspectives when not playing, one's actions become a performance watched and often commented about by others. Players of online multiplayer games tend to keep the same alias for identification purposes. They build reputations based on their actions at times making certain players identifiable through their playing-style. If a player wants to join a clan[1] they are usually submitted to a test or 'trial'. During a trial, senior members asses the applicant's abilities by following their actions in spectator mode for a number of game rounds in order to assess their performance.

In MMOGs, characters progress over an extended period of time and there is no option of changing a character's name or appearance aside from altering clothing and equipment. This means that characters accumulate a reputation, positive or negative among other players on the same server. Some guilds or outfits keep "kill on site" lists for players whose actions are deemed to be unacceptable, such as "ninja-looting" (using unfair methods to take rare items off killed mobs and then leaving the group) or "ganking" (killing characters that have no chance of winning a fight because of a difference in levels, for no particular gain).

Another aspect of multiplayer gaming is the importance of collaboration to achieve common goals. This creates the potential for involving players through communication and teamwork. Grouping is a necessary aspect of most MMOGs which are designed in such a way as to require more collaborative play as characters increase in levels. Participants have stated that the possibility to working with other, geographically distant people to reach a common goal is a strong involving factor in MMOGs. Research participants felt that shared involvement tends to become more intense the more people are working together. More things can go wrong, but when the collaboration works, the efforts are seen as being more than worthwhile. When participants were asked to relate memorable sessions, a large percentage described situations of successful mass collaboration in large battles.

Narrative Involvement

In the context of digital games, the term "narrative" has implications that are particular to the medium. As the long tradition of studying narrative attests, there are a number of approaches one can take to its analysis, each having different merits depending on the form of text discussed. For the scope of the current analysis two perspectives on narrative will be helpful. On one hand we can look at narrative elements like a game-world's history and background, or the back-story of a current mission or quest. I will refer to this as the "designed narrative". On the other hand we can take narrative to refer to the player's interpretation of the game-play experience. I will refer to this as "personal narrative". In my early *World of Warcraft* days, I decided to try and travel from the starting-night elf island of Teldrassil to the human capital of Stormwind at a tender 10th level. My memory of Muun[2]'s perilous journey, the obstacles encountered and people met are an example of a personal narrative. The assault on Max Payne's family in the game by the same name occurs in a timeframe prior to the start of the game. This is an example of designed narrative. The designed narrative tends to influence and shape the formation of personal narrative but this is not necessarily the case.

Players rarely have the same designed narrative expectations of games and MMOGs as they do of literary works or movies, for example. Games emphasize player performance, while literary works and movies create compelling media experiences through their assemblage of form and content. The designed narrative and personal narratives in literary works and movies are far more closely aligned than in digital games. The role of personal interpretation will always mean that there is a gap between the narrative intended by the writer or director and that formed by the reader/audience. The very act of doing creates a player-defined narrative that is influenced but not determined, by the game-system, its strategies of representation and the virtual environment's physics. The role played by the designed narrative differs according to the game. Games like *Siberia, Longest Journey* or more recently *Phoenix Wright* on the Nintendo DS require an engagement with their designed narrative in order for players to progress successfully in the game. The role of the designed narrative in *Doom* is negligible. The majority of games fall on the continuum between these two positions, where the designed narrative assists with progression in the game without requiring players to engage with it in its entirety. In the majority of MMOGs, the designed narrative can be largely ignored without limiting the ability of players to progress and interact with the world. Often players will skip reading or watching story elements to jump straight

[1] A clan is a group of players that play together in tournaments which can be organised online or at local LANs.

[2] Muun is the name of my character.

into the action. Out of all the participants, only two stated that they gave any importance to pre-structured narrative elements.

But a lack of engagement with the designed narrative doesn't mean that no dimensions of narrative are being addressed. Personal narrative accounts for the creation of a narrative based on the situated actions of the player and the resultant outcomes. The lived experience of game-play is stored, like all other lived experience, in the player's memory, with certain episodes leaving a stronger imprint than others: spectacular goals in football games, overcoming seemingly impossible odds unexpectedly, comic instances in multiplayer games and so on. The accumulation of a personal narrative can heighten the affective dimensions of the game. It gives meaning to player's actions, both in terms of past events and future plans as well as enhancing, to different degrees depending on the structure of the game and the player's sense of agency. As discussed in the performative involvement frame, the more players feel freedom in choosing what to do in the world while affecting others and the environment, the more rewarding the engagement with the game becomes, feeding back into the creation of memorable personal narrative.

Spatial Involvement

Spatial involvement is related to locating oneself within a wider game area than is visible on the screen. It can take the form of mental maps, directions from other players or referral to in-game or out of game maps and covers aspects such as exploration and exploitation of the game-space for strategic purposes.

Digital games often require players to internalize their immediate location within the map (*Counter-Strike*), level (*Medal of Honour*), region (*Oblivion*) or world (*World of Warcraft*). This mental mapping of traversable game-space works on various scales ranging from locating oneself in the immediate visible area to identifying one's location vis a vis the larger geographic context. On a broader geographical scale (where one exists), spatial involvement relates to one's location within a larger world and the ways distances can be traversed. The size of the world gives players a greater geographical scope; the sensation that beyond those mountains there are further lands to be explored. This creates a sense of grandeur that helps make the world a more believable, habitable place than simply a chain of environments linked together as is the case in games like *Medal of Honour* or disconnected locations such as the maps in *Counter-Strike*.

As new environments are mapped mentally, the player's spatial disposition to them diminishes in indexicality. Maps are consulted less often as the lay of the land is memorized, thus requiring less investment of conscious attention to orienting oneself. The process of internalization involved in learning the layout of a map, region or world gives a stronger sense of inhabiting the game-space, or to put it differently, for the game-space to feel as though it is part of the player's immediate surroundings. The knowledge of an area creates a sense of habitation and belonging to the region. This internalization process is crucial for the achievement of a sense of comfort and place, both in the physical and digital worlds.

Incorporation

Each of the frames described above describes a spectrum of experience ranging from conscious attention to internalized knowledge. To take the performative frame as an example, when the movement controls are learnt, the player devotes less attention to figuring out how to perform an action and simply does it. With time and confidence, this internalized kinaesthetic ability allows more complex and immediate performance. The player learns to run across narrow planks, throw him/herself down to a prone position behind cover, raise the rifle to their avatar's eyes, lean behind cover and deliver an accurate headshot at a distance; all in a fluid and continuous motion. This process of internalization also implies an intensification in focus where players cease to view the virtual environment as separate from their immediate surroundings and start interacting with it in an instinctive way. This state of deep involvement results in a shortening, or disappearance of distance between player and game environment.

When this shortening of distance occurs, however momentarily, players may interpret the actions of their avatar, as being their own actions in the game world. The sense of being in the environment is what has been referred to as immersion. This conception places a hard division between represented environment on one side of the screen and the human operator on the other, which gives rise to an equally problematic implication of the operator's plunge into the environment. I propose to replace the metaphor of immersion with that of incorporation. Incorporation turns the notion of a uni-directional plunge into the virtual environment represented with a conception that emphasizes the noetic nature of the phenomenon while accounting for the player/player's represented presence to other agents within the virtual environment. Incorporation operates on a double metaphor: incorporating (in the sense of assimilation or internalization) the environment while re-incorporating (in the sense of corporeal embodiment) the player through the avatar in that environment. Both aspects of the metaphor need to be satisfied simultaneously. Incorporation makes the game world present to the player while simultaneously placing a representation of the player within it through the avatar. In the case of multiplayer games or virtual worlds, the player thus becomes part of the game world that is incorporated by others connected to it.

Within the context of the digital game involvement model, incorporation [3] results from a synthesis of internalised tactics (tactical involvement), designed and personally created narrative (narrative involvement), communication and the presence of other agents (shared involvement) and movement (performative involvement) within a habitable domain (spatial involvement).

The process of internalizing the various frames discussed in the model can be related to Czikszentmihalyi's [4] concept of "flow". The qualities described by the concept of flow are strongly related to the experiential intensities represented by frames relating to activities in the game environment. On the other hand, incorporation, like immersion before it, cannot be equated directly with flow. Writers like Carr [3], Douglas and Hargadon [5] and Giddings and Kennedy [7], equate flow with immersion, focusing on deep involvement with the game-playing activity to the detriment of the spatial qualities of the phenomenon described by the term immersion. The conceptualization of incorporation outlined here, emphasizes the internalization of a virtual environment's spatial qualities that flow does not account for, since it was developed to describe a *form of activity*, not the spatial qualities of the environment in which the activity takes place. The distinction between incorporation and flow is exemplified by a participant's articulation that:

> **Baal**: Immersion is like when the world disappears from view and you are in the game. You forget that you are a player in this world and become your character in that world, the game one.

The loss of consciousness characteristic of flow is one aspect of the experience described. The other aspect is Baal's incorporation of the game-world as a habitable domain in which he can act. Within the scope of the digital game involvement model, incorporation becomes contingent on the internalization of the spatial frame over time. 3D environments are more readily assimilated into consciousness by virtue of their ease of transfer from everyday experience to in-game practice. The phenomenon of virtual environment habitation to which the terms presence and immersion refer requires a degree of internalization of the spatial frame of involvement. The experience of habitation depends on digital games that allow players to absorb the game world into their consciousness as a habitable place as opposed to controlling a detached agent (or set of pieces) in a game space.

The reduction of conscious effort devoted to each frame that occurs during their internalization also means that more dimensions of the game can be engaged with at any particular time. As pointed out at the start of the paper, the boundaries drawn between frames are intended for the sake of analysis. In reality, describing a particular instance of game-play will draw on a number of overlapping frames. Both their blending and the movement between them occurs in a fluid manner, with some being emphasized at times more than others. This blending of frames occurs with more frequency as the process of internalization intensifies. With less conscious attention being required, more dimensions can be addressed in close temporal proximity, if not simultaneously. When this shortening of distance occurs, however momentarily, players tend to interpret the actions of their avatar, as being their own.

The phenomenon I am using the term incorporation to refer to is a powerful aspect of players' digital game and online world experiences. As part of the interviews I asked participants to retell memorable and important experiences in any game world they have engaged with. The responses all described situations where participants felt a strong sense of incorporation in the world and often they described how moving these incidents were. Here is an example from one of the research participants:

> **Rheric**: I don't remember the name of the location, but there was a time when I was playing through Guild Wars it was in the war torn parts of Ascalon I was working through some ruins and I turned this corner, and came across this massive, ruined cathedral with this gorgeous stained glass window that was mostly intact. I just stopped, and stared at it. I worked my way around it as much as I could to see if from all angles and ended up on a rise a little above it, just watching it. I don't remember the time of day, that is, but it might have been like a sunset and I swore, I could practically feel the breeze on my face and hear the wildlife. If I could pay to experience that in real life I would. And I would pay A LOT. It was a real moment for me, a real experience that I carry with me not as great as, say, seeing the pyramids, but pretty damned great.

This account brings to the fore the potency of emotion felt in an intensely incorporating experience. Removing the fantasy names it would be challenging to ascertain whether the experience Rheric describes occurred in a mediated environment or not. Rheric relates the event with strong connotations of inhabiting a place emphasized by the first person nature of the account and the synaesthesiac addition of stimuli that were not part of the environment ("I could practically feel the breeze on my face and hear the wildlife"). Rheric's concluding sentence emphasizes the experiential significance of this event and the lack of separation between it and a non-mediated equivalent.

Weaving together the related threads discussed in this section we can arrive at a clearer formulation of the term incorporation in the context of virtual environments generally and digital games in particular: **Incorporation is**

[3] I will use the notation incorporation to refer to the dual process of incorporation of the environment and re-incorporation within the environment discussed in the previous paragraph.

the subjective experience of inhabiting a virtual environment facilitated by the potential to act meaningfully within it while being present to others.

Metaphors are never neutral placeholders of signifieds; they actively shape our understanding of experiences and artefacts being studied. The aim of replacing the metaphor of immersion is not intended to split hairs or increase confusion, but to build a better understanding of the experiential phenomenon this term was coined to represent. With the increasing complexity of media objects that enable such experiences, and the sophistication of scholarship around them, more complete accounts of the interaction between players and virtual environments become possible. The aim of this model is just that: to take us a step further down the road of discovery of our relationship with the digital worlds we are creating.

REFERENCES

1. Aarseth, E. *Cybertext: Perspectives on Ergodic Literature*. Johns Hopkins University Press. Baltimore, MD. 1997.
2. Bryant, J., & Davies, J. (2006). "Selective exposure to video games". In P. Vorderer & J. Bryant (Eds.), *Playing video games: Motives, responses, and consequences* Lawrence Erlbaum Associates. Mahwah, N.J. 2006.
3. Carr, D. *Computer Games: Text, Narrative and Play*. Polity. Cambridge. 2006.
4. Csíkszentmihályi, M. *Flow: The Psychology of Optimal Experience*. Harper & Row. New York. 1990.
5. Douglas, Y., J., & Hargadon, A. (2001). "The Pleasure of Immersion and Engagement: Schemas, Scripts and the Fifth Business". *Digital Creativity*, 12(3). 2001.
6. Fine, G. A. *Shared Fantasy: Role-playing Games as Social Worlds*. University of Chicago Press. Chicago. 1983.
7. Giddings, S., & Kennedy, B. M. "Digital Games as New Media". In J. Bryce & J. Rutter (Eds.), Understanding digital games London: Sage. London. 2006.
8. Goffman, E. *Frame Analysis: An Essay on the Organization of Experience*. Harvard University Press. Cambridge. 1974.
9. Grodal, T. "Video Games and the Pleasures of Control". In D. Zillmann & P. Vorderer (Eds.), *Media entertainment: The psychology of its Appeal.* Lawrence Erlbaum Associates. Mahwah, NJ. 2000.
10. Jackson, S. A., & Csíkszentmihályi, M. *Flow in sports*. Human Kinetics. Leeds. 1999.
11. Juul, J. *Half-Real: Video Games Between Real Rules and Fictional Worlds*. MIT Press. Cambridge, Mass. 2005.
12. King, G., & Krzywinska, T. *Tomb Raiders and Space Invaders.* I.B. Tauris. London. 2006.
13. Newman, J. "The Myth of the Ergodic Videogame", *Game Studies*. Vol. 2, no 1. 2002.
14. Salen, K., & Zimmerman, E. (2003). Rules of play: Game design fundamentals. Cambridge, Mass.: MIT Press.
15. Schubert, T., & Crusius, J. *Five Theses on the Book Problem*. Available at http://www.igroup.org/projects/porto2002/SchubertCrusiusPorto2002.pdf
16. Waterworth, J., A., & Waterworth, E., L. "The Core of Presence: Presence as Perceptual Illusion", *Presence Connect*. 2003.