

First-Person Walkers: Understanding the Walker Experience through Four Design Themes

Alexander Muscat

RMIT University

Melbourne, Australia

alexander.muscat@rmit.edu.au

William Goddard, Jonathan Duckworth, Jussi Holopainen

RMIT University

Melbourne, Australia

william.goddard@rmit.edu.au, jonathan.duckworth@rmit.edu.au,

jussi.holopainen@rmit.edu.au,

ABSTRACT

The First-Person Walker genre is defined by minimal player interactions, a deliberate slow pacing of the game play, and ambiguous goals. These distinct characteristics of First-Person Walkers challenge how we may consider a digital game. As such, there is a gap in understanding the design attributes that contribute to the unique game experiences afforded by ‘Walkers’. We conduct a player experience study of four Walker games, *Gone Home*, *Dear Esther*, *Proteus*, and *The Stanley Parable*. From our analysis we discuss four distinct design themes specific to the Walker game experience: 1) player interaction, 2) temporal space, 3) player focus, and 4) ambiguity. We consider how each of these themes can be used to enhance the design of First-Person Walker player experiences.

Keywords

Game Design, Game Mechanics, Virtual Environments, First-Person Walker

INTRODUCTION

In this paper we discuss design themes derived from a player experience study of ‘First-Person Walker’ (Walker) games. The study consists of four recordings of Walker games that describe the players’ experience of the interactive elements, such as the way they navigate space and manipulate virtual game objects. We analyse four design themes from the study and discuss how they influence player interactions and perception to produce a distinct Walker game experience. Through our analysis we consider how Walkers foster ambiguous and contemplative digital game experiences through minimal interactions.

In a Walker game the player assumes control from the first-person perspective and steers in-game movements using directional inputs through a control interface, such as a keyboard and mouse. In these game worlds there is little in the way of obstructions, challenges or explicit goals. Traces of this simple, non-violent style of design can be found in a multitude of influential games such as First-Person Shooter (FPS) *Half-Life 2* (Valve Corporation 2004). For example, in the initial stages of *Half-Life 2* the player is given opportunities to

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explore the game world without having to engage in combat, providing time to simply explore the game environment.

The Walker game *Dear Esther* (The ChineseRoom 2008) was modified from *Half-Life 2* and developed to test player interest of non-traditional gameplay. The game is stripped of all mechanics related to combative FPS, leaving just the game world and story (Pinchbeck 2008). In *Dear Esther* the player meanders through a bleak seaside landscape, listening to an angst-inducing and sometimes irrelevant location based monologue, finding man-made objects cryptically hidden within the environment's natural geography. This approach to design has been described as an explicit attempt at mechanical minimalism (Keogh 2015) and can be found in multiple Walker games. For example, *Proteus* (Key, Kanaga 2013), *Gone Home* (Fullbright 2013), *TIMEFrame* (Random Seed Games 2015), *Everybody's Gone to the Rapture* (The ChineseRoom 2015) and *The Stanley Parable* (Galactic Café 2013) each share similar, recognisable minimalist characteristics whereby players navigate through a virtual world, or simply walk through the environment.



Figure 1: Screenshot, *Dear Esther*

The Walker, popularly referred to as ‘Walking Simulators’, has eluded established game definitions and there is no agreed-upon nomenclature. There is much debate surrounding their legitimacy as games, due to the minimal use of traditional FPS game mechanics. For this reason the First-Person Walker has infuriated some of the game playing audience, spurring discussion on its limited interactivity and established definitions of games (Gursoy 2011, 57). However this debate does not focus on the Walker game as a genre. While characteristics, commonalities and design patterns have been identified and discussed within the broader game design field, (notably by Walker game creators e.g. Gaynor (2014), Pinchbeck (2008)) we lack understanding as to what design elements and gameplay experiences are distinct to Walker games.

Whilst defining Walkers as a genre is challenging (similar to other emerging genres as discussed by Clarke, Lee, Clark (2015)), Walkers present to designers an array of potentially valuable alternate insights. These insight may help develop more passive, but nonetheless involved game experiences. For example, a player's perception of the game world may be refocused to that of an investigator or close observer, via a strict adherence to minimal interactivity and slow, limited pacing. This style of game play provides a useful design perspective toward a definition of the Walker.

To understand these design themes we undertake a design-focused study that examines the player experience with a selection of four games identified as First-Person Walkers. Consalvo and Dutton's framework for qualitative elemental analysis (2006) has been used to study four exemplary Walker games. Their specific, interactive design elements that produce and affect the player experience are highlighted and discussed.

METHODS

The methods used for our study include an analysis of player experience, connected to interactive design elements of four alternate First-Person Walker games. We are working with the *Rules of Play* game experience, defined as "1. The apprehension of an object, thought, or emotion through the senses or mind; 2. Active participation in events or activities, leading to knowledge or skill; 3. An event or series of events participated in or lived through" (Salen, Zimmerman 2003, ch.23, 2). Distinct, and even opposed, ways of playing and player experiences are all acknowledged as many layers that contribute to understanding the game experience.

The games selected for analysis are *Dear Esther*, *Proteus*, *The Stanley Parable*, and *Gone Home*. Each game shares common identifiable traits, notably their minimal interactions. Importantly, despite their core similarities, each varies in their technical and creative makeup, and their elemental composition. For example, the large winding landscape environments in *Dear Esther* is different to *Gone Home*'s more compact, house setting.

Aarseth's multidimensional typology of games (Aarseth et al. 2003) and MDA (Hunicke et al. 2004) were considered as methods, but were deemed unsuitable for a detailed analysis of identifiable interaction elements connected to the player experience. In the end, Consalvo and Dutton's (2006) qualitative methodological toolkit was adopted, as it provides a strong initial analytical framework for unpacking the abilities and limitations of designed, interactive components. As part of an analytical framework four major areas of interest for study are covered, with a primary focus on interactive game content visible to and engaged by the player. These are as follows: Interaction Map, Interface Study, Object Inventory, and Gameplay Log.

Interaction map: The choices that the player is offered primarily towards entities within the game world (Consalvo, Dutton 2006, 5). Interaction options, potential choices and points of interest are identified, helping ascertain how it may be played. By doing so the freedom by which the player is allowed to shape the game's direction may be highlighted. For example how interaction options result in similar or different in-game outcomes during gameplay.

Interface study: The onscreen information provided to the player concerning character status e.g. the location of the character and action menus that give the player control over manipulating elements of gameplay (Consalvo & Dutton 2006, 4). An interface study examines how essential and non-essential information is privileged or made hard to find, and how choices are presented or withheld to the player.

Object Inventory: The objects within the game world that players may interact with, find, collect, create; be it to proceed, enhance their character, etc. (Consalvo & Dutton 2006, 3). This method may help ascertain the importance or role of objects, how they influence or encourage players to perform actions, and their value within the game.

Gameplay Log: The unexpected gameplay that can come into being, within the larger, encompassing game world or system, and the ‘intertextuality’ of elements. Emphasis is placed on emergent gameplay; what can happen to the player when they do something the game maker did not intend, the results, and more encompassing and influential aspects such as presentation. This helps ascertain how potentially ‘open’ the game is for players (Consalvo & Dutton 2006, 6) during play.

The data collected for analysis includes notes, logs, video and screenshots recorded during multiple play sessions of each of the four Walker games. The data was collated and formatted according to the needs of each section. For example, an object catalogue was created for each Object Inventory analysis, including tables listing in-world game objects, their appearance, location and function.

Through an analysis of collated notes, screen shots, and video detailing the interactive components connected to the player experience of each Walker game, four major areas of interest were highlighted as follows: Player Interactivity, Temporal Space, Player Focus, and Ambiguity.

PLAYER INTERACTIVITY

The Walkers discussed in this paper utilize a first-person perspective that provides a 3D view of the game world. In a Walker the player may steer through the game world predominantly using a computer keyboard and mouse to control the navigation and player viewpoint. These interactions enable the player to look and explore the game world, which are fundamental ‘core mechanics’ (Zimmerman, Salen 2003, 11) that define how the first-person games are played. These fundamental mechanics of First-Person Shooters (FPS) that enable players to observe and traverse the game world have been adapted for Walker games. For example, Walker games such as *Dear Esther* and *The Stanley Parable* offer players navigable worlds similar to FPS games like *Half-Life 2*. Whilst these games are similar, the Walker game does not involve combat style interaction. In FPS games the viewpoint serves as a method to aim a weapon. Similarly movement is used to out-maneuvre, evade and attack targets. In Walkers these combat style interactions are not relevant to the game experience.

The possibilities for player interaction and gameplay are highly constrained in Walkers when compared to a FPS. For example, in each Walker game studied in this paper, the movement speed is fixed to a slow ‘walking’ pace which may be modified into a slower crawl (e.g. use of the ‘shift’ key in *Proteus*) but never a faster ‘running’ speed. This slow movement speed can make the traversal of large areas of game space feel laborious, requiring a player’s sustained input of the ‘W’ key to continuously move forwards. These keyboard controls are standard inputs for FPS games, although in Walkers these conventions are challenged.

The keyboard control conventions in FPS games are often responsive to enable agile movements. In Walkers the movement speed has a slow acceleration curve (i.e. build-up time to reach ‘maximum speed’ from a static position). Lateral movements often known as ‘strafing’ common to FPS games are present in Walkers but are less useful in a non-combative context. Jump inputs have been removed in each Walker preventing a player from vaulting over objects populating the environment or ‘bunny hopping’ (i.e. to continuously jump while in motion to gain momentum and speed). These modified controls alter the player experience so that the time spent in the game environment is extended.



Figure 2: Screenshot, *Proteus*. A calm and relaxing open island landscape that invites players to explore.

With fewer interactions to perform, the player has little else to focus on other than the audio-visual and virtual environment. These audio-visual elements within the game world are uncovered during observation and navigation. For example, player movement across the virtual environment in *Proteus*, *Dear Esther*, and *The Stanley Parable* activates location-based triggers. These triggers cause a change in game-state that often includes events such as environmental animations or audio to play e.g. the semi-randomized monologue in *Dear Esther* or the narrator's dialogue in *The Stanley Parable*.

Both 'use' interactions and triggered events through movement introduce additional possibilities for players to interact and manipulate the game world. For example, in *Gone Home* and *The Stanley Parable* feature a 'use' or 'touch' interaction, bound to the left-mouse button. This interaction is contextual, only working in conjunction with in-world environmental objects. In *Gone Home* players may manipulate objects according to their type e.g. small objects may be picked up, inspected up close, thrown or dropped, doors may be opened or shut, and lights switched on or off. In *The Stanley Parable* 'use' is less specific, players may only interact with few, specified objects within the game world e.g. large buttons and a computer keyboard.



Figure 3: Screenshot, *Gone Home*. The player carries a cassette tape, which may be placed, thrown, or inserted into the stereo using the contextual ‘use’ action. These interactions slow down and focus player navigation.

The slow navigation controls, limited opportunities for player interaction and triggered events further enhance the audio-visual elements directing attention toward the game world as part of the player experience, rather than involving dexterous challenge or problem solving

TEMPORAL SPACE

In relation to temporality in games Lindley states that “ludic systems are fundamentally time-based, and temporal structure is a major determinant of a player’s perception and experience of the ludic form” (Lindley 2005). In a digital game this temporal, or game time structure can be considered in terms of a number of distinct layers, which may be emphasized by the designer. For example, the four layers in a game include generative, simulated, performed, and discourse (Lindley 2005). Furthermore, Nitsche argues that digital games position players in a specific time and space, and that the experiences of both the temporal and spatial are closely interdependent (Nitsche 2007). This representation of time in the game world may differ from actual time whilst playing (e.g. day time and night time cycles may vary according player progress).

Walkers present an alternative approach to the temporal dimension of space in First-Person games, notably in regard to player actions and events experienced during gameplay. These actions and events are referred to as performance level temporal structures, the “parts of the virtual world directly experienced by the player” (Lindley 2005).

As discussed, the Walker experience involves few player interactions and slow movement within the virtual space. Furthermore, in Walkers there are few event-based disruptions, obstacles and pressures to impede the player’s movement and navigation. For example, in *Dear Esther* movement through the game world is slow and uninterrupted. There are little to no challenges, explicit goals, puzzles, effects or impediments to the player’s in-world status (e.g. health and damage) or their navigation. Although the slowing of movement, uninterrupted navigation and extending of time could be seen as a subject of frustration for some players, it does much to configure the played Walker game experience.

Without obstructions the player may set the pace of navigation as they please, allowing for extended time spent within the game world. Without gameplay pressures the ‘action’ of

gameplay could be said to be reduced or ‘dulled’. Because of this passage of time experienced can be said to feel extended. By extending time spent within the game world the player may gradually ‘soak in’ and indulge in their environmental surroundings and the audio-visual experience.

For example, *Dear Esther* and *Proteus* prolong player movement through their outdoor game-worlds, placing emphasis on the aesthetic beauty of the landscape. *Gone Home* and *The Stanley Parable* condense details within a more confined, labyrinthine, indoor environment that asks the player to stop or slow down, to find points of inquiry within clutter and close detail. Slowing down player actions intensifies the audio-visual experience as a point of interest, particularly towards the 3D game world.

Because of the slow, effortless movement and unobstructed navigation, the player becomes an uninterrupted observer of the game world; that may be better recognised as a setting than a playfield or sandbox.



Figure 4: Screenshot, *Gone Home*. Samantha’s bedroom filled with cluttered environmental details to be examined

Additional player interactions specific to each sampled Walker game exemplify this notable design theme. In *Proteus* the standard ‘jump’ key (space on the keyboard) has been replaced as a ‘sit’ command; an option for players to adopt a stationary position for ‘relaxing’ to simply take in the sights and sounds of the environment, and watch time lapse from day to night. *Gone Home* uses a ‘crouch’ command bound the ‘C’ key to lower the player’s height and view; the player may inspect details hidden under furniture or under tables up close, otherwise out of sight or reach if they were standing. In *Dear Esther* the player may ‘zoom’ their vision using the right mouse button, to see details from far away, or up close when nearby.

Although these are not major player interactions, their implementation similarly slows the player down, reducing pace to highlight the virtual environment. While the player may use the environmental terrain to manipulate their movement speed e.g. falling down steep inclines to quickly circumnavigate or skip part of the designated path in *Dear Esther*, or quickly unlocking doors in *Gone Home*, they are never rewarded. There is no optimal way of playing, although gradual navigation and observation are encouraged, and arguably enforced through the limitations of the interactions.

The slowed pacing of the temporal game experience and emphasis on the game world encourages players to consider the virtual environment as something not to be ‘overcome’, but as a subject of interest in itself and enjoyed as a subject of care-free, sustained inquiry and thought.

PLAYER FOCUS

By reducing player interactions, slowing the game pace and removing obstructions, the Walker applies focus predominantly towards the audio-visual element, notably the game world and its contents. To improve player focus towards the game environment common game design techniques have been used.

In the Walker games the user interface (UI) is empty, unlike First-Person Shooters, that display critical information such as character status and items held onscreen. The player’s vision of the game world in a Walker contains little to no user interface elements onscreen, although *Gone Home* as an exception, using a small ‘crosshair’ in the centre of the screen (an element for aiming common to the FPS). In *Gone Home*, when the crosshair is placed over specific intractable environmental objects e.g. doors, a written and contextual description appears onscreen, denoting that the object can be ‘used’. Nonetheless *Gone Home* very much like *Dear Esther*, employs a sparse UI with minimal distractions to obstruct the player’s view of the game world, or direct their movement and actions.



Figure 5: Screenshot, *Half-Life 2*. Note the user interface HEALTH and AMMO readouts

As there is very little in the way of challenge-based ‘tasks’ for the player to overcome (e.g. Problem solving and strategizing, contest, and mastery) there is very little information that necessitates visual representation within the user interface. Furthermore, player actions that could be quantified and visually represented (e.g. environmental objects seen and steps taken) are not. On-screen information, much like the core interactions, have been reduced.

Within the game world, the player’s viewpoint does not have visual depiction of a virtual body. The viewpoint is suspended at head-height, underneath is entirely transparent. Looking down in-game reveals no torso or limbs, only the environment and perhaps a drop shadow. Historically First-Person Shooters have a similar characteristic, having often avoided the technical complications in representing the player’s virtual body from the first-person perspective.

In a FPS the player's attention is divided between multiple sources of information on-screen. This may include in-world cosmetic details, items to collect, entities like non-playable characters, onscreen elements like their character's status, objectives, prompts and tasks to complete. Navigation of the game world itself also comes with risk. For an FPS player to focus entirely on the virtual environment is to ignore vital elements. While a Shooter player must negotiate multiple points of focus, the Walker player has only a few.

The absence of UI information and a visually depicted body minimises on-screen distractions and potential interference with the audio and on-screen visual elements. This, and the reduction of interactions and slower game pace, serve to tune player focus more thoughtfully towards dominant game elements present; notably, the game world and its contents, whose details are often found only through close visual scrutiny.

For example, environmental details that provide narrative information in *Gone Home* and *Dear Esther* are often small objects, nestled within clutter, or in corners of the virtual environment. In *The Stanley Parable* potential game endings may be uncovered through interaction with less-obvious but specific environmental objects. In *Proteus* the animated time rings that advance game world time from season to season can only be found at specific times and locations during day and night cycles, within the virtual environment. The player may not only act as an observer but as a surveyor, who seeks out details as a major source of interest and motivation.

By turning the player's focus towards the game world and its contents over time, less obvious in-world elements may become more pronounced, noticeable, or perhaps take on greater significance. In *Proteus*, as players wander through a visually abstract island environment, changes in environmental details become more apparent according to seasonal, and weather changes (e.g. trees changing colour or losing leaves, animal migration and so on).



Figure 6: Screenshot, *Dear Esther*. Game world objects as environmental details. Car accident photographs and candles within a cave, arranged as a memorial.

In *Gone Home* and *Dear Esther*, environmental details that are more pronounced (e.g. photos, written notes etc.) or mundane (e.g. hair dye bottles, car parts etc.) may take on a narrative significance during navigation and observation. Players may draw connections between these and audible monologues or diary entries. By considering the relationship between these elements the player, through inquisitive thought and action, may build a

more conclusive picture in understanding the various dimensions of the game's world and story.

The sparse user interface and lack of on-screen information has players direct their focus towards the game world, and its contents. By reducing obstructions and emphasizing environmental details, the player's Walker experience becomes more of an investigative and contemplative one; which has players consider their surroundings in a more intriguing, speculative and subjective manner.

AMBIGUITY

In the absence of complex player interactions, challenges and explicit goals, Walker games extend in-world game time and prioritize the game world as a major source of focus. By doing this the Walker seeks to develop a sense of intrigue to sustain the player's attention, and motivate interaction. To develop and tantalize a sense of discovery, ambiguity is used as a primary driving force. Ambiguity is defined by Gaver et al. (2003, 235) as a "property of the interpretative relationship between people and artefacts".

Gaver et al. argues that while ambiguity is often considered "anathema in Human Computer Interaction" it is a resource for design "that can be used to encourage close personal engagement with systems" (2003, 233). Drawing upon contemporary arts and design practice three classes of ambiguity are outlined as follows: Information, context, and relationship.

Ambiguity of information arises in the way information is presented, and how it may frame or influence our reaction and response. This asks us to "project our expectations into an interpretation of incomplete information" (Gaver et al. 2003, 237).

Ambiguity of context arises "not because things are unclear" but "because they may be understood in different context, each suggest different meanings" (Gaver et al. 2003, 236). Duchamp's Dadaist piece, *Foundation* (1917) is cited as an exemplary example. This requires an "integration of seemingly incompatible frames of reference" (Gaver et al. 2003, 237).

Ambiguity of relationship "arises from the viewer's personal relationship with the piece" (Gaver et al. 2003, 237). These produce a sort of self-examination, pushing us to imagine how we might personally engage and what would be the consequence. We form 'intellectual, aesthetic, emotional, and moral judgements' as a result of this speculation, which "evokes a projection of our subjective experiences and attitudes onto new situations" (Gaver et al. 2003, 237).

The three classes of ambiguity identified feature prominently within each of the four Walker games, as discussed below:

Ambiguity of Information

Each Walker begins with an initial, preliminary question; In *Dear Esther* and *Proteus* the character's role is abstract and undefined. *Gone Home* begins with a mysterious message as to the location of a missing character, Samantha. *The Stanley Parable* asks where Stanley's co-workers are and what is the true nature of the world he inhabits? Conclusions are obfuscated throughout their game worlds and audio-visual elements. Points of interest within the game world are often sources information that may provide potential answers.

Points of interest are typically contained within the virtual environment. For example: Environmental objects, visual effects and triggered audio are potential sources of information, often concealed and fragmented throughout the game world. *Gone Home* layers information through its domestic clutter, *Dear Esther* scatters vague fragments across its vast outdoor environments, *The Stanley Parable* alludes to divergent paths and possible outcomes through audible and visual suggestion, and *Proteus*' painterly game world is in a constant state of change in its shifting weather and seasons.



Figure 7: Screenshot, *The Stanley Parable*. The first explicitly telegraphed junction point exhibits ambiguity of information. At this moment the narrated voice-over states “Stanley walker through the left door” however the player may navigate left or right.

Because of the lack of explicit goals, user interface information, slow movement, and perceptual limitations of the first-person perspective, player focus is not only drawn towards what can be seen, but also the unseen, off-screen and out of sight. Concealment and fragmentation suggests the presence of hidden information, which tantalises the prospect of insight and motivates navigation, and leads to a questioning of the game world during exploration.

Ambiguity of context

Although their game worlds can be navigated with ease, the fragmentation of information within Walkers complicates and problematizes how they may be coherently interpreted in relation to one and other.

Each Walker balances obfuscation and clear communication of in-world content using audio-visual elements and game level design techniques. The separation and concealment of points of interest and information are enacted through numerous occlusion techniques. For example, spatial segmentation, zoning, and narrowing, widening, framing and various level design elements (e.g. 3D models, geometry, and lighting) do much to entice and misdirect player perception and navigation.



Figure 8: Screenshot, *Gone Home*. A red hair dye bottle in the upstairs bathroom, used by Samantha. Note from the doorway the bottle is obscured however the dye splatter is visible; the player is initially misdirected to assume the splatter is blood.

Obfuscation reframes navigation as a process of discovery and allows the player to develop a sense of autonomy through suggestion when uncovering in-world details. As the player spends time exploring the game world they develop a more attuned literacy in identifying and understanding these elements and their in-world context. The significance of in-world content in Walker games is often vague and less clearly defined than challenge-based games such as *Half-Life 2*, where content is often imbued with a quantifiable significance (e.g. health and ammo pick-ups). For example, objects that make up the environmental clutter in *Gone Home* may be understood differently in retrospect once the player has obtained more crucial contextual information (see Figure 8).

Ambiguity of relationship

Gone Home has us examine a relatable domestic setting that draws parallels to our own nostalgia and family memories. By allowing deviant actions *The Stanley Parable* asks us to question why we find game and narrative conventions so compelling.

As mentioned, discovering and interpreting the fragmented points of interest and content, throughout the game world, are key to how the player may develop an understanding towards the overarching questions posed. The restrictive nature of the first-person view and control, and vague in-world game elements problematizes how easily or efficiently the player may interpret and conclude as to the relationship game elements. With no method for recording findings in-game (*Gone Home*'s plot-relevant diary entries the exception), players must mentally store information found, or record notes.

The time spent slowly navigating through the game world becomes time for contemplative thought and speculation to the relevance of audio-visual elements. Each new point of focus serves as pieces of additional information that may be added to the player's mental map. In their totality the player may build a more conclusive or comprehensive picture as to their relationship and significance within the greater narrative context.



Figure 9: Screenshot, *Dear Esther*. A chemical diagram hidden within an abandoned building, and one of the first of many throughout the game world. This diagram like many other in-world elements are never fully explained, but are implied to be of significance due to their recurring presence and obscure placement.

Although guided by the distribution of information through environmental, audio-visual and interactive elements; this process of observation, interpretation, and thought is not explicitly directed, demanded, or expected from the player. The questions surrounding the game world are not quantifiable problems to be solved, but more nebulous, requiring players to internalize links between elements to make full sense of the game world.

This ambiguity of relationship creates gaps between game content. These gaps provide space for interpretative, subjective connections within the player imagination, providing a negative space that encourages deeper thought towards narrative and overarching themes.

CONCLUSION

Walker games minimize interactions, using interactive conventions from established genres such as the First-Person Shooter; adjusting and re-implementing them for non-combative purposes. As the Walker is not bound by explicit rules, challenges, and tasks to direct interactions and player activity, the prominence of typical game elements is altered. By minimizing interactions to a core few, limiting movement speed into a slow pace, and removing almost all user interface elements; the player's attention is implicitly directed away from interaction elements, towards the audio-visual. These audio-visual elements, particularly those visible within the game world, become more pronounced as points of interest and focus. These overarching characteristics frame the player's game experience as something not to be overcome, but of keen perception and close inquiry.

Ambiguity is key to building interest and intrigue, playing upon the limitations of the first-person perspective. With no in-game method for recording findings the player must rely on their own mental recollection or written notes; subjective, interpretive thought is encouraged as part of the process of exploration and discovery. Slow movement during player interactions and fragmented environmental details encourage players to fill in the gaps with subjective, imaginative thought, and contemplate more deeply towards their relationship.

It is clear the theme of ambiguity may yield further insights into the First-Person Walker beyond interactive elements. Future investigation will expand on our findings and consider how ambiguity permeates within other areas of design within the Walker. This may involve an interrogation of spatial and environmental design elements due to their prominence in Walker design, and draw upon spatially-relevant theories and texts such as *Epic spatialities: the production of space in Final Fantasy games* (Huber 2009) and *Video Game Spaces: Image, Play, and Structure in 3D Worlds* (Nitsche 2008). This may shed further light as to how designers may facilitate intrigue and discovery in exploring virtual environments.

We have found that interaction within First-Person Walkers is not so much navigation within the game world, but an investigation motivated by intrigue and speculation. This may indicate that Walkers are indeed separate to common forms of digital games, although they do provide insight as to the digital game design; how scarcity of interaction may draw a player into audio-visual elements and tantalize imagination, and deeper, more considered thought.

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