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PLAYER DECENTERED DESIGN

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ABSTRACT

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This thesis presents Player Decentered Design as an alternative approach to creating videogames that actively opposes and subverts a more traditional User Centered Design process. Player Centered Design is a concept that developed alongside academic game studies through the incorporation of research from Human Computer Interaction. Both academia and the games industry are seen to increasingly incorporate Player Centered Design knowledge into teaching and game design, yet this approach has been subject to little critical evaluation. Such arguments against Player Centered Design include that the approach stifles creativity or promotes negative behaviour in players. The study presented here explores works of visual arts and design research, as well as a variety of videogames, in consideration of what an alternative to Player Centered Design could look like.

The thesis documents a design process in which an experimental videogame is developed by the author, and can be categorised as a form of research through art and design. The creative process was recorded through the use of a reflective design diary over a six month period. This process is presented in the thesis as an autoethnography, allowing for an authentic retelling of a unique and timely research project. Befitting a project of research through art and design, the value of this research is not in any finalised design but rather in the knowledge that was gathered in the process. This thesis concludes by presenting Player Decentered Design as an alternative approach to game creation; a set of five rules that arose from the design process, and that can be utilised by others in future game development and research.

Keywords: Game Design, Game Art, Design Diary, Playability, Player Centered Design, User Centered Design, Human Centered Design

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1 INTRODUCTION

Academic research into videogame design has developed through the work of scholars from a range of backgrounds, including the humanities, social sciences, computer science and human computer interaction. Much of this research is relatable due to the use of commonly shared references, game design textbooks published at the start of the century such as Salen & Zimmerman's *Rules of Play* (2003) and *Game Design Workshop* by Fullerton et al. (2004). Both of these books were formative texts to the emerging field of game studies, remaining ubiquitous in contemporary games research. Critical examination of these texts remains relatively slight when compared to their wider adaptation in games research. This thesis explores these critiques and expands upon them, before documenting an experimental design process that actively opposes and subverts some of the assumptions held behind good game design practice.

The *playcentric* design process is a central tenet to Fullerton's *Game Design Workshop* (2018). The philosophy behind this process, understood as an example of Player Centered Design, involves the integration of playtesters through every stage of a game's development, utilising their feedback to help guide the design decisions towards a successful final product. In this process the role of a game designer is described as that of an "advocate for the player" (Fullerton, 2018, p.3), focused primarily on the design of systems that can satisfy the demands and desires of a user. Wilson & Sicart (2010) suggest that a consequence to these design practices is the concept of *player narcissism*, a perspective in which design concerns are subordinated to consumerist thinking, in which 'the customer is always right'. They argue that such fundamentally conservative approaches to game making are restrictive to the exploration of games as a medium. The research presented herein works to develop this idea further, exploring the possibility spaces that exist outside the best practices of Player Centered Design.

Wilson & Sicart's (2010) academic manifesto on *abusive game design* acted as the primary inspiration for the work conducted in this thesis. My research began by directly continuing one of the themes in their paper, the idea of games as Foucaultian power structures. This concept of power was explored through a practice-led research process of game development alongside reflective design thinking, fitting Frayling's (1995) category of *research through art and design*. During my design process, recorded in a design diary over a seven-month period, the goals of the research shifted considerably. Rather than starting the process with a clearly defined research question, the process was

instead led by the explorative nature of the research. Through design moves I made that grew increasingly antagonistic towards the player, the game and the design process itself, a theory of Player Decentered Design was developed. This process resulted in the creation of five rules that are designed to purposely decenter the player as the central subject of the game. As such, the research question for this thesis can be understood to be 'What could be an alternative to Player Centered Design?'

Player Centered Design is central to almost every game creation method in the literature, regardless of whether the resulting game is intended to be traditional or experimental. This research began by utilising Flanagan's *Critical Play* method (2009) as a suitable framework for exploratory game making. However, this method has been criticised elsewhere (Marcotte & Khaled, 2017) as deviating little from the traditional player centered iterative model beyond the inclusion of ethical values and diversity. Howell's (2011) *Schematically Disruptive Game Design* proposes an alternative subversive game design method which is described as being decidedly player-centric. Waern & Back's (2017) *Experimental Game Design* is a method for the exploration of novel or problematic areas of design that is similarly dependent on the practice of User Centered Design. Not being beholden to any specific game design method has benefited the research in this thesis, as Player Decentered Design would not be likely to develop from within a player centered method.

This thesis opens with a short introduction, which presents the research question and provides some early theoretical basis. Following this, the literature review first examines Player Centered Design and its influence across game studies and game user research. The topics presented in the abusive game design manifesto are explored further, followed by a study on related texts in visual arts and design research. Chapter three presents a game review, analogous to a literature review, as a structure to analyse games thematically. Games are defined and examined in regard to their difficulty, with concepts such as UI games and Game Design Fiction further explored. In chapter four the methodology of the research is presented, including the design values and constraints that affected the project. The results are then presented as an autoethnography before a discussion on both the method and the process at the end of the chapter. In chapter five, Player Decentered Design is presented as a set of five rules that can be utilised in a design process, followed by a discussion on the rules and an example of a hypothetical game. Chapter six concludes and summarises this thesis before revisiting the research question.

2 LITERATURE REVIEW

The following chapter discusses literature on Player Centered Design, abusive game design, visual arts and design research. First, the history of Player Centered Design is presented as developing alongside a nascent academic game studies. The connections between game studies and HCI (Human Computer Interaction) are discussed, and how both fields have contributed to the implementation of Player Centered Design practices in the games industry. Wilson & Sicart's (2010) academic manifesto on abusive game design is an essential text to contextualise the work in this thesis, critically examined here over three subsections. This includes how power is understood in videogames, how the abusive game design concept was developed in Wilson's later research, and how their warnings against player narcissism proved particularly prescient to the Gamergate harassment campaign. Closing this chapter, a selection of relevant research from the fields of art and design are explored. This includes work from traditional design research, alternative work on critical design, and research into the visual arts.

2.1 Player Centered Design

Soon after *Year One* (Aarseth, 2001) of Computer Game Studies, several influential game design guidebooks were published, following what Sotamaa (2007) has called a long gap between game book publications. Books such as Salen & Zimmerman's *Rules of Play* (2003) and *Game Design Workshop* by Fullerton et al. (2004) have been described as canonical to game studies, despite having been written for designers rather than the research community, thus lacking a "systematic view and epistemic transparency" (Kultima, 2018, p.11). Both books offer tools and theories intended to aid in the production of successful game designs. Central to Salen & Zimmerman's approach is the concept of *meaningful play,* defined as the player having a responsive, understandable and impactful relationship with the game system (2003, p.50). They promote an iterative model of game development, similar to the method Fullerton has described since the second edition of her book (2008) as the *playcentric design process*.

According to Fullerton (2008, p.10), the playcentric design process focuses on "involving the player in your design process from conception through completion". This process is separated into three parts. First, players should be involved from the earliest stage of the production process, enabling designers to set goals for the intended player experience.

Second, prototyping and playtesting is implemented early so that flaws in the design can be quickly detected and fixed. Finally, a cyclic and iterative process of designing, testing and evaluating the game continues between the designers and playtesters until the game is deemed complete. The designer's role in this system is described as an "advocate for the player", expected to primarily focus on the player experience above other production concerns such as story or art direction. Playtesting is described as "the heart of the design process" (Fullerton, 2008, pp.2-4).

While never described by Fullerton as such, the playcentric design process is indistinguishable from the concept of Player Centered Design. This concept derives from User Centered Design[1], and as such connects games research to a methodological history inherited from HCI. Kumar & Herger (2013) have talked about how both design philosophies have a focus on centralising the users and their goals throughout the process of design and development. They contrast this against poorly designed products that instead center data or technology, at the behest of developers or engineers who can operate on their presumptions of user needs. Player Centered Design is presented by Kumar & Herger (2013) as a process and framework that can aid in the development of gamification software. Although their focus is not the design of videogames, the implementation of Player Centered Design elsewhere suggests it is a method malleable enough to fit both videogame and non-videogame contexts.

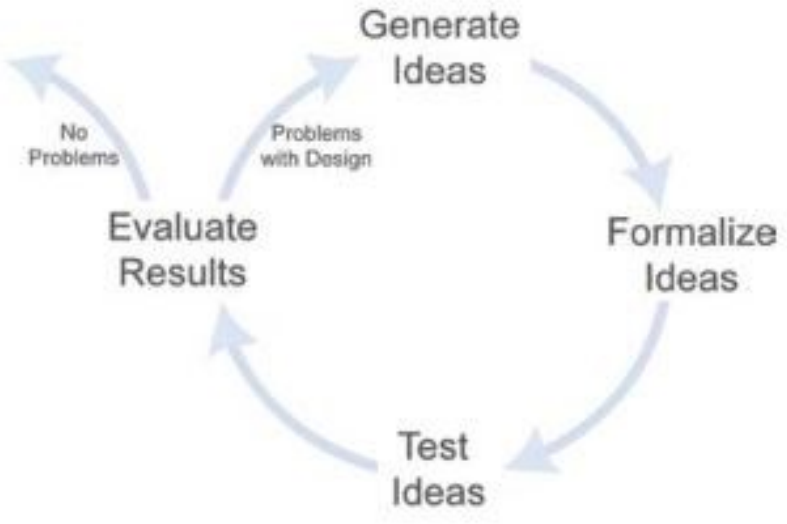

Figure 1 Iterative Process Diagram from the fourth edition of *Game Design Workshop* (Fullerton, 2018)

[1] See also the term playability deriving from usability, and Player eXperience (PX) deriving from User eXperience (UX) in Sánchez et al., 2012.

Player Centered Design is appealing from the perspectives of both industry and academia for several reasons. The Player's role, detached from the vested interests of gamemakers[2] and other stakeholders, provides unique data to aid in the evaluation of the game design. This data can scale up in volume through a wider range of playtesters and can be analysed via a range of qualitative and quantitative measures. Player Centered Design typically accompanies an iterative design process, as seen in Figure 1. This process emphasises speed, which aids in the meeting of deliverable outcomes, and efficiency, to reduce unproductive time.

The iterative cycle is not unique to the playcentric process and can be found across all software development as part of the *Agile* method (Keith, 2010). The agile method involves a continuous iteration between development and testing across the lifecycle of software. This method contrasts the older *Waterfall* method (Royce, 1970), through which the development process follows a more linear and sequential order. Iterative cycles are also often found in games research to illustrate a number of different phenomena. Paul (2018) has used iterative cycles to describe how designers 'tune' the difficulty or balance of games, whilst Juul (2014) has utilised them to suggest how players interact with skill-based games.

The benefits of Player Centered Design were promoted by Ermi & Mäyrä (2005), who stated that such systematic and tested methodologies could offer a scientific legitimacy to the developing field of game studies. Speaking on their respective blogs, academic T.L. Taylor (2005) asked whether anyone was integrating Player Centered Design into their MMO (Massively Multiplayer Online) game process, to which the game designer Raph Koster (2005) replied "anyone who isn't player centered in their design is an idiot." Koster went on to describe Player Centered Design as 'buzzwordy' before discussing it in terms of participatory design, focus groups and physiological testing, using a looser interpretation of the term to represent many different areas of game development.

Sotamaa (2007) has presented an analysis of game design books published between 2003 and 2006, including the first edition of *Game Design Workshop* by Fullerton et al. (2004) and Salen & Zimmerman's (2003) *Rules of Play*. His paper studied the various ways in which the role of the player had been represented in game design textbooks, in an attempt to offer some clarity on the issue of Player Centered Design, with the method not widely

[2] The term gamemaker is used to describe all types of creatives making games and not just professionals. This definition is given in Young's (2018) PhD thesis on *Everyday Gamemakers*.

understood or implemented in the industry at this time. Sotamaa discussed the influence of such books not only to contemporary designers, but in teaching game design fundamentals to future generations. Over a decade later, the same core texts have remained popular in the teaching of game design globally, with books such as Fullerton's yet to be replaced, only regularly updated (Fullerton, 2008, 2014, 2018).

Sotamaa (2007) acknowledges a growing academic interest in Player Centered Design, which is further exemplified by Björk & Juul (2012) when they describe five scholarly definitions of games as being essentially *player-centric*. Björk & Juul summarise these quotes as holding a perspective that focuses on games as the product of a player's actions rather than separately designed objects. They call this player-centric approach problematic because it ignores the individual aesthetic preferences, behaviours and investment that a player brings to the game. This critical approach to player centricity is uncommon in game studies, with Player Centered Design remaining fundamental to a widening variety of games research.

2.1.1 Game Studies and HCI

Player Centered Design derives from the HCI concept of User Centered Design. As such, it acquires related research methodologies such as user studies and heuristic testing (Charles et al., 2005). A distinction is made in HCI between User Centered Design and Human Centered Design (HCD) because of the reasoning that not all users will necessarily be humans. With the exception of research around A.I (Artificial Intelligence), discussion on the 'Player' is generally understood in human terms and it is presented as such in this thesis.

User Centered Design is a key component of User Experience (UX), a term invented by the design researcher Don Norman. According to Norman (2009), products have to be understood as services which incorporate a cohesive and integrated set of experiences. UX involves designing for the desired experiences a user has with a product, going beyond the designed product, game or interface, to incorporate the design of exterior experiences such as marketing or maintenance. It is possible to compare the idea of designing for experiences with the concept of *second-order design* from Salen & Zimmerman's (2003) *Rules of Play*. They describe how game designers can only indirectly design for the player's experience through the design and iteration of a game's rules. They ascribe this both to the emergent properties of games as well as the human

player whose reactions cannot be predicted. Just as play cannot be directly designed, neither can the experiences of UX; instead, both can be better understood as attempting to manipulate user behaviour. In a recent discussion with Kultima (2018), Zimmerman has conceded that all design may in fact be second-order design, rather than being a unique phenomenon to game design. This has resulted in Kultima (2018, p.11) stating that despite second-order design being "conceivably one of their most cited original notions", this exceptionalist view of game design could have actually resulted from a lack of exposure to theoretical texts from other design disciplines.

Playability derives from the HCI concept of usability. Usability is described as a sub-discipline of UX that refers to the ease of access of a product or website, which can be accurately measured (Soegaard, 2020). Both playability and usability are thus qualitative terms that describe tools of evaluation (Järvinen et al., 2002). Kücklich (2004) has discussed the tension between the different terms, with playability's dependence on withdrawing options from the player for ludic pleasures being contrasted against the more primary function of accessibility in usability. Korhonen (2016) creates a definition of playability by analysing pre-existing definitions in the literature such as that by Järvinen et al. (2002), as well as incorporating elements from Csikszentmihalyi's Flow Theory (1991) and Salen & Zimmerman's (2003) concept of meaningful play. Korhonen (2016) describes how good playability depends on an intuitive user interface (UI) and unobtrusive gaming platform, with gameplay that creates fun and challenge while fitting within a very specific boundary of difficulty, understandability and engagement.

Participatory design is said to have been broadly taken up in HCI as User Centered Design, absent of the politics that defined a classical participatory design (Sengers et al., 2005). Such politics include the incorporation of democratic values throughout the design process, through an advocacy of changing systems, system-design and -building (Sengers et al., 2005). Taylor (2006) argues for participatory design as a way of giving players additional responsibility and power in the games they play, particularly in regard to MMO games. This contrasts against a more typical User Centered Design process that would focus on keeping players satisfied and entertained but within stricter boundaries enforced by the game's creators. While Sotamaa (2007) has discussed Taylor's comments here within the context of Player Centered Design, it is important to make the distinction that the democratic politics of participatory design are not an essential part of this model.

Game studies has been shown to inherit terminology, methodologies and processes from HCI, but without always providing a critical evaluation of these practices. Keyes et al. (2019, p.6) have described HCI as having an implicit neoliberalism in the absence of any explicit politics, while the field's "norms and methods are inherently laced through with patriarchal, cisnormative, heteronormative beliefs that assume a white and western view of the world". These problems, described as inherit to HCI, are further amplified through the additional issues that game studies bring. Vossen (2018, p.220) has described game studies as not only being a 'masculine space', but also suffering from "an overcompensation complex where the supposed 'unseriousness' of the subject matter means that it must be treated not only seriously, but technically and pseudo-scientifically".

2.1.2 Game User Research and AAA Games

The primary distinction between game studies and HCI is the object of study, games, which can be understood as being intimately connected to capitalist structures of power (Dyer-Witheford & De Peuter, 2009). Game studies can often be seen as working to support and maintain the existing condition of the games industry, with game researchers described as "a community that seeks to actively engage with its commercial design counterpart" (Coulton and Hook, 2017, p. 99). Even when proposing alternate game design frameworks, research remains concerned with games that have a commercial viability (Howell, 2011). Academic funding exists in part through the support of commercial parties, and the incorporation of games research in such companies is a sought-after source of validation. Research into Player Centered Design, User Centered Design and UX is conducted not only in academia, but both privately and publicly[3] by the games industry. A more recent term to describe research relating to these fields is *Game User Research* (GUR), and a textbook bearing that name (2018) includes essays split evenly between academics and researchers working for large videogame companies such as Electronic Arts, Ubisoft, Epic Games, Twitch and PlayStation. EA's Director of UX Research, Veronica Zammitto (2018) describes how most GRU practitioners come from an academic background and that a sharing of knowledge is emphasised. How the AAA (Triple-A, a large videogame publisher) industry utilises GUR knowledge is worth further examination.

[3] See research by Microsoft Game Studios in Pagulayan et al, 2002.

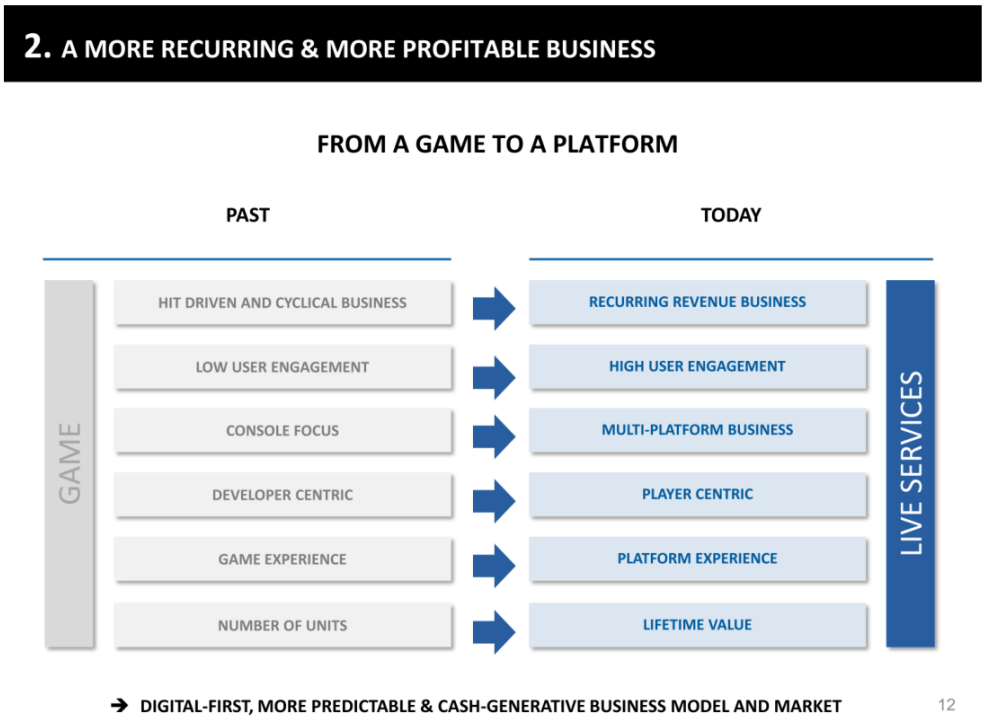

Figure 2 A slide from Ubisoft's third-quarter 2017–18 financial report

Player Centered Design is presented positively in AAA videogame publisher Ubisoft's February 2018 quarterly report (Figure 2). Ubisoft detail how their games are transforming into live services, games that are updated regularly and incorporate additional transactions instead of generating profit exclusively through an up-front purchase fee. One of the key pillars of this transformation, which was generally derided by the gaming press and their audience (Sterling, 2018; Schreier, 2018; Orland, 2018), is the movement away from a Developer Centric to a Player Centric model, in support of a "more recurring & more profitable business" for their shareholders (Ubisoft, 2018). While this would suggest that Ubisoft titles had previously been created according to a developer centric model, this claim cannot be substantiated. Presenting a binary between player and developer centered approaches is an unhelpful way of framing the difference between the two. Developer centered practice has been presented in games as problematic because of a lack of diversity that enables and reinforces a "relatively homogenous group of players, designers, games, and experiences" (Paul, 2018, p. 141). Following the casual turn, User Centered Design was described as crucial for developers (Kuittinen et al., 2007) who had different interests than their target audience. With developer centrism seen in Figure 1 as literally left in the past, Player Centered Design has to be interpreted as being an essential tenet to modern AAA game development.

EA (Electronic Arts Inc.) are one of the largest AAA videogame companies, owning a number of popular series such as *FIFA*, *Battlefield* and *The Sims*, which all incorporate aspects of the live service model. As a company, EA has a particularly poor cultural perception, having been voted *Worst Company in America* twice (Morran, 2012, 2013) and *America's Most Hated Company* in 2017 (24/7 Wall St., 2018). EA is also heavily invested in UX research, demonstrated in part by their sponsorship of the *Game UX Summit 2018* in Vancouver. Zammitto states on the UX Summit website that "At EA, we think Player First. In other words, we think user-centered design" (Zammitto, 2018). Zammitto is described as being "passionate about corporate UX maturity" (2018, p.xxiv) which, as presented by the Nielsen Norman Group (2006), is a sequence of stages of UX evolution (Figure 3).

Jacob Nielsen, 2006

UX Maturity Stage	Featuring	Time to next stage
1: Hostility	Developers simply **don't want to hear about users or their needs**	Up to **decades**
2: Developer-Centered	**Design team relies on its own intuition**	**2-3** years
3: Skunkworks	Guerilla user research or external usability experts	**2-3** years
4: Dedicated Budget	**Usability is planned for**	**2-3** years
5: Managed	**Someone to think about usability across the organization**	**6-7** years
6: Systematic Process	**Tracking user experience quality**	**6-7** years
7: Integrated User-Centered Design	Employing usability data to determine what company should build	**~ 20** years
8: User-Driven Corporation	Usability affects corporate strategy and activities beyond interface design	**~40** years to get from start

Figure 3 Nielsen's (2006) stages of corporate UX maturity

Nielsen's article (2006) uses combative language when discussing the early stages of a corporate UX maturity; hostility towards usability is described as a *Neanderthal attitude*, while the Developer-Centered stage is labelled *disastrous* for any project with a non-geek audience. The stages of corporate UX maturity follow as UX knowledge is integrated and developed into a company, a process that is described as taking between twenty and forty years. The needs of a giant corporation are, of course, very different from the wider ecosystem of gamemakers and studios lacking the financial resources to plan for and

operate across decades-long timescales. It can be read that the overlapping work of researchers in GUR demonstrates an academic preference to support a handful of massive, already successful companies. Such companies already set the tone of much of games culture, and game studies is not free from this pervasiveness.

The irony of AAA companies extolling the virtues of Human Centered Design practice is in the very inhuman treatment of their industry workers. Working practices of *crunch* are institutionalised, alongside low job stability and a lack of union representation. O'Donnell describes the core of EA's Human Resources policy as being "Put up or shut up and leave", with little regard to the concepts of ethics, compassion or intelligence regarding their workplace (2012, p.111). The large budgets associated with AAA games are also understood as promoting a conservative approach to game development, where publishers are unwilling to invest money into unproven ideas when it is safer to replicate what has come before (Paul, 2018). This conservatism is then mirrored by a traditional audience of gamers these companies aim to serve, who argue for "what comes next, what is acceptable, and what should be designed" (Paul, 2018, p. 67).

2.2 Abusive Game Design

Abusive game design is intended to be read as an *academic manifesto* (Wilson & Sicart, 2010). The paper summarises that the best practices of creating games, as described in game design text books printed between the years of 2005 and 2009, involve the game designer working to satisfy the needs of players, a trend of "intrinsic conservatism in the exploration of the medium and its aesthetic possibilities" (Wilson & Sicart, 2010, p.41). They relate this conservatism to an *accessibility turn*, a contemporary practice of making games accessible to a wider audience. They describe this turn as recognisable in both casual games and indie games through the implementation of usability conventions intended to decrease a player's frustration. With accessibility more often understood nowadays as designing for people with disabilities, I believe the concept they describe would be better understood as a *usability turn*. While the two concepts are connected, it is important to stress this difference, as neither abusive game design nor Player Decentered Design should be read as discriminating against disability.

The accessibility turn is connected to the idea of player narcissism, which suggests that by centering the player and catering for their every need, a mindset is created where the player, as a customer, is always right (Wilson & Sicart, 2010). Abusive game design is

described as an alternative to best practices, wherein designers do not work to satisfy the player but instead *abuse* them through playful design choices that facilitate a dialogue between player and designer. This practice challenges the ideology of *player advocacy* as described by Fullerton (2008), which Wilson & Sicart (2010) claim relegates the designer's role to being a mere facilitator of the play experience. Modalities of abuse are further described as including physical abuse, unfair design, lying to the player, aesthetic abuse, social abuse and some combination of these forming synergies of abuse. Some of the games they use as examples are discussed further in Section 3.2. Their paper discusses abusive game design in relation to a Foucaultian perspective on power, as well as through the context of Dunne's critical design (discussed in Section 2.3.2).

2.2.1 Power

Sicart (2009) originally proposes in *The Ethics of Computer Games* that the actuality of a game exists only once a player accepts and agrees to the rules of the game system, and that this transition can be understood as a Foucaultian power structure. Power in this context is said to be a productive, creative force: it creates both knowledge and subjects related to that knowledge. The knowledge works through a process of "delimiting, plotting, and relating the possibilities and the actions" between agents within a power structure, and is visible in videogames through the rules of the system which the player must agree to in order to enjoy the "ludic pleasures" of gameplay. Sicart proposes the subjects created in this power structure are players, and that by volunteering into the system, the player becomes "keeper of its existence" and thus "responsible for the game's well-being" (Sicart, 2009, pp. 66-69).

This idea of the player being created by rules is referenced elsewhere in game studies literature. Aarseth writes how the player is created by instructions, and that "by accepting to play, the player subjects herself to the rules and structures of the game and this defines the player: a person subjected to a rule-based system" (2007, p.130). Aarseth talks about *transgressive play*, a form of play not intended as part of the game, described as the players attempts to take what power they can back from a system through subverting expectations of a presumed "ideal player". He states that while "the games rule us", transgressive acts help to "remind us that it is possible to regain control... to dominate that which dominates us so completely" (Aarseth, 2007, p.133).

Sicart revises his original interpretation of Foucault when discussing abusive game design (Wilson & Sicart, 2010). First games are defined as "systems of power in which subjects become voluntarily subordinate to a network of processes, actions, rewards and values that define what actions are valid, valuable and socially recognized" (Wilson & Sicart, 2010, p.44). Conventional games are described as being a power structure between a player and a system, with the work of the human designer made invisible through design choices that match with the players expectations of a game. In abusive game design, design moves are made that instead intentionally reveal the designer's role in the creation, creating a *dialogue* between designer and player, with the game acting as a mediator of that interaction. Wilson & Sicart (2010) argue that Sicart's (2009) previous interpretation of Foucault was limited, and that only abusive game design is fully able to take advantage of power's productive capabilities in a social context. Using Suit's (2005) understanding of *play as productive*, and Foucault's (1980) idea of power organising humans into productive relations, Wilson & Sicart state that "power is only productive in a dialogue' concluding that "play, in our view, is only productive in dialogue" (2010, p.44).

2.2.2 Dialogic Game Design

The idea of abusive game design is further expanded upon in Wilson's later thesis. In his dissertation, he relabels abusive game design as *dialogic design*, and describes it being "the quest for a more intense, more playful relationship between creator and audience" (2012, p.56). Wilson describes the dialogic game, as a designed object, working as a mediator between the user and designer. He contrasts this with several other interpreted dialogues in design knowledge, such as Schön's (1983) discussion of a designer's dialogue with the materials, and Norman's (1988) dialogue between user and object as crafted by a designer. Wilson discusses the critical design work of Dunne (1999) as using objects to suggest ideas the designer and user reflect on, contrasting his own dialogic design where the object instead mediates a 'playful rivalry' between the designer and user, emphasising the interpersonal over any individual reflection.

Wilson recognises that many of the games he has identified as abusive or dialogic are within the platformer or *masocore* genre, stating that "dialogic game designers would do well to search out under-explored genres that can afford new opportunities for surprise" (2012, p.66). He suggests three features that can be utilised when designing for dialogic design; surprise, humour and context. Surprise depends on a mischievous and non-arbitrary internal logic, with originality being an essential component. Humour is used to

avoid frustration while keeping a playful mood; understanding the designer's sense of humour is said to be an essential part of the dialogue in these games. This relates to the context of the game, with the designer's previous work said to place games into an *oeuvre*, which aids in the establishment of a certain set of expectations (Wilson, 2012).

2.2.3 Player Narcissism

Wilson & Sicart state that an "extreme but inevitable consequence of user-centered design practices" is the idea of player narcissism, arising when the entirety of the gameplay experience has been centered around pleasing a player within established boundaries (2010, p.41). Narcissism is described by Merriam-Webster (2018) as being "extremely self-centered with an exaggerated sense of self-importance", highlighting one read of centrism as problematic. Wilson's decision to rename abusive game design to dialogic design was particularly prescient, owing to the rise in very real abuse within game culture that was best represented by the *#Gamergate* movement of 2014. Gamergate can be described at its most constructive as "a consumer boycott of people concerned about journalistic coverage" (Paul, 2018, p.82) while more accurately being "a unified and organized movement that planned harassment 'attacks' and discussed potential targets at length online" (Vossen, 2018, p. 243).

Wilson & Sicart discuss how "in the monologue of player narcissism, the player (the customer) is always right" (2010, p.41). Using the language of commerce here is very relevant to a gamer culture which can be understood as "fundamentally consumerist, as it is defining a group of people by their media consumption habits" (Paul, 2018, p. 84 citing Shaw, 2012). Whilst *player* is understood as a value-neutral term similar to *user*, the word *gamer* has much more cultural baggage associated with it. Vossen makes a distinction between a 'gamer' and a capital-G 'Gamer'; describing a Gamer as "someone who performs the hegemonic masculine tropes necessary to be accepted by other Gamers" (2018, p.5). Paul similarly uses the word player to describe "the broad, heterogeneous group of people who play games" with gamer described as "a person whose core identity is often defined around video games and who tends to be deeply invested in contemporary videogame culture" (2018, p.20). Alexander's (2014) description of gamers in *Gamasutra* as "these obtuse shitslingers, these wailing hyper-consumers, these childish internet-arguers" was incendiary to the Gamergate movement but speaks honestly about a frustration among videogame likers to be associated with this loud and toxic group of

reactionary players. In this thesis I have attempted to use the term player neutrally, while the use of gamer should be understood to be referencing this culture.

In his book, *The Toxic Meritocracy of Video Games*, Paul (2018) argues that the way games are designed are in part responsible for the toxicity of gamer culture. Paul describes videogames as a meritocracy, designed to challenge an audience who go on to use their mastery of a game as a form of gatekeeping, which in turn produces an inequality invisible to those gamers who benefit from it the most. While historically games have been created in service of a gamer audience, more recent independently produced games exist far outside of this challenge-based system. The positive critical reception of games such as *Gone Home* (The Fullbright Company, 2013) or *Depression Quest* (The Quinnspiracy, 2013) are said to "confuse, frustrate, or upset many Gamers" (Vossen, 2018, p.237) with their break from tradition. Paul (2018) discusses meritocratic norms as existing in the structure of game mechanics, with the example of levelling up a character given to illustrate how upward progression is communicated as an almost inevitable consequence to player action. He discusses how meritocratic norms exist in game narratives, with characters often moving from a position of weakness to one of strength through the merit of the player's game-playing alone, such as seen in *Grand Theft Auto IV* (Rockstar North, 2008). Paul describes games as seductive power fantasies that provide a sense of fairness to an audience who may otherwise feel powerless in their own lives, which then causes them to fiercely defend games against those who appear outside the traditional game culture.

Whilst Wilson & Sicart (2010) did not make any claims about the societal impact of designing games to please players, they did identify that it was an element *in the game design* that could be responsible for players acting as entitled consumers. Paul (2018) goes further by identifying specific elements of game and narrative design that are problematic and play into a gamer mindset leading to toxicity and harassment. Vossen (2018) has discussed at length about the people, beliefs and tactics that were shared between Gamergate and the Alt-right, Donald Trump and white nationalists. Paul (2018) mentions Gamergate as being a forerunner to the politics of the UK and USA in 2016, before describing the deconstruction of videogames as a key part of disassembling the culture. Paul offers suggestions for designers who want to design against meritocratic norms, suggesting as one solution that players should be able to pay for progression, rather than be judged through skill alone. Where Paul has used theory in support of his suggestions, I have attempted to more directly use game design methods in developing

possible solutions to this problem. In Section 5.1, I present a set of rules that have derived from a game creation practice for gamemakers who wish to design games against, rather than for, gamers.

2.3 Visual Arts and Design Research

An analysis of the canonical game design textbooks, including both *Rules of Play* (2004) and *Game Design Workshop* (2004), was conducted by Kuittinen & Holopainen (2009) through the lens of design research. The textbooks were analysed through two design theory frameworks. Löwgren and Stolterman's (2007) abstraction model was applied, which focuses on the intermediate artefacts a designer makes throughout a process from conception to final specification and how design emerges from the interplay between these artefacts. As a complementary model, Lawson's (2006) guiding principles were applied: they focus on the categorisation of different activities of designerly thinking, such as the specific beliefs and values a designer brings to task when problem-solving. Through this analysis, Kuittinen & Holopainen concluded that the textbooks were limited because "game design is heavily governed by the object of the design, games" while "the activity called design, is left to too little attention" (2009, p.7).

Jesse Schell's *The Art of Game Design: A Book of Lenses* (2008) is another game design textbook written by a game designer and cited widely in game studies. For instance, the playability heuristic definition given by Korhonen (2016) and discussed in Section 2.1.1 utilises Schell's (2008) model of a game as four distinct elements of mechanics, story, aesthetics and technology. Kultima mentions the problem with using textbooks such as Schell's, stating that they are "imperfect from the academic perspective…leading to an embrace of subjectivity" (2018, p.11). Further still, Chiapello (2017) states that Schell does not even seem aware of design as an academic discipline.

Kultima (2015) highlights how despite *game design* being the most used keyword across game research, there is an absence in these studies of utilising knowledge from the field of design research. Kultima posits that part of the difficulty in employing such knowledge for game researchers could come from the long history of scholarly work on design being dominated by the fields of architecture and industrial design, with an emphasis on material mass production seemingly irrelevant to game design. Referencing how Wilson & Sicart (2010) challenged the notion of player advocacy from Fullerton's (2008) book, Kultima (2015) states that it is appropriate for researchers and educators to approach such

canonical design textbooks critically. She suggests that utilising the general theories and theoretical background from design research should be encouraged to help further grow game design research.

2.3.1 Design Research

Kuittinen & Holopainen (2009) describe two influential theories of design activity in the short history of design research; Simon's (1992) theory of design as rational problem-solving, and Schön's (1983) conception of design as a reflective practice. Dorst & Dijkhuis have described these two differing views as explaining different areas of design. Design can be described as rational problem-solving when the problem is fairly clear-cut, whilst the conceptual stage of a design process where "the designer has no standard strategies to follow and is proposing and trying out problem/solution structures" can be described through a process of *reflection-in-action* (Dorst & Dijkhuis, 1995, p.274). Kultima (2015) further elaborates on how the two design paradigms can be interpreted distinctly, separating optimization theory and the natural sciences as examples befitting rational problem-solving, with art and the social sciences better served through reflection in action. The research in this thesis, following a model of reflection in action, further fits in with her categorisation; with the designer described as a person constructing their reality, and their design problem being essentially unique.

Donald Schön's (1983) concept of *the reflective practitioner* in part describes the relationship between the designer and object. This relationship is characterised as a conversation in which the object of design talks back to the designer throughout the design process, revealing new information constantly. Schön understands that design professionals do not typically face simple and solvable problems but rather these "messy, problematic situations" (Schön, 1983, p.49). This perspective on design opposed the rationalistic tradition, the logical *science of design* from which design research was partially founded.

Cross talks about design research seeking "to develop domain-independent approaches to theory and research in design" (2007, p.46). This suggests that game designers should be able to learn from and even contribute to an academic field long dominated by the views of different design fields (Kultima, 2015). Cross warns that "we must avoid swamping our design research with different cultures imported either from the sciences or the arts"

(2007, p.100), owing to the pre-existing strong and appropriate intellectual culture of design research.

Wicked problems are a central idea to design research, defined by Rittel and Webber in 1973 as a particular challenge that designers sometimes face in their work. Mateas & Stern (2005) describe the features of wicked problems in relation to game design, and specifically the development of their game *Façade*. They contrast wicked problems to tame problems, those which have clearly defined problems and solutions. Wicked problems are understood in the sense that whenever a solution is attempted, the understanding of the problem changes, with both the problem definition and the proposed solution thus mutually defining one another (Mateas & Stern, 2005). Mateas & Stern's work is described as exploring new regions in design space, which they state can only be done through the act of making things, not through the study of existing games alone. They refer back to the player in helping to resolve the absence of any real solutions in wicked problems, emphasising playtesting as an important tool to judge designs.

2.3.2 Alternative Design Research

Critical Design, as defined by Dunne & Raby (2007) on their website FAQ, is the use of "speculative design proposals to challenge narrow assumptions, preconceptions and givens about the role products play in everyday life". This form of design is described as opposing an *affirmative design* that defines the status quo. Dunne's concept of critical design was first documented in his book *Hertzian Tales* (1999), where he details several design approaches that could be utilised when identifying or producing critical design. A number of these approaches can be used as framing devices when applied to the domain of videogame design, specifically, the ideas of the *post-optimal object* and *user-unfriendliness* have been utilised by Wilson & Sicart (2010) in their discussion of abusive game design. Gillian Crampon Smith, speaking in the foreword of *Hertzian Tales*, describes affirmative design as the development of electronic products through a risk-averse process manufactured around the thinking that "customers will probably like a product similar to a predecessor that has already sold well" (1999, p.viii). This perspective is comparable to the development of AAA games previously mentioned in Section 2.1.2.

The concept of the post-optimal object and user unfriendliness can be seen as reactions against the emphasis that had been placed on User Centered Design within HCI. Central to this shift was Norman's (1988) book *The Psychology of Everyday Things*, which has

been widely influential across academia and industry in understanding how people interact with electronic objects. Though not speaking directly on Norman, Dunne argues that with peak levels of performance now obtainable in design from a technical and semiotic perspective, practicality and functionality can almost be taken for granted. Dunne states that in order to foster new experiences, further research should instead be focused in "the realms of metaphysics, poetry and aesthetics" (1999, p.20). Critical design is described as highlighting the fact that the values of designed objects are not natural, but designed, man-made, and thus always ideological. User-friendliness is a method that conceals this fact, while user-unfriendliness could oppose this as an aesthetic approach and an alternative model. User unfriendliness does not presuppose a simple, generalised model of the user, as we "unwittingly adopt roles created by the human factors specialists of large corporations" (Dunne, 1999, p. 22) but instead works through a provocation of the user. Wilson & Sicart (2010) claim abusive game design pushes this agenda further still by removing the designed object as a central part of the aesthetic, with the object instead being used to facilitate a central dialogue.

Grace's (2011) *Critical Gameplay* project applies Dunne & Raby's concept of critical design directly to game design. He suggests a three-step approach to design, "where critical questions meet critical design to create critical gameplay" (2011, p.130). The first step in this process is observing games and how they function, questioning their foundational assumptions. The second step is similarly question-led: considering how altering gameplay foundations would affect gameplay. The third step seeks to convert all these questions into products that "illustrate, answer, or further interrogate" (ibid.). Grace labels this final step as being firmly in the domain of Dunne & Raby's critical design.

Flanagan (2009) wrote about Critical Play as a design method dependent on a value-led iterative development cycle. Her method did not reference Dunne's critical design and instead focused on the role of games and play within the context of art history. Part of her method involves designing for different play styles, proposing that "the designer should design for subversion of the system and other means by which play can emerge" (2009, p.258), relatable to Aarseth's idea of transgressive play discussed in Section 2.2.1. Flanagan's goals with Critical Play are comparable to Dunne's; she states the challenge is "to find ways to make compelling, complex play environments using the intricacies of critical thinking to offer novel possibilities in games, and for a wide range of players" (Flanagan, 2009, p.6). Flanagan's work has been criticised by Schrank (2010) for foregrounding the political aspects of games in her theory of *avant-garde* game design.

By omitting the *formal* avant-garde, where artists are more experimental with the game *medium* (defined in art history as consisting of material, convention and sense) rather than focusing on a political message, Flanagan is claimed to have ignored a large possibility space for experimentation (Schrank, 2010).

2.3.3 Art Research

Schrank (2010) has criticised game design's dependence on the construction of flow experiences, as described by Mihály Csíkszentmihályi (1991). An integral part of the Player Centered Design paradigm, designing for flow depends on balancing a player's ability against the game's challenges, to avoid either the anxiety or boredom expected should this equilibrium not be maintained. In his PhD thesis, Schrank (2010) describes how designing games in thrall to the flow ideal is ultimately restrictive to the possibility space of games as an artistic medium.

Schrank (2010) discusses how within Renaissance painting there was an ideal, optimal position for the viewer to be fixed in, thanks to the development of the vanishing point, which enabled a sense of perspective through the convergence of parallel lines. The viewer thus had a position as the center of attention, with the price of this central role being a "submission to the structure of that space and the established order of things" (2010, p.106). Schrank goes on to compare this ideal positioning with the desired temporal location of players in the flow experience. While later art movements would go on to rework and dismantle these established Renaissance techniques, in games such deconstruction is represented by a much smaller number of independent and artist-led titles.

Sharp (2015) distinguishes between the terms *game art*, *artgames* and *artists' games*. Game art is said to be art made of games, artgames use the properties of games to create original play experiences, and artists' games combine a contemporary artist practice with games. Sharp's typology can be said to be flawed, as he concludes that in the four years since he began his book, the first two terms have already become art history. His association of artgames with a specific group of developers is shallow given the linguistic weight of such a label. Sharp uses the label artists' games to describe the work of several creators that are referenced in this thesis; Paolo Pedercini, Pippin Barr, as well as Tracy Fullerton and Mary Flanagan. Sharp describes artists' games as those that strive to fulfil the goals of playability alongside an exploration of high subject matter, and compares

these games favourably to the critical design work of Dunne & Raby, as existing "outside the post-Dreyfuss concern for designing for utility, wherein human-centered design was a means of improving products" (2015, p.87). Sharp suggests that such artists' games often centralise ambiguity, stating that while such "ideas may be familiar to artists, they are uncomfortable for most designers" (2015, p.88).

This chapter has outlined the literature that has most informed the research in this thesis. Player Centered Design has been presented as a method that developed both inside and outside of academia, growing to be widely implemented across teaching, research and the broader games industry. Criticism of Player Centered Design and associated practices have been offered through the abusive game design concept as well as through supporting work in critical design and visual arts research. Throughout this chapter I have attempted to illustrate some examples of how concepts such as Player Centered Design can be interpreted as restrictive to an exploration of the videogames medium. The following chapter shifts the examined material from texts to videogames, providing references to the experimental and progressive games that have more directly influenced my own design work.

3 GAME REVIEW

In the following chapter I will discuss some of the videogames that have influenced the design process reported in this thesis. The games have been presented here as analogous to a literature review, critically examined through categories that further contextualise the research topic. Lawson (2006) discusses collecting precedent or references as part of the group of skills comprising design reflecting. He argues that designers have few rules when working through a design problem towards a solution, and instead utilise a large volume of knowledge on existing design solutions. Identifying parallels in the videogames precedent has helped inform how I dealt with some of the design problems I faced in my own research. Similarly, Kultima (2018) discusses the game design process as involving acts of ostension, wherein creative decision making is informed through the referencing of particular parts of existing games, to act as pointers when communicating information. As such, the games discussed here are referenced back to throughout the design process documented in Section 4.2.

This chapter begins with a discussion on several definitions of games, with a distinction between those that can be interpreted as inclusive and exclusive. Difficult games are first discussed, with particular reference to those mentioned in Wilson & Sicart's (2010) abusive game design paper. This is then contrasted with a section on *easy* games, and their perception across gamer culture. The clicker game genre is then discussed as a combination of elements from both easy and abusive games. An axis of UI games is presented to aid in the classification of a number of modern videogames that have more directly influenced my own design process. A final section suggests how the concept of Game Design Fiction could be utilised to reference and discuss games that are broken, unfinished or otherwise in the realm of the hypothetical.

3.1 Defining Games

With game studies being a relatively modern field of study, it is unsurprising that defining *game* continues to be a popular topic among academics, for instance as catalogued by Björk and Juul (2012) in Section 2.1[4]. For the purposes of this thesis, I feel it necessary to differentiate between two contrasting approaches of defining videogames; those that

[4] See also Stenros's (2017) review of 63 definitions of game.

emphasise the *inclusivity* of games as a multiplicity of artefacts, and those that act otherwise *exclusionary*, through insisting that videogames depend upon certain elements.

The exclusionary approach is one that emphasises the game and its supposed dependent features. Esposito's definition, that "a videogame is a *game* which we *play* thanks to an *audiovisual apparatus* and which can be based on a *story*" (2005, para. 1, emphasis his), highlights some of the supposed dependent components. Esposito is firm in stating that we must remember a videogame is a game, and so continues by defining what a game is. He uses a definition of game from Eric Zimmerman (2004), whilst additionally referencing a very similar definition that Salen & Zimmerman (2003) present in *Rules of Play*. Esposito's only objection to Zimmerman's definition is that it excludes toy-games or puzzle-games, what Crawford (2003) describes as *interactive entertainments* or *playthings*, which Esposito states would be included in his definition. Salen & Zimmerman's (2003) definition of game is derived from eight definitions by scholars such as Huizinga, Caillois, Suits and Sutton-Smith, all of whom are heavily cited across game studies.

> *"A game is a system in which players engage in an artificial conflict, defined by rules, that results in a quantifiable outcome."* (Salen & Zimmerman, 2003, p.80)

Schrank (2010) discusses how in the many definitions of *videogames* it is popular to emphasise the *game* over the *video*. Schrank explains how video can act as a cue to "all the support technologies videogames pull into their field and leverage as their form" (2010, p.13). By this logic, Schrank criticises the following definition by Juul (2005) that emphasises goals, effort and rules over technology, sensuality and other cultural rituals.

> *"A game is a rule-based system with a variable and quantifiable outcome, where different outcomes are assigned different values, the player exerts effort in order to influence the outcome, the player feels emotionally attached to the outcome, and the consequences of the activity are negotiable."* (Juul, 2005, p.36)

These two definitions of games are used in their context in support of a larger description of videogames. The restrictive construction of these definitions can be better understood when compared against some alternative definitions that emphasise inclusivity and decentralise the game of videogame.

> *"Videogames are: play with technoculture."* (Schrank, 2010, p.11)

Schrank (2010) describes this statement as a *counter-definition* that is not intended as complete, but rather to be utilised to augment more conventional definitions. By defining videogames in the broadest possible strokes, and without emphasising the game, Schrank's counter-definition is inclusive of a larger body of art and media. Schrank uses the examples of traditional games such as *Tetris* (Nintendo, 1989) and *The Legend of Zelda* (Nintendo, 1986), as well as casual games like *Farmville* (Zynga, 2009) and artistic, or avant-garde, videogames, all being able to fit under this label. Schrank argues that *The Sims* (Maxis, 2000) and *SimCity* (Maxis, 1989) should also be primarily understood as videogames, rather than being *software toys* as their creator Will Wright has suggested.

> *"Video games are defined as any designed, interactive experience that operates primarily through a digital interface and* ***understands itself*** *as a video game."* (Ruberg, 2019, p. 8, emphasis theirs)

Schrank's (2010) thesis describes what he classifies as avant-garde videogames, games that play with the medium to create new experiences detached from traditional game design goals such as the maintenance of flow experiences. Ruberg talks more specifically to the LGBTQ experience when discussing a "queer games avant-garde" (Ruberg, 2019, p.210) and the experimental videogames produced therein. Their definition of videogames emphasises inclusivity and is described as a political statement, working to remove the biases in academia and among gamers about what counts as a videogame. These inclusive descriptions empower games and gamemakers to identify as they choose, rather than having their identification be determined by others.

3.2 Difficult Games

Framing the previously mentioned definition of videogames, Ruberg (2019) talks about a *reactionary gamer* who argues against diversity in the medium with an expectation that games should follow a traditional template of resembling pre-existing games. As Paul (2018) has discussed, one of the main characteristics of videogames that are used by gamers to recognise a *real* game is difficulty, and the resultant emphasis on skilful play. The *Souls* games[5] are an example of a series that specifically targets and, in turn, is revered by a *hardcore gamer* audience. These games emphasise combat and challenging boss fights, and they include specific design choices that distinguish them further as

[5] The *Souls* games referred to in this section are those developed by FromSoftware including *Demon's Souls* (2009), *Dark Souls I, II and III* (2011, 2014, 2016), as well as related titles *Bloodborne* (2015) and *Sekiro: Shadows Die Twice* (2019).

hardcore, such as the lack of a pause option or alternative difficulty modes. The discourse around these games take on a cyclic pattern; with each new release comes a slew of articles in the games press bemoaning or defending the lack of an *easy mode* (Rivera, 2019; Kain, 2019; Klepek, 2019), which in turn produces an expected response of reactionary behaviour from gamers. AbleGamers COO Steven Spohn (2019) has written how *Souls*-like games could be improved for people with disabilities, by offering accessibility options rather than changing the core gameplay. Responses to Spohn on Twitter range from the supportive to derogatory and ableist, using terms such as *git gud*, the exclusionary language of the hardcore gamer. As discussed in Section 2.2, accessibility has to be understood separately to usability, describing two different design mindsets.

Despite their difficulty, *Souls* games have been described as being *absolutely fair* (Hudson, 2015), in that players can trust the game and be expected to improve through time and dedication. This idea of fairness distinguishes *Souls* games from the abusive or dialogic game design described in Section 2.2, despite bearing some similarity on account of their punishing nature. The *Souls* games are used here to illustrate an example of fair difficulty in modern single-player games. A modern game that bridges the gap between this purist conception of difficulty and Wilson's (2012) concept of dialogic design, is *Getting Over It with Bennett Foddy* (Bennett Foddy, 2017).

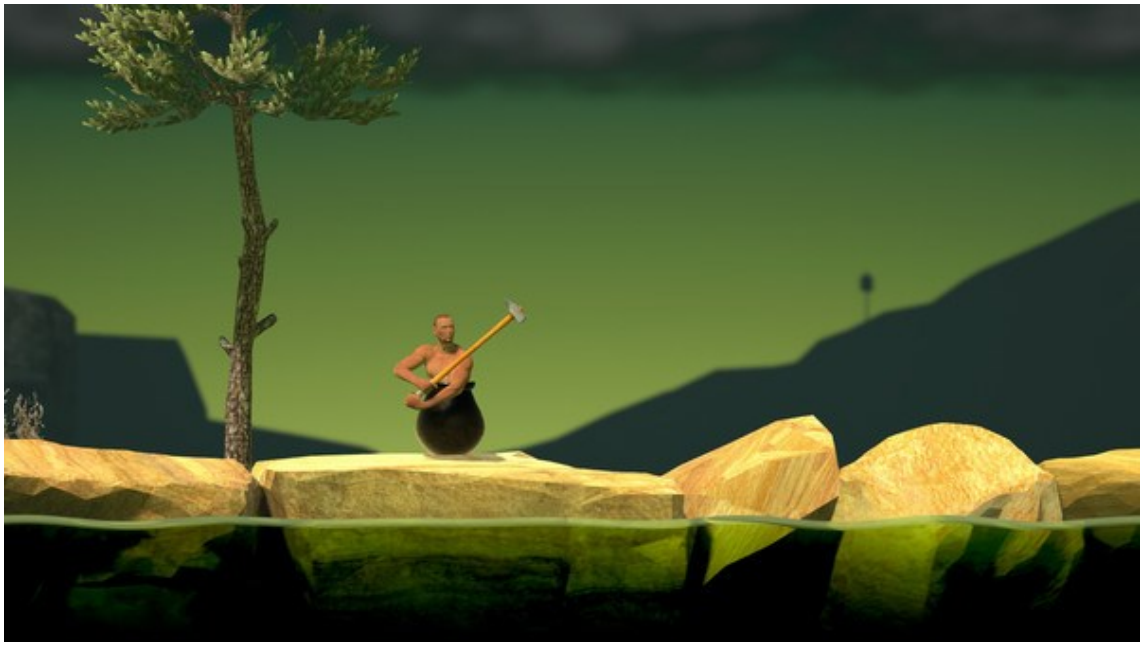

Figure 4 Screenshot from *Getting Over It With Bennett Foddy* (Bennett Foddy, 2017)

In *Getting Over It*, the player controls a man, Diogenes, as he attempts to ascend a mountain using only a hammer. The game's particularly precise and sensitive controls are able to, in a single misclick, eliminate a player's hard-earned progression in seconds. Foddy talks about his design thinking in an interview presented by Wiltshire (2018). Foddy describes how he grew to be accustomed with a lack of fairness in the games of his childhood, that were developed for 8-bit computers by teenage bedroom coders. For instance, Foddy describes *Jet Set Willy* (Software Projects, 1984) as sending the player right back to the start of the game upon death, a punitive design choice that began to die out once games began to allow for save systems. Foddy describes this design choice as an aesthetic that he saw re-emerge in the *Souls* games, and that the success that those games had in upturning design conventions was exciting for designers, opening new design spaces for exploration. Certain design choices in *Getting Over It* label it clearly as a dialogic game and this is also visible in the description of its *Steam* store page: "A game I made for a certain kind of person. To hurt them" (Foddy, 2017). The game includes narration throughout from Foddy who speaks to the player directly about loss and perseverance, as it relates to the player's progression. The game is unique in having the creator's name as part of the title, and Foddy describes this design choice in a 2019 *GDC* (Game Developers Conference) talk titled *Put Your Name on Your Game, a Talk by Bennett Foddy and Zach Gage*. Foddy describes how independent games released under a studio name connect themselves to the culture of AAA games, and that gamers are seen to act less antagonistically when made aware of the individuals who make games rather than supposing a large and uncaring corporation. To mark it even further as a dialogic game design, upon completion of the game the player is then able to directly communicate with Foddy by a custom instant messaging technology in the game that connects to his phone.

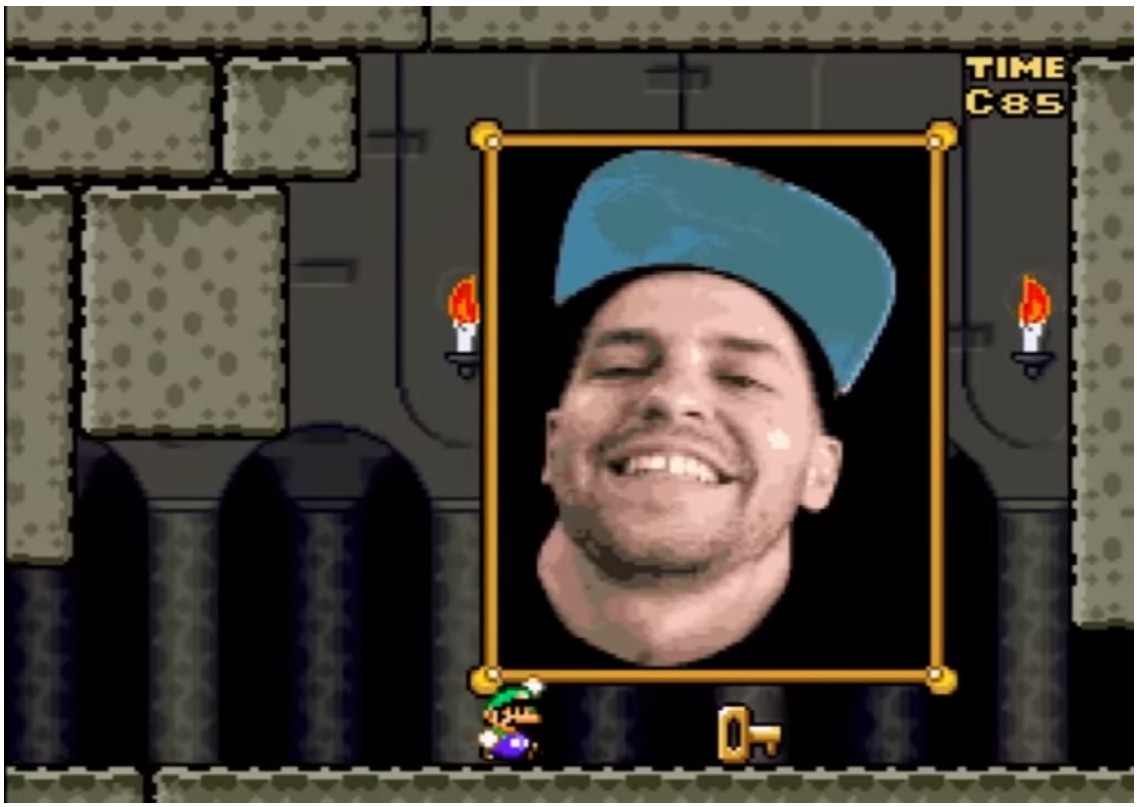

Figure 5 Screenshot from *Grand Poo World 2* (Barbarian, 2019)

In discussing abusive game design, Wilson & Sicart (2010) discuss *Kaizo Mario*, a modified version of *Super Mario World* (Nintendo, 1991) as an example of unfair design. The game was designed by T. Takemoto in 2007 specifically for his friend R. Kiba, and is extremely difficult to play, both in being a test of platforming skill dexterity, while also containing a multitude of trollish design elements such as invisible blocks and traps. Since Wilson & Sicart's publication, modifications of *Mario* games have grown further in popularity, in parallel to the rise of videogame streaming, and Nintendo has even legitimised them officially through the release of *Super Mario Maker* (Nintendo, 2015) and *Super Mario Maker 2* (Nintendo, 2019). Due to the limitations of these officially sanctioned releases, modifications of the original *Super Mario World* have continued, and often in a vein of dialogic design. As an example of this, popular speedrunner David 'GrandPooBear' Hunt has in 2019 been streaming *Grand Poo World 2* (Barbarian, 2019), a variation of *Kaizo Mario* dedicated and named after him. Speedrunners like GrandPooBear demonstrate an expertise of videogames that is understood as competing directly against the computer, and indirectly against other people through timed performance and world records. This is compared with an expertise of multi-player game difficulty where players directly compete against each other; for the scope of this thesis, I have remained focused only on single-player games. The popularity of mods such as *Grand Poo World 2* do go beyond just the associated individuals, with the game being

presented at the biggest streamed speedrunning tournament *Summer Games Done Quick 2019*.

The *Kaizo*-like games combine trolling and skill-based difficulty, but other games referred to as abusive by Wilson & Sicart (2010) replace the skill factor entirely with other forms of endurance. They discuss the game *Desert Bus*, a minigame from the unreleased Sega CD game, *Penn & Teller's Smoke and Mirrors* (Imagineering, 1995), as an example of physical abuse. In *Desert Bus*, players drive a bus over eight real-time hours through a sparse and poorly visualised desert road connecting Tucson to Las Vegas, with the game requiring a constant supervision from the player to avoid the bus veering off track and causing the game to fail. The absurdity of the game has allowed for its memeification within gamer culture. *Desert Bus VR* (Dinosaur Games, 2017) updated the game for new technology while retaining its core gameplay, while "Desert Bus for Hope" is an event live-streamed annually since 2007, earning over five million dollars for charity (Good, 2018).

3.3 Easy Games

Figure 6 Screenshot from *Gone Home* (The Fullbright Company, 2013)

Gone Home (The Fullbright Company, 2013) is representative of a videogame that gamers have viewed derisively since its release. The game has the player explore their family's new home, through a minimal interaction with household objects, gradually uncovering information about their younger sisters recent coming out as a lesbian. The

game features a first-person perspective most identified with shooter games such as *Doom* (id Software, 1993) and *Call of Duty* (Infinity Ward, 2003), but by removing those games' primary methods of interaction, through guns and shooting, retain only the mechanic of exploration in a 3D (three-dimensional) space. The combination of the game's critical popularity, LGBT themes, and absence of traditional shooter gameplay has long provoked gamers into arguing against the games merit, classification and existence. *Gone Home*'s designer Steve Gaynor went so far to address some of these claims in a presentation titled *Why Is Gone Home a Game*? at *GDC* in 2014. Gaynor describes how the story was written specifically for the game medium, and should be understood as such, with the player bringing their own interpretation to what is ostensibly a linear experience.

The lack of elements such as *artificial conflict* and *variable outcome* mean that *Gone Home* struggles to fit into the definitions of game given by Salen & Zimmerman (2003) and Juul (2005) at the start of this chapter. In academia, Paul talks about *Gone Home* being an important piece in thinking differently about games but qualifies his statement by describing it both as a "interactive experience" (2018, p.20) and elsewhere as a "game" in quotation marks (2018, p.169). Bogost (2017) has described *Gone Home* and other similar 'Walking Simulator' games derisively in an article titled *Video Games Are Better Without Stories*, in which he discusses narrative as being better served by other mediums such as film and literature. Vossen (2018) takes issue with Bogost's (2017) description of *Gone Home* as "teen fare" with "nothing to praise", questioning why he should even be acting as the arbiter of quality for a game that was not aimed at him, representing as he does a traditional straight, white and male gamer audience.

Gone Home and *Getting Over It* were both developed in Unity, a 3D game engine released in 2005 that is credited in part for the democratisation of game development owing to its relative ease of use and free licencing model. Games produced in the Unity engine have at times moved even further away from the traditional structures of games thanks to the large and diverse range of makers able to utilise the tool. While *Gone Home* retains some of the trappings of traditional games, such as an inventory system and unlockable doors, other games have gone further in removing even those elements. One example of this is Connor Sherlock's *Walking Simulator A Month Club*, a project funded by the crowdfunded website *Patreon*, in which Sherlock releases different 3D environments on a regular basis, with the intention being for the player to explore unique landscapes and architecture. In an article on *PC Gamer*, Allen (2018) describes Sherlock's work as being "less videogames and more video sculptures", revealing an anxiety over how to best label

them, which can be avoided by following the inclusive definitions presented at the start of this chapter.

Figure 7 Promotional material from *Mountain* (David OReilly, 2014)

The games of David O'Reilly, a film maker and artist who began to work with games with the Unity engine, display intentional design moves away from the concepts of difficulty and player skill. *Mountain* (David OReilly, 2014) is a simulation of a mountain moving in space, collecting everyday objects as debris while occasionally sharing thoughts with the player. A collection of feedback to the game has been collected by Wilde (2014); while receiving a generally positive reception from critics, gamers reviewing the game on the Steam platform have described it as "worthless", "just a screensaver" and "a fucking joke". O'Reilly's second game, *Everything* (David OReilly, 2017) simulates a procedurally generated universe, with the player able to move between a multitude of objects ranging in size from the galactic to the sub-atomic. The interaction in this game remains limited to movement while topics related to Eastern philosophy are presented to the player through extracts from talks given by Alan Watts. Similarly to *Mountain*, the game is able to play itself without any input from the player through the independent running of the simulation. It could be suggested that O'Reilly's history as a film maker influences a game making style that deemphasises player control over the communication of an artistic message, but his work represents a successful combination of contemporary art and videogame with commercial and critical success.

It goes beyond the scope of this thesis to catalogue the numerous videogames which have made an effort to remove or replace difficulty and skill, but this design choice can be

understood as growing more common since the aforementioned democratisation of game development. Part of that movement is ascribed to the interactive fiction tool Twine, released in 2009. Twine works primarily through the production of interactive text-based web pages, with creators often producing games that remove elements common to earlier interactive fiction work, such as inventory management and puzzles. As expected by a tool popularised in the queer videogame scene, Twine games are viewed poorly by the gamer audience, seen most visibly through the false allegations surrounding the game *Depression Quest* (The Quinnspiracy, 2013) which were central to the Gamergate controversy. Arguments over whether a linear text-based story can be classified as a videogame, again depends on the definition chosen at the start of this chapter. Although videogames developed in Twine are worthy of merit by their own accord, they do also offer an entryway into game development that is free from the expected conventions a tool like Unity presents. The structural foundations of Unity's software and its supporting paratexts of training documentation can guide creators towards creating specific types of games during the learning process which in turn reinforces an idea of what *real* games should look like. Nicoll & Keogh (2019, p.70) discuss how in Unity's tutorial video for *raycasting*, a generalised function where a line is cast through virtual space, the given example of a character shooting a weapon demonstrates how Unity expects the function to be typically utilised.

3.4 Clicker Games

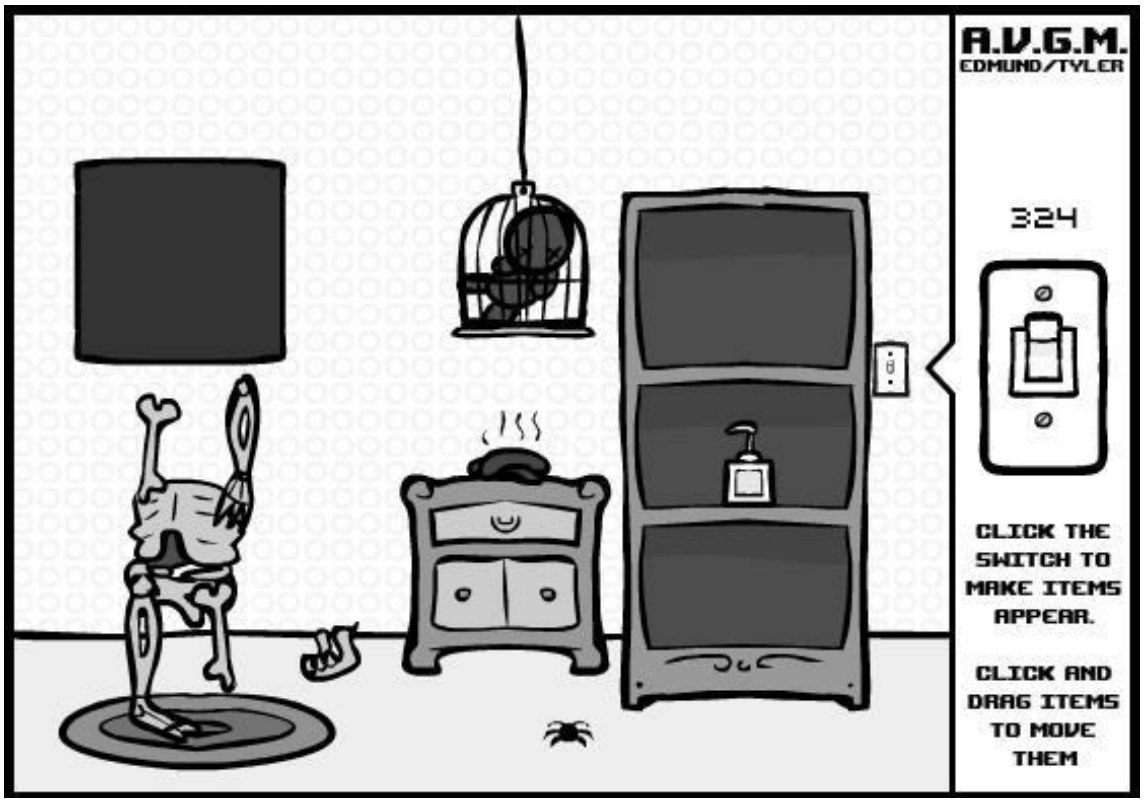

Figure 8 Screenshot from *A.V.G.M* (Edmund McMillen, 2009)

A genre of game that has become more popular since abusive game design was proposed in 2010 is known by several names; clicker/clicking games, idle games and incremental games. This type of design has some lineage in games such as *Stat Builder* (Backburner Games, 2008), which was described by Björk & Juul (2012) as a *hypothetical game*. They describe the game, which involves the player clicking a central button repeatedly to progress through a typical role-playing game, as a hypothetical experience because it was not intended for the player to spend a considerable amount of time playing.[6] This framing contrasts against more recent games of this genre that prey on the appeal of incremental progress to a player, a trope of videogames seen in an addictive desire to see numbers (such as damage dealt and health gained) grow ever higher and higher. Edmund McMillen's 2009 game *A.V.G.M* is worth mentioning as being a precursor to the clicker genre proper, which tasks the player with clicking a light switch on and off multiple times to cause arrangeable items to appear in a bedroom. Upon completing the game, the true title of the game is revealed as *Abusive Video Game Manipulation*.

[6] Björk & Juul (2012) also describe *Desert Bus* as fitting the description of a hypothetical game. Such a labelling seems unnecessarily reductive to such developed games and more accurate examples of hypothetical games are presented in Section 3.6.

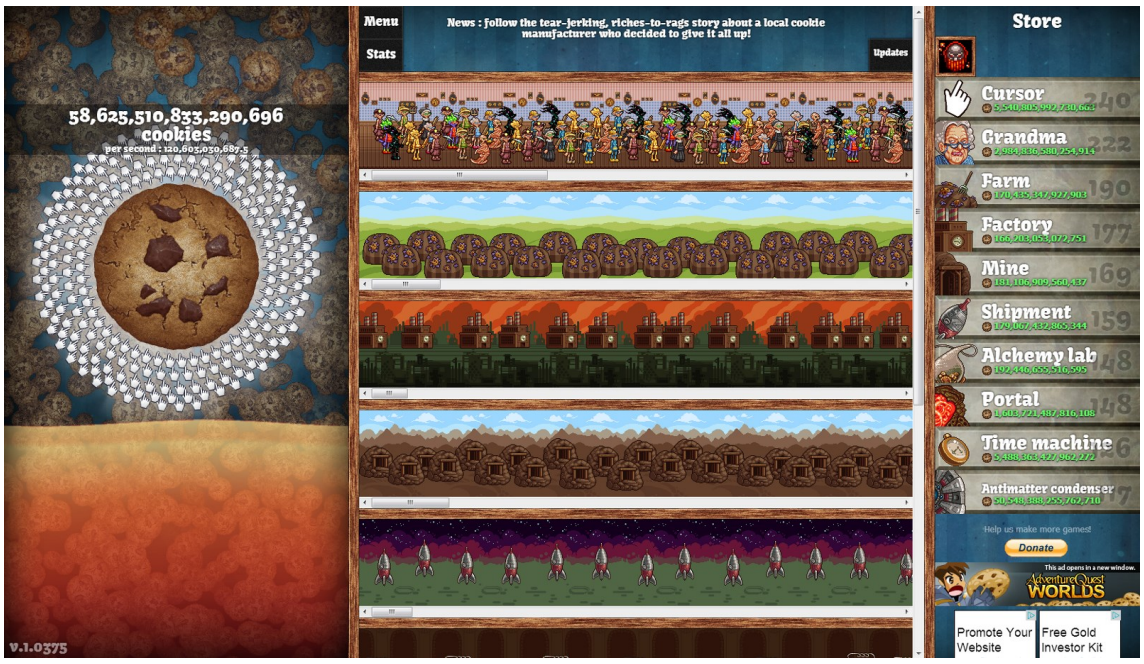

Figure 9 Screenshot from *Cookie Clicker* (Julien Thiennot, 2013)

The genre grew in popularity with the game *Cookie Clicker* (Julien Thiennot, 2013), in which the player clicks an image of a cookie repeatedly to progress, unlocking additional thematic items such as cookie mines, factories and banks. Idle games are typically structured to early on allow for the clicking process to be automated at a reduced speed, allowing for the game to run without any input from the player, hence the player being 'idle'. The simplistic structure of the games has inspired numerous developers to proffer their own spin on the formula: *Clicker Heroes* (Playsaurus, 2015) is stylised like a traditional game with monsters to battle, gold to earn, and heroes to level up, whilst *AdVenture Capitalist* (Hyper Hippo Productions, 2014) can most generously be read as using exponential growth to critique a society of late stage capitalism. Both games, having been released initially for web browsers before being ported to mobile devices, include IAP (in-app purchases) allowing for players to pay to make faster progress. The idle genre has also been popular among academics. Although *Cow Clicker* (Ian Bogost, 2010) can be read more as a satirical commentary on social games, it exists as an atypical incremental game, unique in allowing for the player to click only once every six hours. *Universal Paperclips* (Frank Lantz, 2017) uses the idle genre to present a game based on the thought experiment of a paperclip maximiser, telling a story that has gone so far to inspire initial work into a feature-length film based on the game (Jahromi, 2019).

This genre of game could very well be described as a form of abusive game design. However, fitting them into one of the modalities presented by Wilson & Sicart (2010) is reductive to what makes them uniquely torturous. In the more insidious cases, where the

games allow for unlimited micro-transactions, the genre could be better be described in the terms of dark patterns (Zagal et al., 2013). The creator of *Clicker Heroes* took an unusually moral stand in the world of F2P (free-to-play) games by publishing a letter stating that he wouldn't include IAP in the sequel; that he recognised games as addictive, and that a small number of people ('whales') had spent far too large a sum of money on his game (Fragsworth, 2017). The creator had offered a refund policy for IAP made in *Clicker Heroes* but recognised that problem players in denial about their addiction would be too ashamed to even ask for it. Even in a genre of game defined by its lack of agency, players can still be prone to exhibiting dangerously addictive behaviour.

3.5 UI Games

Idle games can be further categorised as belonging to a category of games called *UI Games*. Traditionally, videogames incorporate some kind of UI, a graphical overlay of information on top of the game environment that includes the buttons, menus and other graphical elements that exist separately from the main gameplay. A UI game can be described as a game that uses buttons and menus as the primary form of gameplay interaction, removing more common game elements such as the movement of a character or object in a 2D or 3D space.

Whilst a UI game can be imagined in an essential form as consisting of a single button, a growing number of experimental and successful independent games have been made that replicate entire operating systems (OS). Some of these games have been described as *desktop simulators* (Riendeau, 2018) when they recreate realistic interfaces, but this label is not suitable for similar, but more abstracted games. Whilst a small categorisation of some of these games is proposed in this section, an understanding of these games would benefit from further research. UI games can be particularly relevant to game research related to User Centered Design and usability, and the development process outlined in the following chapter describes the development of such a game.

In the following analysis I am specifically looking at UI games that simulate operating systems or computer programs and distinguishing between them through their visual appearance. Three distinctions can be made across an axis, allowing for a malleable placement of games. At one end of the axis there exists games that reproduce a real-world UI either exactly or through close approximation. Towards the middle a group of games exist that present a realistic UI but without any direct real-world parallel. And at the

furthest end of the axis exist games where the UI has been obfuscated intentionally in service of an unknowable aesthetic. Across this axis, the players understanding of the UI game can be predicted to move from the familiar to the indecipherable, although other design choices may factor on this significantly. The middle section is relatable to most traditional games' UI, presenting an original interface the player has to learn for the purpose of a single game. In this section I will refer to the three groupings of games as *authentic UI*, *custom UI* and *alien UI*.

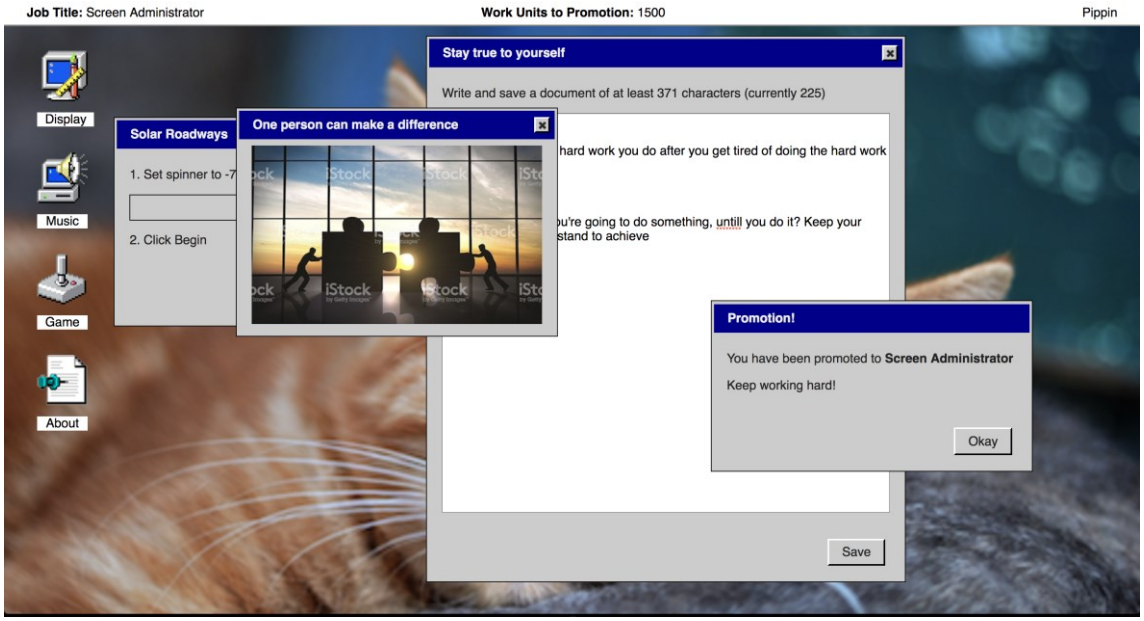

Figure 10 Screenshot from *It is as if you were doing work* (Pippin Barr, 2017)

Pippin Barr's recent UI games, including *It is as if you were doing work* (2017), *It is as if you were making love* (2018) and *Let's Play: Ancient Greek Punishment: UI Edition* (2019) are prime examples of authentic UI games; they mimic the look and feel of an early Windows operating system in support of a range of original ludic experiences. The games appearance cannot be truly authentic to the Windows experience, due to being developed with the web framework jQuery, but a close enough representation is given for the player. Barr's development process has been recorded through the use of a publicly accessible design diary with source control logs. Through this diary, which is analysed by Khaled et al. (2018), we can see Barr describing his game *It is as if you were doing work* from an early stage specifically as being a "UI game".

Early Windows operating systems are given to a nostalgia across the generation that came of age during the early online era. This contrasts against how the emulation of a modern operating system could be interpreted as closer to modern anxieties and work rather than positive emotions. *Emily is Away* (Kyle Seeley, 2015) mimics the interface of Windows

XP and chat clients of that time to tell a linear story about the players relationship with a girl over a five-year period. *Emily is Away* can be described firstmost as a visual novel, suggesting that UI games are not genres unto themselves, but rather can be used in support of other genres. *Her Story* (Sam Barlow, 2015) uses a historical approximation of the Windows desktop as a framing device to create an adventure game, with the player searching through a database of video clips for information about an unsolved disappearance.

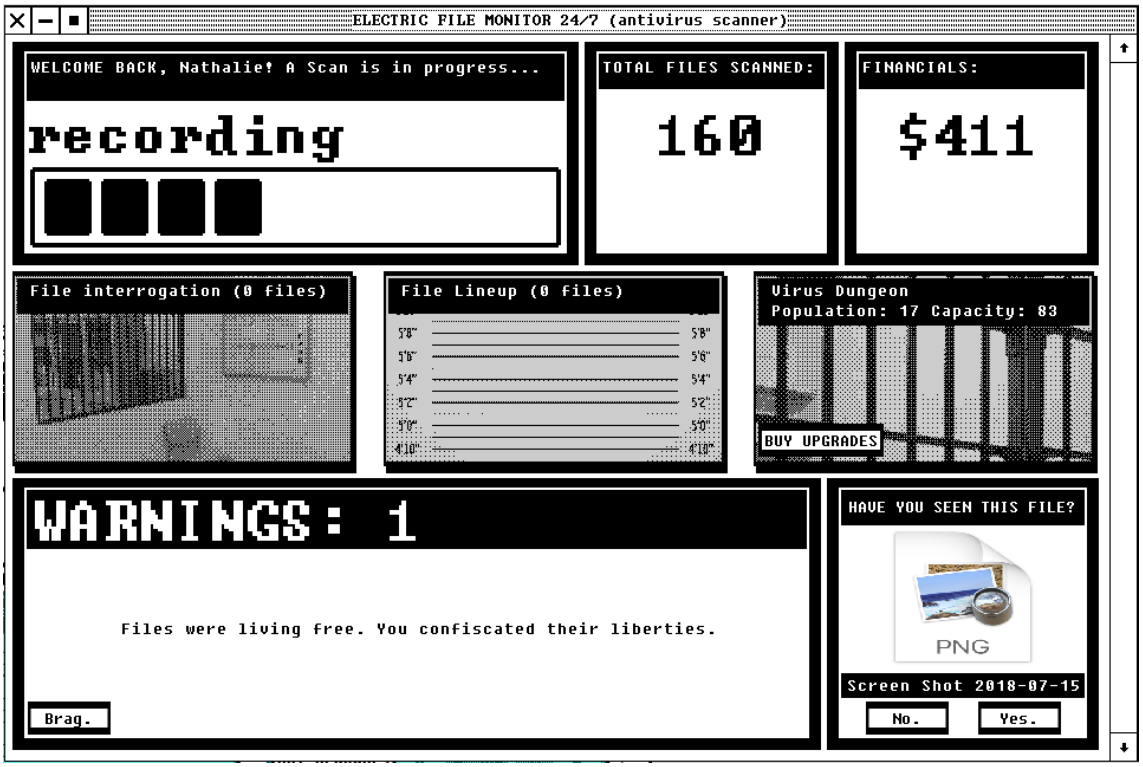

Figure 11 Screenshot from *Electric File Monitor* (Natalie Lawhead, 2018)

UI games that sit between the *authentic* and *custom* include *Cibele* (Star Maid Games, 2015), a vignette game based on the personal experiences of the designer, Nina Freeman. The game represents a specific period in time, with the desktop interface allowing for the player to search through the personal files of Freeman as a teenager including photos and journals. The game goes so far as to simulate an MMO, representing *Final Fantasy XI* (Square Enix, 2003), in which the player engages in an online relationship. While the graphical interface of *Cibele* is not completely authentic to its time, this does not detract from the intended experience. The work of artist Natalie Lawhead is particularly representative of UI games that blend authentic recreations of desktop GUI elements with original art and design. Her game *Electric File Monitor* (2018), which she has described as being a state-of-the-art virus scanner, a joke and a political commentary on labour rights and power structures (Lawhead, 2018), demonstrates this style. The game mimics

a classical Macintosh UI design, although the specific layout does not replicate any specific program. File and folder icons that directly represent the User's documents are presented in the game as though being scanned by the software, whilst being personified as joking and conspiring between one another.

Figure 12 Screenshot from *Hypnospace Outlaw* (Tendershoot, Michael Lasch, ThatWhichIsMedia, 2019)

Lawhead's *ARMAGAD (also Tetrageddon Games)* (2016) similarly mixes nostalgic UI elements with custom art to produce a fake OS that incorporates several smaller games and a fictional internet. *ARMAGAD* can be seen as a precursor to *Hypnospace Outlaw* (Tendershoot, Michael Lasch, ThatWhichIsMedia, 2019) which likewise presents a fictional OS and internet that is evocative of the early days of the world wide web. A distinction can be made between the two games in that *Hypnospace Outlaw* uses a completely *custom* UI, with every graphical element of its interface made bespoke, supporting a reading of the game as standing apart from our own world. Similar to how *Hypnospace Outlaw* casts the player in an authoritarian role as a 'Hypnospace Enforcer' who reports abuse and copyright infringements online, *Orwell* (Osmotic, 2016) tasks the player as a member of the surveillance state to identify and monitor security risks. Interaction with the world in *Orwell* is given only through a fictional OS that presents news, correspondence and other information to the player, constructed entirely from custom graphics that suggest a near-future timeline. Finally, whilst a game like *Papers, Please* (3909 LLC, 2013) shares some similarity with these custom UI games, it is distinct in that it doesn't attempt to replicate a particular technology. *Papers, Please* adds an

additional layer of abstraction in actions such as dragging and stamping literal documents, a form of modality more detached from the direct actions of pushing buttons and dragging electronic files in the other games.

The final group of UI games can be described as *alien*, identifiable as using graphical elements without strict adherence to pre-existing forms. Through the organisation of all these UI games across an axis it is possible to measure the extent to which a game can obfuscate its interface, with semi-familiar icons and modes of interaction being removed further still at this endpoint.

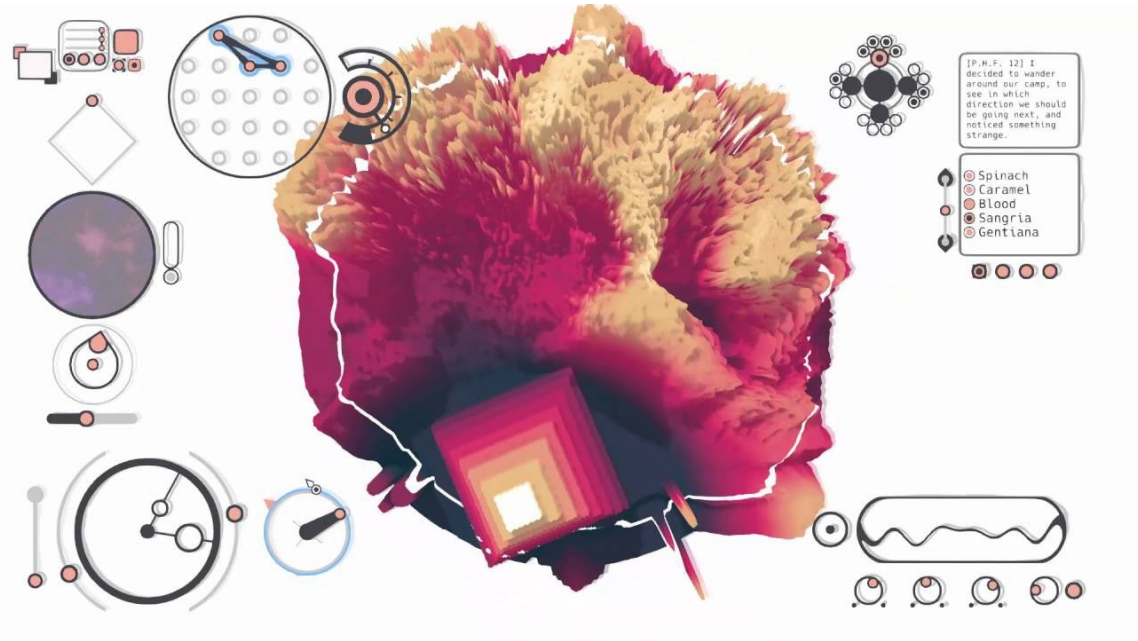

Figure 13 Screenshot from *Mu Cartographer* (Titouan Millet, 2016)

A historical example of such a game is *L'Arche du Captain Blood* (Exxos, 1988) which includes an icon-based interface, known as UPCOM, that represents the different language concepts a player must decipher in communicating with a variety of alien races. *Mu Cartographer* (Titouan Millet, 2016) is described as a sandbox toy that has the player manipulate an alien machine to find treasures, stories and mysteries. *In Other Waters* (JUMP OVER THE AGE, 2020) takes inspiration from *Mu Cartographer*, although the two games share the use of English text and recognisable interactions through dials and levers that remove them from being understood as entirely *alien*. The design process in the following chapter details my own attempts at making an emblematic alien UI game.

3.6 Game Design Fiction

Advice to novice game designers often emphasises the importance of finishing and releasing games, acknowledging game development as a long and arduous process filled with many potential pitfalls[7]. Releasing a game is dependent on working through all the constraints that impact development such as time, money, ability and stakeholder interests. Having been developed through these constraints, an original released game is unlikely to align perfectly with the creator's original vision. Accepting this disparity between the ideal and the actuality appears to be part of the process necessary for any creator to finish and publish their work. Owing to a number of factors detailed in the design process, the game produced as a part of this thesis was never finished nor released publicly. As an unfinished work it exists in a liminal space, belonging neither to the pure ideal nor any actualised product. In this section, I want to briefly propose how a concept of Game Design Fiction could be utilised in order to discuss this research alongside other related phenomena.

The game design process is described as a "plethora of ideas", understood through the adage among developers that *ideas are cheap* and that their value is intrinsically tied to their execution (Kultima, 2018, p.103). Value can be understood here through a capitalist lens of productivity which is distinct from an academic knowledge. In academia the value of ideas is weighed differently, dependent on the scientific process and reference to existing scholarly works. In his thesis, Frasca (2001) uses design documents in lieu of working prototypes to describe the ideal form of his proposed games. His games can remain as an ideal because they are detached from the reality of a design process compromised with constraints. Howell (2011) offers a hypothetical example of *schematically disruptive game design* to support his theory of the same name, but this cannot be truly understood when it is removed from the emergent properties of an actual game. Across early game studies especially there are similar theories of how games *could* be designed or how players *might* react. While this theorising seems less justifiable owing to the democratisation of game design, a possibility space remains that is not served alone by more accessible tools and rapid prototyping.

[7] Derek Yu, creator of *Spelunky* (2008, Mossmouth, LLC) has a widely shared post on his Make Games blog (2010) in which he talks about treating finishing as a skill and outlining the many mental traps designers can fall into.

Coulton & Lindley (2016) describe a paper they had published at CHI PLAY 15, in which they presented fictional research concerning the development of a gamified system of drone operation. The authors utilised the structure of a research paper to present an imagined technology as real, an idealised form that would have been lessened by an actual conception if even it were possible. They label this research as Game Design Fiction, a gamified extension of the Design Fiction work associated most with Dunne & Raby (2013). While the conceptual works of Dunne & Raby do exist as artefacts, they are also described as ideas in a positive sense: "It is because it is an idea that it is important. New ideas are exactly what we need today" (2013, p.12). The importance of Design Fiction to HCI in recent years is described by Ben Kirman (2016) in his personal blog, in which he discusses how fictional abstracts could aid future research. Inspired in part by the Game of Drones paper (Lindley & Coulton, 2015), a fictional academic conference was held by Kirman and others entitled the *International Fictional Conference on Design Fiction's Futures* (FCDFF). The conference gathered over 50 submissions and a number of full papers despite asking only for titles in the Call for Papers (Kirman, 2016). Whilst such fictional proceedings may be perceived as an academic exercise, parallels can be made to similar initiatives in the wider game culture. For instance, *#notGDC* is described as a *non-conference* and has been held annually since 2017 during the dates of GDC. For creators either unable or unwilling to attend GDC proper, #notGDC offers a space for knowledge sharing; offering blog posts, Twitter threads and YouTube videos on a range of industry topics.

Whilst Coulton & Lindley (2016) have labelled a chapter title of their research as *Game Design Fiction*, they have not chosen to define this concept any further. Design Fiction is a term originating from the science fiction author Bruce Sterling, who has described it as "the deliberate use of diegetic prototypes to suspend disbelief about change" (Bosch, 2012). Diegesis is used to present the interior of a story world, with designers creating and displaying prototypes native to such worlds when engaging an audience in object-centric dialogue; the fiction of Design Fiction referring to the story world itself as a prototyping medium, rather than the not-real prototypes created in practice (Coulton & Lindley, 2016). In Coulton & Lindley's work the videogame is not the story world's object prototype, rather it is the research paper itself. While their work can be understood as Design Fiction which incorporates some game design, it is plausible that Game Design Fiction could be interpreted as a more distinct concept. Whilst going beyond the scope of this thesis, it is possible to imagine a Game Design Fiction with more modest goals to

Design Fiction, concerning the potential futures of videogames rather than the potential futures of reality itself. Such an interpretation of Game Design Fiction could aid in the understanding of existing games through the creation and display of assets and paratexts which belong to entirely fictional games.

Fitting this concept of Game Design Fiction are a growing number of games and related media that are otherwise hard to categorise; skirting between these lines of the real and the conceptual, the actual and the ideal. The *Epistle 3 Jam* (Laura Michet, 2017) invited creators to submit games based around a plot synopsis released by the writer Marc Laidlaw for the unreleased episodic sequel to *Half-Life 2* (Valve Corporation, 2004). Coulton & Lindley (2016) describe the third episode of *Half-Life 2* as *vapourware*, an unreleased piece of software that they conceptualise as Design Fiction, owing to it existing only as a speculative vision. The submissions to the *Epistle 3 Jam* are comedic in nature, because the jam is comedic; it tasks the jammer with replicating in short time what was envisioned for a large team with AAA production values. *Epistle 3 Jam* was held on *itch.io*, a website which offers creators a place to share their work either for free or a set price. itch.io does not limit creators in what type of files they can upload, allowing for a more vibrant ecosystem that encompasses zines, soundtracks, tools, tabletop manuals and other media. Taking advantage of this media variety, the *I Wasn't Gonna Make This Anyway Jam* (CannibalInteractive, 2018) was themed around taking an idea for a game and making anything other than the game itself. Submissions included design documents, game manuals and F.A.Q (Frequently Asked Questions) files, all of which belonging to games that didn't exist. Going further still, the jam *Don't Make a Game* (Sophie Houlden, 2019) had 3 rules, "Don't make a game. Don't work on a game. Do literally anything else", with 43 submissions of assorted playful media.

Figure 14 A selection of the fake game art shown at METEOR (Kill Screen, 2016)

My Famicase Exhibition is held annually at the METEOR store and gallery in Tokyo's Kichijōji neighbourhood. The exhibition showcases a selection of cartridges for fake Famicom games, curated from a large selection of international submissions. While these games strictly exist only as cover art, their presentation as visualised 8-bit cartridges aids the viewer's imagination in realising them as fictional works. These designs can be understood as conceptual works, games that speak to a fiction apart from our reality. *My Famicase Exhibition* is one specific example, but it is representative of the creative work that is inspired by videogames in a generalised rather than specific sense. There are soundtracks for fictional games such as 2017's *Bird World* which expands its fictional game and world design through the inclusion of an instruction manual and character sheets (Harrod, 2017). A popular fake *Let's Play* series of videos, *Petscop*, was a staged walkthrough of a fictional PlayStation 1 videogame that descended into a work of internet horror fiction or *creepypasta* (Barron, 2017). These examples demonstrate some of the creativity apparent in work when combining conceptual art with fictional games.

Figure 15 Screenshot from the web series *Petscop* (Tony Domenico, 2017)

Yang (2015) describes games as primarily works of conceptual or performance art, stating that it is "more important to witness a game than to play it". In the context of his own released games he discusses how they can be conceptualised through an auxiliary media, or paratext of text descriptions, gameplay videos and screenshots provided by the creator. Taken to an extreme, Yang suggests that games don't even need to exist to be "consumed" or thought about, as witnessed in the discourse created between the press previews of AAA games and an anticipatory gamer audience. Barr (2015) argues in the comments to Yang's piece against the "weird postmodern-seeming claims about games being fully represented by their conceptualisation", stating that games must exist to be understood: the process of making them is the "process of working out what it 'really' is". Barr's game design process, as documented by Khaled et al. (2018) exemplifies his thinking further. Barr is seen working through the meaning-making of his game *It is as if you were doing work* through entries in his design diary, with the background story only worked out and included late in the design process. Bennett Foddy, discussing *Getting Over It* in his 2019 GDC session, likewise talks of an important understanding that arose late in the design process. Foddy mentions having harboured resentment towards an imagined player treating the game as a disposable fun machine or rage engine, but through the process of recording voiceover dialogue grew more appreciative of the player's effort in having persevered with his game. Whilst the entirety of a game can only ever likely be known in its completion, there is still knowledge to be gained from abandoned games,

broken games, fictional games and incomplete games, and I will attempt to reconcile some of this thinking in the following thesis chapter.

This chapter has categorised genres and categories of games that have influenced the design process in this thesis. First, definitions of games were examined to highlight how videogames are able to be perceived differently, allowing for experimental games to be conceptualised alongside the traditional. This discussion was expanded upon through a look at game difficulty, and how working against the expectations of gamers allows for a more progressive medium. Clicker games were explored as a genre that subverts difficulty, and UI games were examined and presented across an axis that more directly informed decisions I made in the design process. Finally, Game Design Fiction was proposed as a concept that could aid in the categorisation of game related content that has separated itself entirely from any traditional definition of games.

4 THE DESIGN PROCESS

In the following chapter the design process is presented as the primary research material of this thesis. First the methodology is explained, and why a design diary was chosen as the main method of data collection. Additional context to the diary is provided through a declaration of my individual design values, alongside reference to the constraints that I faced throughout this project. The results are presented as an autoethnographic text, a form which allows for the diary notes to be expanded into a wider narrative, while staying true to the work's subjective nature. This text describes both the creation of a videogame, as well as the Player Decentered Design theory that developed concurrently, over the period of one academic year. The text highlights the most essential decisions I have taken in the process, and these decisions are reflected upon in detail in an effort to communicate my design thinking. The results are then discussed in relation to how the design diary worked as a method of data collection, alongside a final evaluation of the entire process.

4.1 Methodology

This thesis documents the design and development process of a videogame from the perspective of the author as sole creator. The results are presented as an autoethnography that has been built from a reflective design diary as the primary source of data. As practice-led research, this work can be understood as fitting Frayling's (1995) category of research through art and design. Frayling identifies a method of *action research* in this category, where a diary is used to record an experiment that is later contextualised in the form of a report. In contrast to *research for art and design*, where a finished artefact is said to embody the thinking behind it, the emphasis in research through art and design is to communicate knowledge gained through the creative process academically and with less ambiguity.

The use of design diaries to document and reflect on game design activity has been evaluated positively by Kuittinen & Kultima (2011), based upon the guidelines proposed by Pedgley (2007). Pedgley discusses how design diaries can be used as data collection tools that are able to communicate the reflection, analysis and theorising necessary for practice-led research. Rather than being simple logs of time and work, Pedgley draws on the work of Donald Schön (1983) when discussing reflection-on-action as the main mechanism for making diary content. This process is described as the diarist recording the self-conversation with their inner voice as they take deliberate pauses to reflect on

their design activity. Newbury (2001) similarly references Schön when discussing how a reflective journal can help to communicate the knowledge of practice as research. Newbury talks about the diary being a place where the theoretical and methodological issues over how to discuss the visual can be grappled with. Accordingly, as both a visual and interactive medium, diaries should aid in the communication of game design.

In Kuittinen & Kultima's (2011) evaluation of design diaries they discuss how the design process can be recorded naturally if the method of entering diary entries was kept informal. While the best practice guidelines of diary keeping, as proposed by Pedgley (2007), were referred to throughout this project, what was more important over the protracted development period was fitting the reflective process into my creative work in a fairly unobtrusive manner, while still allowing for retrievable data. The process settled on for this research consisted of keeping rough 'scratch notes' throughout the day that were later referred to and reflected upon the next morning with a longer diary entry. Kuittinen & Kultima (2011) remarked that writing a diary entry at the end of the day could be a laborious process, and I agree; within the first month I found it preferable to write the entry at the start of the day instead. Pedgley (2007) suggests that an increased distance between the work and the diary entry could lead to misremembered information and post-event rationalisation but given how I am unable to judge this objectively either way, I instead chose to record the data in a manner which best fit personal preference.

The use of a design diary is beneficial to the exploratory work presented herein. The design process began as a way to explore power in games, a broad idea to be worked out through both the creative means of videogame design as well as extended writing on the subject in the diary. Early in the process the work shifted from exploring power specifically to questioning the limitations of the player centered design paradigm. This research thus benefited by not adhering more strictly to a method such as Flanagan's (2009) critical play, the experimental game design of Waern & Back (2017) or the MDMA approach of Khaled et al. (2018), all of which descend from and reference the iterative model of Fullerton's (2008) playcentric approach. The research presented here was removed from these best practices, and is therefore messier and more ambiguous, which made the diary an essential aid to the sense-making.

Apple's Notes program was used for both the diary and the scratch notes due to the immediate convenience of it working both on my development hardware and mobile phone, as well as being automatically backed up online. In total, the diary entries

produced over 43,000 words between 24 September 2017 to 10 April 2018. The process is presented here chronologically, separated approximately into six months. The text also begins with a summary of how I settled on the initial research topic over the previous academic year.

The diary as a method of recording design and art activity allows for a subjective, but intimate access to the inner thinking of a creator. Reflective diary entries can aid the writer in understanding their reasoning better, as they justify the decisions made in their own words. A diary entry is also a form of data that can be analysed by an external party for alternative insights of value, far more removed from the process. Khaled et al. (2018) discuss the difference between a 'hot' and 'cold' analysis of data, with the creator offering valuable 'hot' insight, while an outside party can bring an alternative, and objective 'cold' viewpoint. The autoethnographical text presented here is a 'hot' analysis of my own data, and this text has chosen to embrace rather than reject the resulting inherent subjectivity.

It is possible to perform further analysis on design diaries through a process of codifying them and applying, for example, design research theory. An example of this in game studies can be seen in Holopainen et al.'s (2010) research through design project. Owing to the particularly personal nature of my research, it became apparent on reflection that my final results would be better presented through the use of autoethnography. Autoethnography has some precedence as a method in game studies, used to describe the subjective gameplay experience (Bjørkelo, 2018), game development practice (Roth, 2015) and the treatment of women in gamer cultures (Vossen, 2018). Autoethnography has been described as a postmodernist construct (Reed-Danahay, 1997, p.2) that questions realist conventions and the idea of an objective observer. The utilisation of such a method seemed particularly fitting for the research presented in this text. In questioning the idea of players as structural 'centers', this research can be related to postmodern approaches such as deconstruction, although the further development of these arguments went beyond the scope of this thesis.

Autoethnography as a method is described as being both a process and product (Ellis, Adams & Bochner, 2011), that transforms notes, interviews and other artefacts into a primary source by producing accessible story texts. Coulton & Hook (2017, p.102) label practice-based design research into games as *research through game design*, leaning on Frayling's (1995) categorisation, and state that *action research* is a similar approach that fits their conceptualisation. While action research is typically associated with reflecting

on actions and research within the field of education, Ellis (1999, p.677) has stated that autoethnography can be thought of as "action research for the individual". Autoethnography as an approach acknowledges the researcher's influence on the research, and embraces this subjectivity and emotionality (Ellis, Adams & Bochner, 2011). To better understand the author as subject of this research, I describe myself and the values that steered a lot of my design thinking in the following subsection.

Design Values and Constraints

The design process and decisions made therein can be best contextualised through an understanding of myself as the sole designer. During the development time detailed I was thirty-four years old, a white European, cisgendered heterosexual man who was educated as a digital designer before commencing a degree in game studies. While I have practiced game development as a hobbyist for several years, I have not worked in the game industry directly. As a student and learning designer, I recognise that the knowledge shared here may be akin to studying a chess novice to learn expert strategy, to borrow an analogy from Cross (2007). Khaled et al. (2018) recognise that in design research, there is a desire to extract knowledge from work perceived as worthy, and justify the analysis of their own work via press accolades and number of downloads. While any similar recognition is lacking in my own work, I believe there is still value in the process and theory shared within.

The design values that I have followed in this work can be understood through the framework provided by Kultima & Sandovar (2016). Here, values are discussed specifically in regard to the design process, and not as a conception of ethical values. They describe game design as being pluralistic in nature, containing a multiplicity of values across several categories such as the commercial, societal and traditional. Whether in relation to a large AAA project with countless stakeholders, or a small game by a single artist, design values are understood in the multiple; complimenting or contrasting against one another, rather than existing in a vacuum (Kultima & Sandovar, 2016).

One of the values presented by Kultima & Sandovar (2016) is particularly prescient to my work, 'The Value of Player Centrism'. While this derives from the accessibility turn that Wilson & Sicart (2010) describe as conservative and restrictive, Kultima & Sandovar (2016) present it without such a negative framing. My research essentially opposes this value, which is described as including player's advocacy, co-creativity and user inclusion,

usability and playability. Instead, my personal values align more with the suggested 'Value of Artistic Expression, Innovation and Experimentation' and the 'Value of Production and Creation Process'. The intention with my work was to create an experimental game, as part of an academic practice-led research that was tied to my professional identity.

Finally, it is worth mentioning the design constraints that affected this research. Lawson (2006) describes design problems as being built up of constraints that limit the actions a designer can take. While design constraints work through restricting the possible solution space, they also guide the design process by the act of delimiting. Kultima & Alha (2011) simplify the concept as it relates to game design by presenting two axes of constraints. Inclusive constraints include what a game must include, while exclusive constraints restrict what a game contains. Internal constraints arise from the company or individual, while other parties create external constraints. Constraints external to myself included the limited time available both to make the game and to write this master's thesis. The primary internal constraint was my own skillset, which had to be applied to every facet of game creation on account of working alone. I developed the game with the development software I was most familiar with, Unity, and planned to design most of the art assets by myself. The constraints of my programming and artistic ability became more apparent through the creative process, as documented later in the text. Whilst developing the game I imposed a number of internal constraints, both exclusive and inclusive, in an attempt to better guide the development. Some of these constraints were later developed into the rules of Player Decentered Design, which is discussed in the next chapter.

The following text describes the design process as an autoethnographic text. The first section 'Prologue' describes the work that led up to my thesis topic, over an approximate period of twelve months. Following this, the text is split into six sections which can be loosely mapped to the six months of diary taking, with the majority of design work developing in the first half. This chapter concludes with a discussion on the design process.

4.2 The Design Process

Prologue

Since beginning my master's degree in game studies, I was interested in supporting any possible thesis topic with research that I could conduct independently through a game making process. I was trained as a digital designer and had long practiced game making at a hobbyist level, and was thus hoping to leverage this practical creative ability as an asset in any future research. I aspired to work as both a scholar and an experimental game designer, and was personally most engaged with the work of researchers who had managed to combine academic and game making skillsets into their work. This intersection of interests had me decided on a research method long before any research question was formulated; a decision generally disadvantageous to best academic practice, but to which I was largely committed.

In classes that were both directly and indirectly related to the formulation of thesis topics, I was continually making references and drawing parallels to the ideas presented in Wilson & Sicart's (2010) paper on abusive game design. I had read this 'academic manifesto' early in my studies, and had grown convinced by a persuasive rhetoric that made a connection between conservatism in game design theory and a culture of problematic and 'narcissistic' players. I aspired for my research to benefit games culture, and both uninspiring games and dealing with a toxic gamer audience were topics I wanted to engage with. The unmapped design space that Wilson & Sicart had highlighted, that existed outside of best practices and was described as holding unforeseen possibility, would continue to act as a siren call to me throughout my studies. In the literature, I had sensed little follow up from the 'call to arms' that concluded the abusive game design manifesto, and so I began to claim this space for my own further study.

Using Wilson & Sicart's paper as a map to help guide my investigation, I concentrated my first year of studies, wherever possible, onto research topics with related themes of power, transgression and critical design. The idea of videogames as power structures (discussed in Section 2.2.1), by way of the philosophy of Foucault, was a central tenet to the abusive game design paper, and I let this concept lead my early thesis planning. I proposed the idea of my thesis being a research-led 'Michel Foucault game jam', an umbrella topic through which I could investigate power in videogames, primarily through the creation of several small prototype games.

The thesis research continued earnestly into my second school year. I was reading Foucault's (1977) *Discipline and Punish: The Birth of a Prison*, specifically through the lens of game design, searching for concepts that would lend themselves to small exploratory games, and eventually settled on eleven unique concepts. *Rhythm, Action, Discipline* would be a rhythm game where the player would perform disciplined activities such as military parades or handwriting exercises to a perfunctory musical beat. *Subdivide the Gaze* was an imagined city-building style game where the player would be tasked with building a surveillance system that would fit a building displayed interchangeably as a school, hospital or prison. My design process here could be reduced down to the application of pre-existing game mechanics onto concepts from the book, before attaching a witty name to the idea and moving on to the next. What became apparent during this exercise was that I could only engage with Foucault on a superficial level, with the generated ideas serving only as literal interpretations of the text. Using game design as a form of translation is interesting, and elsewhere Barr (2018) has discussed similar 'translation studies' as a semi-formal design approach, but I began to grow increasingly uncomfortable with having Foucault's work be so fundamental to my own. I worried that I couldn't grapple with Foucault's theories on power in a satisfying way due to not having had any formal philosophical education, and that this would reflect poorly on me as an aspiring scholar. At the time I persevered, taking some small comfort in my indisputable ability to create clever game titles.

September – October 2017

I began recording the design process in a formal diary form on Sunday 24th September 2017. I set myself a deadline to try and finish a small game each month, with all the research hopefully concluding by February. Despite this intention to complete games quickly, the first two weeks of development were spent away from Unity, mapping out game ideas across notepads and spreadsheets instead. Going through my list of Foucault-inspired games, the concept I felt most strongly about was called *A History of Normalisation.* This hypothetical game would feature a 2D interface consisting of several detached window elements. The objects in these windows would change over time to represent the life of a character progressing through school to work, and onto hospital or prison, dependent on the player's performance. This performance would be measured through simple minigames featuring mundane and repetitious tasks such as washing hands, physical exercise or kitchen work. Other non-interactive windows would decorate the game screen, displaying authority figures such as teachers, doctors or wardens judging

the player, and other surveillance objects such as security cameras or the panopticon. The idea of using multiple different windows in the game interface was developed from Foucault's idea of the art of distributions, a collection of techniques in which "discipline proceeds from the distribution of individuals in space" (1977, p. 141). These techniques were described as involving the use of enclosure, partitioning, useful space and rank, all concepts that I felt could be mapped directly to this idea of ranked minigames enclosed in separate partitions of a visual interface.

I planned out the interface on paper as an arrangement of empty rectangles and other shapes. I would fill these blank areas with sketches of minigames fitting this concept, while occasionally growing distracted and instead filling the page with unrelated sketches and doodles. The partitioned visual grid I had envisioned for *A History of Normalisation* allowed itself to be easily reused, and I began to imagine a similarly constructed game that would include much more abstracted artwork and interactions. One of the themes I had discarded in my thesis rumination was to further research 'ambient' games.[8] I was personally interested in making meditative yet visually interesting games that eschewed traditional gameplay elements, but was unable to connect this with the overarching power theme my research had begun to focus on. As I began working on design more directly after a lot of time spent theorising, it became apparent that I was primarily led by my own creative interests, and I started sketching out ideas for the experimental ambient games with far more enthusiasm than I could muster for creating the Foucault-themed games.

In sketchbooks I worked through a design analysis of two games at this time; *Unmanned* (Molleindustria, 2012) and *Papers, Please* (3909 LLC, 2013). Both of these games had a unique structure not dissimilar to what I was hoping to achieve, with windows partitioned across the UI to support both narrative messaging and experimental gameplay. In this analysis I would map out on paper the different UI transitions in the game, and list the affordances available to the player throughout the different game stages. I also researched the daily routines of prisoners across America and Europe, using this information to populate a spreadsheet of possible actions to be included in the game. These activities were then labelled based on whether they were suitable for an interactive minigame, how the player's performance could be measured, and whether parallel activities could be found across the school, workplace or hospital.

[8] Ambient is used here in reference to the musical genre pioneered by Brian Eno. In game studies, the music of Eno is foundational to Mark Eyles' research into ambient gameplay (2012).

I had imposed a deadline of a month to try and finish the first game, but after two weeks I was yet to move on from paper notes and spreadsheets. I grew a little frustrated in trying to imagine how the game visuals of *A History of Normalisation* should appear. My own artistic skills are limited to a cartoonish style, which I didn't consider a good fit for the game, given the perceived seriousness of the subject matter. While I did consider attempting a more abstract visual style, I eventually decided against it, given that the minigames were supposed to be based on a selection of recognisable real-life activities. To try and get around this problem, a clear constraint of my own ability, I attempted to source the art through public domain assets. This led me down a rabbit hole of various art, video and music assets that I tried to make fit in with my game idea.

At this stage of the process, other ideas that I experimented with were related to the concept of time in the game and how it could be represented in interesting ways to support the game's developing message. I imagined the game replicating a 'real-time' approach to a working day, with minigames appearing and disappearing from the screen in a logical and linear order, and time progressing regardless of any player input. The player was expected to perform actions routinely, with the game not accommodating any deviation or transgression from a fixed order of progression. In one diary entry I discuss whether the game should focus on the player controlling a single character throughout an entire lifespan, or instead assorted characters at different stages of life. However, none of these proposed ideas helped to rectify what I felt was a growing disillusionment in the project.

I realised that using the philosophy of Foucault as 'key' to my research was misguided, and this was supported by some of the literature I was engaging with at the time. Foucault was absent as a reference in both Wilson's (2012) refined concept of dialogic design and later Sicart's (2015) game design research. I felt that I was unable to add anything more to the idea of Foucaultian power structures: The message of my game could be distilled down to 'a school is like a prison, and like a hospital, etc.', which was not compelling enough to inspire further development. What I was most influenced by during this time was reading through Schrank's (2010) thesis on avant-garde videogames (discussed in Section 2.2.3). Schrank's definition of a formal avant-garde that plays with the medium of videogames resonated with my own creative interests that wanted to foreground the experimental over the political. In my diary, I discuss wanting to change my role from that of a designer to an artist, in order to better support the ultimate goal of creating truly

original and experimental games. Schrank's discussion about the flow experience constraining creativity in videogames shared some resemblance to Wilson & Sicart's (2010) argument against the playcentric model, and both texts helped me better contextualise what it was I was hoping my work would achieve. This idea, which I first describe in a diary entry as "player uncentric design" (Figure 16) would become the driving force of my work going forward.

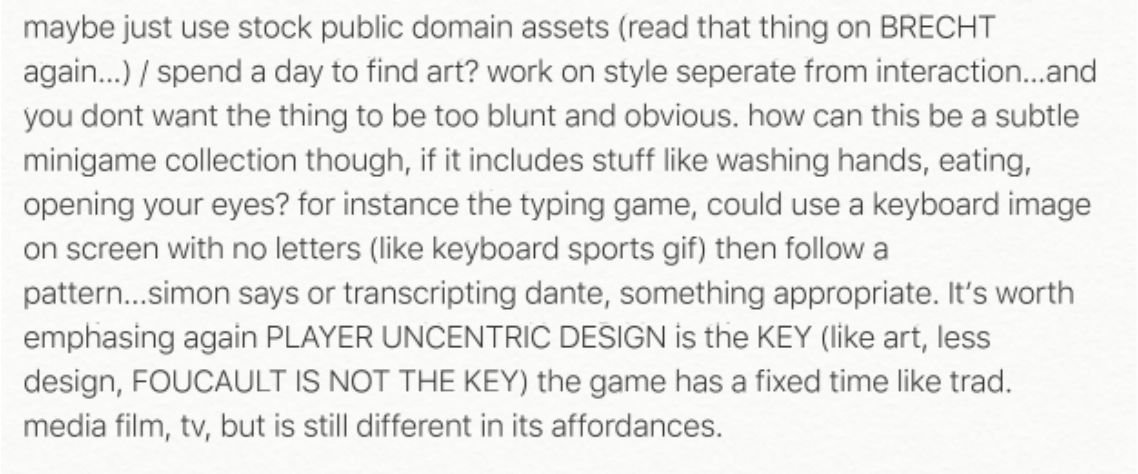
maybe just use stock public domain assets (read that thing on BRECHT again...) / spend a day to find art? work on style seperate from interaction...and you dont want the thing to be too blunt and obvious. how can this be a subtle minigame collection though, if it includes stuff like washing hands, eating, opening your eyes? for instance the typing game, could use a keyboard image on screen with no letters (like keyboard sports gif) then follow a pattern...simon says or transcripting dante, something appropriate. It's worth emphasing again PLAYER UNCENTRIC DESIGN is the KEY (like art, less design, FOUCAULT IS NOT THE KEY) the game has a fixed time like trad. media film, tv, but is still different in its affordances.

Figure 16 A screenshot of part of the diary entry, recorded 2 October 2017

It took a few weeks into the design process for me to make the connection, but eventually I understood that the ambient game idea I was most interested in making would actually fit within the work on power I had already researched. My idea of ambient games, as extremely casual games that were able to operate autonomously, would allow for any player input to be optional rather than essential. I expected that this conception, which was fairly uncommon in videogames, could allow for interesting gameplay experiences as the player became aware, and possibly reflective of, their own lack of power in the game system. Development work on *A History of Normalisation* was paused, although the idea of a partitioned grid system of minigames would now work as the foundation for the ambient game project. This new game was tentatively titled *power-one* [9]as I had presumed to be completing at least a *power-two* and *power-three* game before finishing this research.

The idea of either increasing or decreasing power to the player seemed to me the most literal way to communicate through game design what I wanted to focus the player's attention on. One of the ideas I considered before the design process commenced was to

[9] In this chapter I describe how *power-one* developed throughout the design process. A description of the final envisioned game is presented in Section 5.3.

recreate classic arcade games such as *Pac-Man* (Namco, 1980) or *Space Invaders* (Taito, 1978), 'cloning' the games mechanics and art style as a warm-up exercise in making games in Unity. I could then perform simple experiments on the games by subverting the underlying systems, for instance through altering the expected effects of in game power-ups. *Pac-Man* is unique in containing one of the first power-ups in videogames, and the game loop is centered around the player alternating between feeling powerful chasing ghosts and feeling much less so when avoiding them. I could never get too excited about this transgressive arcade game idea because I just felt in lacking in much real originality. However, an idea mentioned in Schrank's (2010) thesis inspired me again to think of the benefit to incorporating simple arcade games in my work.

Schrank (2010) describes the film maker David Lynch as an example of a 'narrative formal avant-garde artist'. Lynch's recent experimental television work in *Twin Peaks: The Return* had left such a lasting impression on me, it would act as one of my primary creative influences throughout this design period. One ambient minigame idea I was considering involved the player sweeping dust that would endlessly fill a screen. This idea was directly influenced by a scene in *Twin Peaks: The Return,* in which a character swept a bar floor silently for 148 seconds, to the annoyance of many online commentators who would have rather seen that screen time utilised for more plot development. I was interested in adapting a similar approach in my own game, considering it from the perspective of how expectations may vary between player and television viewer owing to the vector of agency, and played with this idea of perhaps frustrating parts of the audience.

Lynch's work is described by Schrank (2010) as using moorings for the audience, understandable or conventional elements such as relatable characters, which then act as a gateway for more subversive or ambiguous themes and elements. I thought that by including a simple arcade game as a central part of my ambient game, that this could ground the player's expectations, before a gradual reveal of more transgressive elements. One of the first interactive elements implemented into *power-one* is a long vertical window central to the screen (the 'shooter window'), which emulates a simple arcade game like *Space Invaders*. A small spaceship is constrained to a horizontal axis at the bottom of the window and the player can control it moving left and right, as well as firing a projectile upwards towards slowly descending asteroids. The shooter window was the first element developed in the game (Figure 17) and remained a focal part of the game by the end of development (Figure 24). I felt that the affordances given to the player through

this simple interactive shooter window were enough to call *power-one* a 'game', regardless of what machinations would come later.

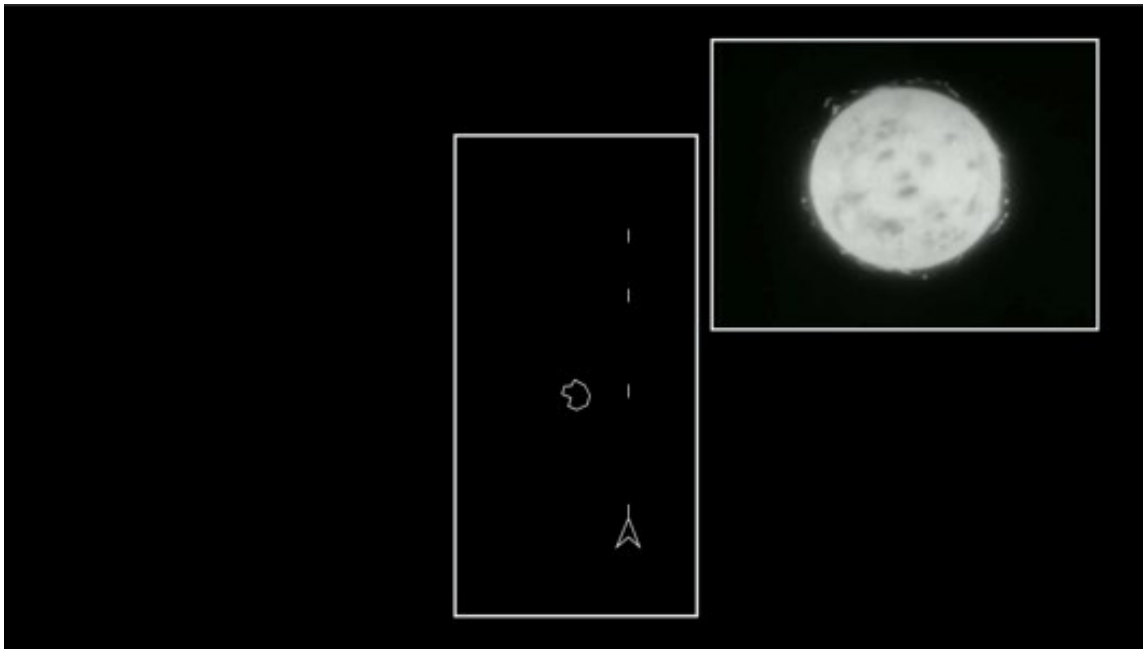

Figure 17 The earliest screenshot of *power-one* in the Unity game engine

Influenced by Schrank and now Lynch in turn, my ambitions were to create not only an ambient game themed around power, but also some sort of experimental art piece. My interest grew in producing an ambiguous game narrative that allowed for players to form their own meanings regarding its content. I felt that this artistic thinking, in making the player 'work' towards a personal understanding of the game, would allow for a wider range of potential emotional reactions. Reflecting on it now, I can see that my logic was flawed, as I was always attempting to manipulate players towards one specific feeling - confusion. Designing for ambiguity became a guiding principle for the rest of my creative decisions: however, as I would later discover, this approach may well leave the creator as the most confused one of all.

Figure 18 Rough layouts for the game interface on paper and as vector graphics

I developed mock-ups of the game in the form of paper sketches and vector graphic layouts (Figure 18). In the framework of this new, abstracted game, I was now less concerned with my artistic style being a distraction, but still wanted to incorporate some of the public domain artwork I had discovered. While there is a large amount of graphical and musical assets available online for free, video footage is far scarcer. I did discover a black-and-white television show from the 1960s in public domain, *Space Patrol*, which included visually interesting scenes of various interstellar elements. Although I was eager to avoid relying on any graphical elements that would situate the game to a specific location or time period, I felt that a science-fiction or alien aesthetic would work with my art skills and sourced assets.

After several weeks into the design process, I finally began to develop the game in the Unity game engine. The first actions I took were to implement the shooter-windows controls and logic, and incorporate looping video footage of a pulsating star from *Space Patrol* as a supporting visual element (Figure 17). While I was experienced with Unity as a hobbyist developer, creating a complex UI-heavy 2D game was pushing against the limits of my knowledge, and this would continue to be the largest technical constraint of the game's development. As such, I resorted to my hobbyist problem-solving methods and leaned heavily on online coding tutorials and examples, which in itself is not uncommon in game development. This way I was able to incorporate certain visual effects such as glitches and CRT filters that I would not have been able to implement alone. While developing in Unity does benefit from a wealth of technical support shared online by other users in the ecosystem, this knowledge should also be understood as restrictive towards experimental games, due to presumptions often made into how games should behave and therefore be developed (discussed in Section 3.3).

October – November 2017

I had missed the self-imposed deadline to have a game finished by the first month of game development. I was able to convince myself that this was not a huge problem, seeing how enthused I was with the possibility I could now see in *power-one*. Part of the justification for this came from viewing my game as a work of artistic expression rather than a designed artefact, a perspective that would ultimately turn out to be detrimental to finishing the game in any timely fashion. While I had sketched out a few small ideas for

different prototypes, I had put them aside to focus on finishing this ‘small’ game. Having first removed the philosopher from the original concept of a ‘Michel Foucault game jam’, I was now beginning to distance myself from the idea of creating multiple games.

Having maintained the design diaries methodically for a month now, I found the morning ritual of writing entries crucial to my developing understanding of the game. The daily entries were growing longer in length as I began to write more loosely, incorporating thinking on a wider range of topics. At this time, I was writing about the videogames I was playing in off-time and relating them to my own work, specifically regarding concepts of power and ambience. I gathered a lot of game design knowledge by playing small art games, often developed in Unity, and attempting to deconstruct their assemblage. I found that AAA games in comparison were so far removed from my own practice that they mainly acted as distractions. While preparing related essays in support of this thesis, the diary entries would expand further still as I tried to work out the theoretical ideas I was developing alongside the game.

The diary includes an ongoing dialogue about how I perceived my role in relation to the game. I describe myself as having to fill the roles of both architect and builder of the game. When I am wearing the architect ‘hat’, I am trying to map out and plan how the game should behave on paper. When I work in Unity directly, there is less focus on the bigger picture and a pressing need to get things up and running by ‘putting up walls’ and ‘fixing over the cracks’. From my experience, in game design and intensive development cycles such as crunch or game jams, there is a dependency on utilising a number of invisible ‘hacks’ to get things working and finished. I was hesitant to apply this rushed mindset to my work because I wanted to allow the time for ideas to develop gradually.

The limited interactivity that I had programmed into the game inspired some further reflection as I would idly playtest what little game I had. At this stage, the game allowed for the player to move a spaceship horizontally and fire a projectile upwards towards continuously falling asteroids, breaking them into smaller parts with each successful hit. I had not coded any fail states, so the game could be played forever without the spaceship taking any damage or running out of ammo. While playing, it struck me that this repetitive, yet almost therapeutic action could be interpreted similarly to the ambient idea of sweeping dust that was still weighing on my mind. In both cases there was the idea of a ‘mess’ building up that the player could clear away, if only temporarily. Related to this, I started making the connection between abusive game design’s focus on difficult games

(discussed in Section 3.2) and the approach I was interested in, which was almost the polar opposite - a near total absence of difficulty (discussed in Section 3.3). I wanted to make a game that could be played with minimal player input. While 'ignoring' the player could be framed as a modality of abuse, I believed that such ambient games could also allow for more positive feelings, the meditative or transcendent.

Figure 19 A screenshot of *power-one* from late October 2017

I started a process of adding additional content to the game, filling out the additional windows that composed the games UI (Figure 19). Rather than including elements to support the game's narrative, which was still unknown to me, I was more driven to include a variety of different interaction types. A turn-based first-person maze game inspired by *3D Monster Maze* (Malcolm Evans, 1982) was added to the lower left corner of the game. To the upper left of the screen I included an alien non-player character (NPC) for the player to interact with through an additional dialogue text window. The intention of this component was to have the player present fixed questions to an NPC who would then slowly select their response from a list of options, inverting how dialogue is typically handled in role-playing videogames.

Another idea, related to this concept of making the player wait and be patient, was inspired by a public domain video of a man loading heavy items into a machine: the player would be forced to watch this excruciatingly slow nine-second video between each shot fired, rather than the game allowing the player to fire ammo without restriction in the shooter window. This idea amused me at least. Finally, I added a score counter to the game alongside a few temporary buttons to pad out the rest of the screen space. At this

stage I was incorporating at least three genres of game into *power-one,* which I see now as representing an overscoping problem, but in the diary entries I was relatively untroubled by this expansion. On reflection it seems that trying to contain all of these smaller game parts into one game was a poor decision: if I had chosen to develop these game ideas separately, I would have more likely achieved the goal of finishing a small game.

With some hubris I discussed in the diary how the thinking behind *power-one* could be extended to a 'formal ambient design method' and began developing a checklist of concepts that could be extrapolated to fit other games. At the same time, I was struggling with the more specific narrative I was hoping to impart in the game while maintaining a core of ambiguity. Leaning in on the science fiction aesthetic, I started to envision the game as portraying the operation of an alien ship, with different maintenance activities partitioned into the different windows. The small spaceship visible in the shooter window would represent the exterior of the ship portrayed by the game's interface, with supporting graphical elements for representing communication with other ships, monitoring crew and selecting music.

I felt like every attempt to develop the narrative, by connecting the contents of these windows thematically and working out some sort of backstory, was reductive to the goal of allowing the game to be open to multiple interpretations. One solution, that I stumbled upon in the diary, was to focus on the 'middle-y bit of narrative' and try to omit any sort of traditional beginning or ending to the game. This was again inspired by Lynch, whose work often focuses on the middle part of a character's narrative, with backstories and resolutions left purposely ambiguous. I was very interested in trying to reproduce a similar approach through videogames, not only in the narrative sense but also considering how this could be expanded and implemented mechanically.

This idea developed over further diary entries as I analysed other games that could be interpreted as having no beginnings or endings. Designing for no beginning or ending became the first two rules of what I was now calling Player Uncentered Design. Supporting this were three additional rules that had developed from my checklist of ambient concepts; the game should progress without the player, be open to multiple interpretations, and always include interactive elements (discussed further in Section 5.1). At this stage I was thinking that these rules together comprised some sort of manifesto, but I remained a little hesitant to describe them as such.

Figure 20 Original Manifesto of Player Uncentered Design from November 2017

November – December 2017

As work continued into December, I had now stuck a printed manifesto to the wall above my desk, next to a calendar showing I was now two months late from the original deadline. After the initial excitement of writing the manifesto, I found a lot of my enthusiasm for the project was actually waning and days progressed with little substantial progress. Having the manifesto exist physically was dampening my motivation and these newly created rules were actually now delimiting the project's possibility space. I was writing sprawling diary posts concerning both large anxieties about my research, as well as very specific details on how minutiae game elements could interact. I returned to Unity and began to remove whole sections of content.

The first section I removed was the 3D maze window. I had developed an elaborate idea of using the window as a way of controlling characters navigating alien planets; however, the more fleshed out this idea became, the less ambiguous the supporting game felt. The 3D view also created a lot of overhead in the Unity project, with the additional 3D geometry working against other 2D interface elements. I had the idea to replace the content in this window with a simulated ant farm that would be both visually interesting and fit a developing theme of toys in a spacecraft. I planned for the player to be able to drag ants out of this window and release them to float freely around the screen interface, to help support an idea of the game screen as a totality rather than a collection of disparate elements. I became quite enamoured with the ant farm idea, making repeated reference to

it across several diary entries; however, I found myself unable to implement this slight idea without adding a lot of complex simulation to the Unity project.

Similarly to an issue Barr mentions in the development of his UI game (Khaled et al., 2018), I was debating whether the game should contain only English text or rather include some inscrutable alien language. Barr states that he settled on English to help ground the player and avoid distracting them into deciphering the language, which didn't support the goals he had envisioned with his game. I decided on the opposite approach, reasoning that an imagined language would be an additional opportunity to disorientate the player. Removing the English from *power-one* meant that the score counter, some buttons and the entire alien dialogue system were discarded. I had grown attached to a window dedicated to the display of multiple alien NPCs, and was trying to work out how they could now communicate nonverbally to the player. Eventually I settled on creating a set of glyph symbols to represent an alien language that would appear underneath the NPC window, accompanied with some unintelligible sound effects. The player could then drag these glyphs around to interact with the other elements on the screen. I started to plot that part of the game would involve receiving and translating repeated requests from aliens, and producing different materials for them through a manipulation of the user interface. I started to design three distinct alien characters, which, in another warning sign of overscoping, would require the production of three separate alien models and character animations, each accompanied by a distinct alphabet of glyphs.

One of the rules I proposed for Player Decentered Design was that the game should always include something to interact with. As a UI game, *power-one* was able to include a vast array of buttons, levers and switches, which could all provide audio-visual feedback to the player. I was designing the game as an ambient experience, which meant purposely keeping the game 'easy', as opposed to the 'difficult' games associated with abusive game design. The easy games I was referencing (discussed in Section 3.3) can be understood as progressive in part due to the removal of traditional forms of game interactivity, such as shooting in first person games. I was concerned that when combined with the other rules of Player Decentered Design, such a lack of interactivity would result in a final product that would more closely resemble an animation than a game. To counter this, I took a more maximalist approach, and aimed to include at least one hundred unique interactions into *power-one*, from simple button presses to the more complex manipulation of alien glyphs. While this specific number of interactions was chosen arbitrarily, I felt at the time that working towards a hard cap would prevent overscoping;

still, on reflection, this number was far too high. I wanted to fill the game with so many secret interactions, almost rewarding the player for choosing to explore the interface more deeply. I argued in the diary whether providing feedback to the player and rewarding them were concepts that aligned with the goal of decentering them, eventually justifying such decisions by planning the interactions as entirely optional and with no intrinsic reward.

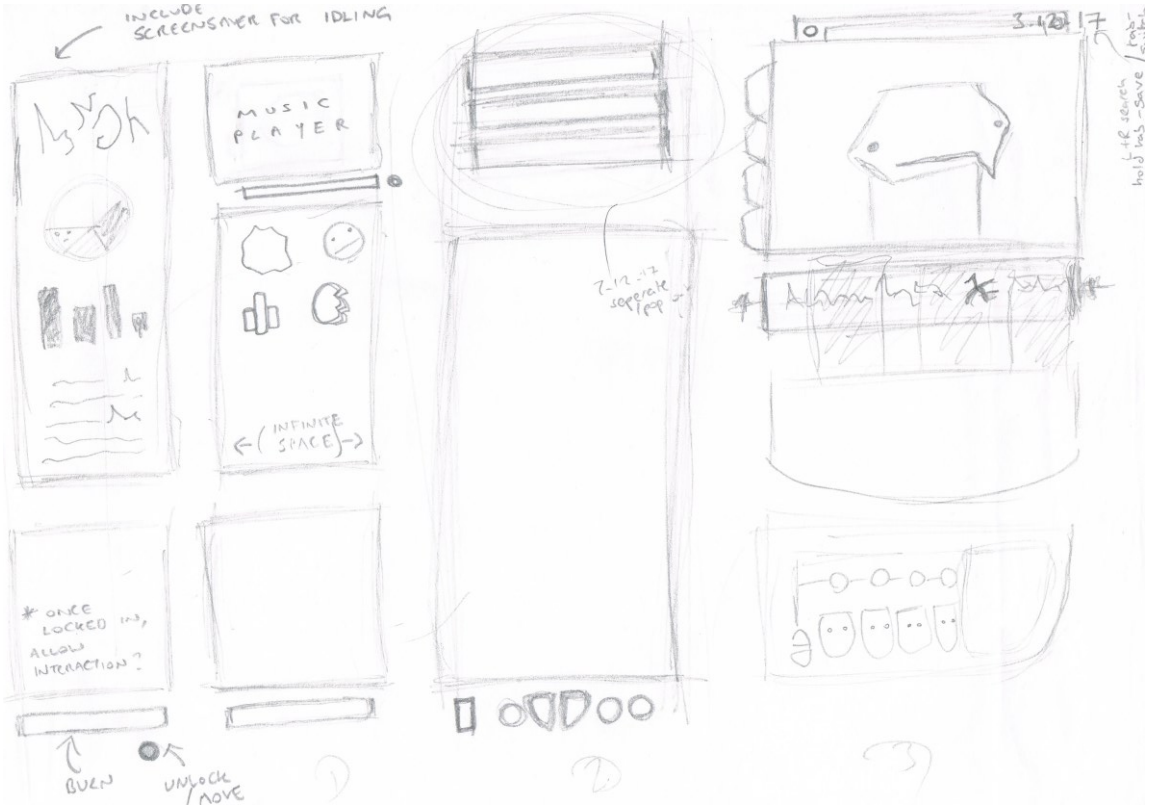

Figure 21 A scan of the game's layout on paper, dated 3 December 2017

At this stage I was moving between the game engine, vector software and paper as the visuals and interface were further refined (see Figure 21). In the diary I describe an odd moment of inspiration, where I am absent-mindedly handling an old jewelled necklace and start thinking about sorting through metals as a game mechanic. *power-one* includes a ship in the central shooter window that fires at asteroids, reducing them in size. The ship performs this action automatically, although the player is able to press a button to take manual control. I implemented an additional function to the ship so that it sucks up the smaller asteroid debris, and added a separate window to the left of the screen interface called the incinerator window. The debris, which I created as detailed geometry in the 3D modelling software Maya, slowly fills up this incinerator window as it is collected by the ship in the other window. After a few minutes, once the incinerator window is full, the debris is automatically destroyed in fire, before the entire process repeats. The player is

able to drag the debris objects from this window, and examine them more closely, with several models varying in colour, shape and size. This debris, alongside some other miscellaneous 3D models, can then be placed in different sections of the interface; an inventory window, an audio window and an information window. I start to better visualise the player acting as some sort of space janitor, shifting through the asteroids for the occasional rare gem, which is then requested by the alien videocalls.

I managed to add almost all of these elements to the game quite quickly, becoming more inspired by this new sensemaking. The game loop became actualised; the 2D ship controls itself, firing on and collecting 2D debris, which then appear as 3D objects in a separate window, filling the space before being incinerated when full. Both the new visual effects and the combination of 3D and 2D assets created technical issues with the visuals and lighting that took some time to resolve fully, but more generally, progress was rapid. Eventually I was able to sit back and watch the game play itself over a simple but satisfying loop. In the diary, I describe the game finally working as a sort of ambient piece, going so far to grandiosely describe it as a 'moving painting'.

While I was still grappling over what it really means to make a Player Decentered Design game, the diary entries started to grow ever larger still. I had a desire to be as authentic to this concept as possible, yet I was unwilling to share my own anxieties regarding the work with anyone other than myself as diarist. I felt that until the game was completely finished, it would not fulfil all the rules of Player Decentered Design: as such, I was unwilling to show the game to anyone. I also considered that making any playtester-suggested changes would be in line with the playcentric method I was painstakingly trying to avoid. As I considered design to be primarily about communication, in the absence of any player I stopped thinking of myself as a designer. Instead, I further conceptualised *power-one* as an art piece, and justified the lack of any outsider input at this stage by stating in the diary that 'you don't playtest a painting'. This line of thinking eventually led to me concluding that any playtest would happen only once the entire game was finished, which could then act as a final judgement call as to whether the game achieved its goals.

The diary entries began to oscillate between viewing my research in positive and negative terms. I call Player Decentered Design both 'dumb' and a 'fallacy', and fall back on describing my research several times as being only 'nihilist game development'. In designing a game that could play itself, it dawns on me that every action a hypothetical player could take would be meaningless. In a further diary entry, this line of thinking

grows even more despairing, as I conclude that all the player can do in *power-one* is to destroy a system that operates perfectly well without them. I welcomed the upcoming Christmas break as a respite from the confusion and negativity that was starting to dominate the daily diary logs. However, these symptoms would only exacerbate into the new year.

January 2018

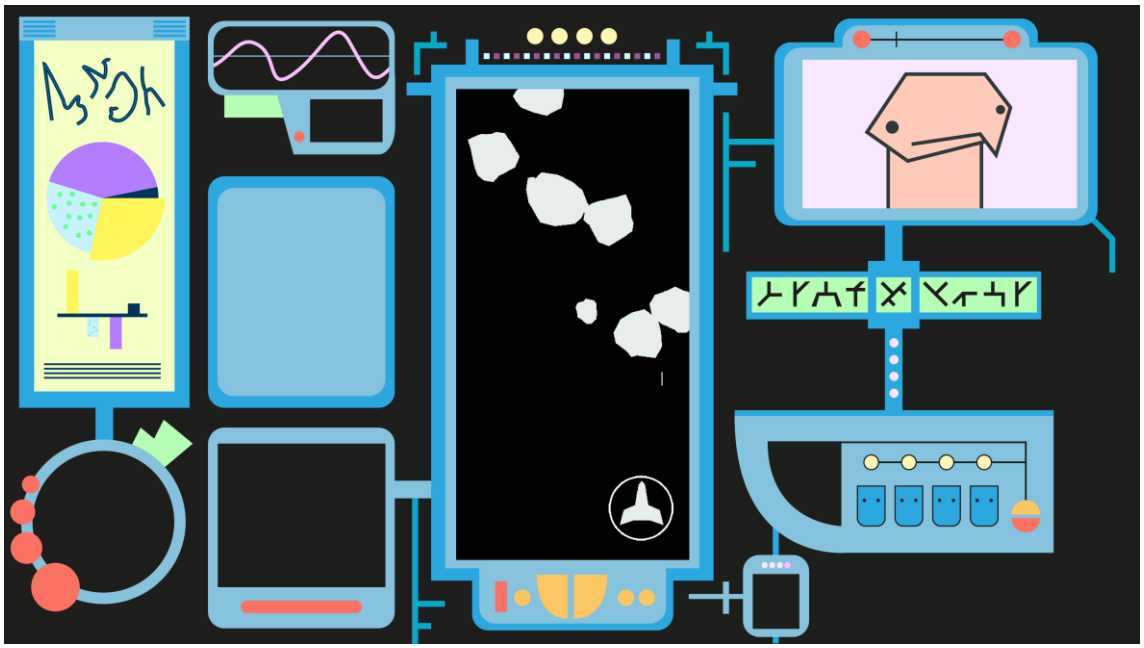

Figure 22 A layout of *power-one* from Illustrator

Almost a month passed before I resumed recording my progress in the diary, entries becoming much more sporadic than before the break. I was growing ever more intimidated by the overscoped game and branching theory, and retreated into the literature to try and fill some productive time. Because of the hours I had already spent developing *power-one*, I cancelled the idea of making additional games for the project. This disappointed me and created additional pressure to make *power-one* work as the sole representative of my theory. The stress was compounded further still as I found myself unable to make much progress on my thesis, having to write about incomplete research with only a few months to wrap the whole thing up. My decentered design process, largely working alone and trying to prove something to myself, began to slip over into my personal life. I was hesitant to reach out for help or guidance while I struggled over my work, growing to dislike it further and further still.

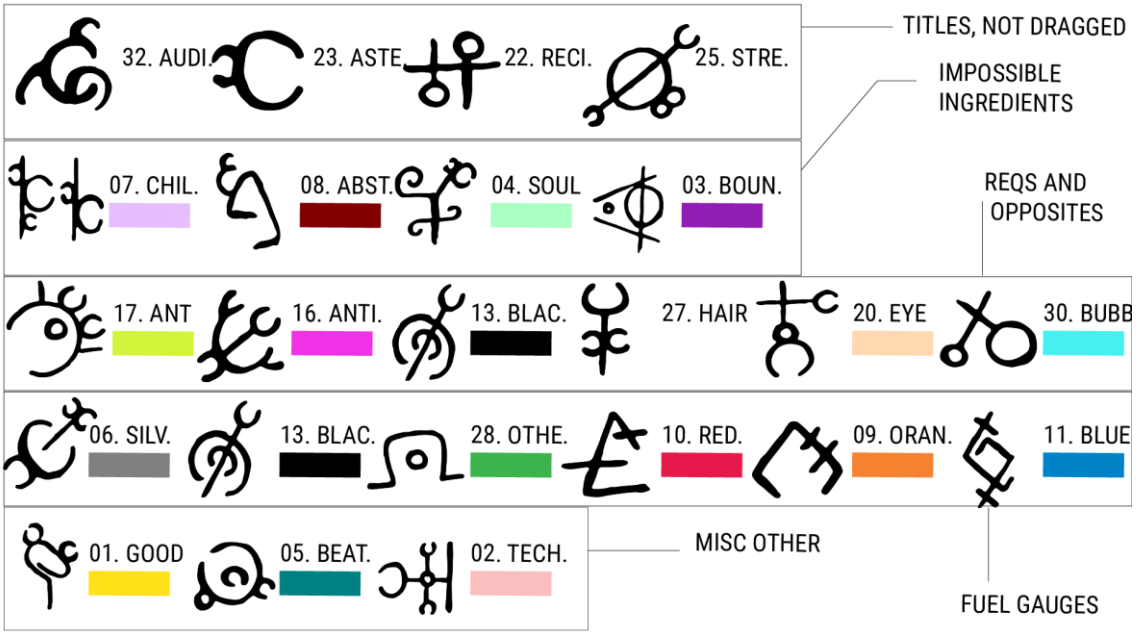

Figure 23 An indecipherable image of alien glyphs, organised by functionality

I continued to develop the game across several different mediums: theoretical ideas and narrative being worked out in the diary, technical coding and design work in Unity, supported with graphical artwork made in Illustrator. The diary entries still detail a struggle over making the game fit all of the rules of Player Decentered Design, and I grew exasperated that these issues persisted still, so late into development. The more I attempted to make sense of the game, the less the game seemed able to be open to multiple interpretations. One diary entry reads like screaming, "WHY IS THIS GAME SO DIFFICULT?". I had added a lot of complexity gradually to the game, owing to the long list of interactable game elements. On top of three separate alien alphabets, there was now an additional glyph system used to label the different materials in game, each of which was interactive in some way (see Figure 23). I would continually plan interesting interactions that could happen in the game before having to step back and remove them for being too 'puzzle-like'. I didn't want to hide a secondary 'real game' in *power-one*, where, if the player performed certain actions, they would 'break out' of the trappings of Player Decentered Design. Such limitations were frustrating, one comment in the diary was simply 'designing for no fun is no fun'.

Technically, I described how the biggest constraint was having the game always progress without the player. Coding a simple AI for the ship in the shooter window was easy enough, but building a system of alien requests and automated material making was many times more complex. I was able to make gradual progress programming the game's

systems through an arduous process of finding relevant code online and altering it to fit my needs, but combined it was all 'spaghetti code', unstructured and hard to follow. Filling the game up with a lot of code I didn't fully understand made it immensely difficult for me to return to the game following any period of absence. While I had eventually developed a working framework for the game, the majority of the content was still missing.

One of the benefits I had enjoyed when developing games alone was the variety of tasks that could be engaged with at any one time. I had always liked being able to take a 'break' from coding by creating art, and vice versa, before I better understood the value of taking real breaks to avoid feeling burnt out. Despite the fact that designing the graphics was the least stressful part of the process, I still grew frustrated with the limits of my graphic style. I felt that it was too simplistic, cartoony and maybe detracted the player from the game's messaging, even though I was no longer aiming for realistic visuals. In the diary, I discussed the aesthetic styles I wanted for the game but I found myself unable to reproduce them with any conviction. Unfortunately, I had already stopped thinking of *power-one* as a prototype and was trying to create a more polished artwork instead, to compensate for what I now considered the project's sluggish pace. This self-sabotaging thinking led to a perfectionist streak that saw me spending a lot of time working on the graphics and UI, tweaking incidental details, at the expense of more glaring issues. This was another critical error that would eventually result in the game never being completed.

April 2018

Work on the game slowed down over the next month as I prioritised other work, including a presentation of this research at an academic conference. While I would occasionally work on the game, I started to skip writing entries in the diary, which now sat at an intimidating and unanalysed 43,000 words. Eventually self-imposed deadlines were missed and months passed between returning to the game. Whenever I would come back to the game, I found it incredibly difficult to continue development with an unwieldy code base and scattered arcane notes and spreadsheets I couldn't entirely decipher anymore. I could see there was a list of fixes to implement and a large amount of content still to add, but eventually lost all confidence in the game's merit. Each attempt to revisit the project would end up feeling more frustrating than the last. For the longest time I felt that the game had utterly defeated me; only much later was I able to move past these debilitating

thoughts and discover the value in what I had achieved, which I discuss more in the following chapter.

4.3 Discussion on The Design Process

In this section I will discuss the design process through an evaluation of the diary as a research source, the use of autoethnography to communicate the research, and reflecting on knowledge gained through the game making process. This discussion retains an autoethnographic tone essential to communicating my reflections in an honest and authentic manner.

The largest problem with the diary entries were that they suffered from a lack of clarity, leading to a reduced effectiveness when treated as the primary source of data. The guidelines for diary entry given by Pedgley (2007) could have helped the text remain more focused on the act of design, rather than becoming diluted with other information. These guidelines were not discovered until some time had already passed in the diary keeping; by that time, I felt it was too late to modify my process to satisfy their requirements. Even though I considered the data being gathered 'good enough' alongside all the other assets being created, the lengthy diary entries became increasingly problematic as time moved on. While writing particularly rambling diary entries, I did consider that they may be difficult to revisit and reflect on in the future, yet continued nonetheless. Had I been designing as part of a group, there would likely have been far less need for some of the longer diary entries; discussing the design problems with others would have greatly reduced the amount of internal dialogue that I felt was necessary to record.

The diary entries should have retained a sharp focus on the design decisions alongside the reflection on why I made those decisions. While these were included, they were hard to situate later within such a large and verbose volume of text. Some of the scratch notes, in which I would record the most minutiae details regarding visual and technical issues at length, proved later to contain information that was only valuable at the time of writing the note. In hindsight, I should have applied more brevity transferring such notes into the actual diary, but I was overly concerned with the prospect of losing any valuable information. Unable to distinguish between what was important data and not, I defaulted to recording *everything* and left it for my future self to sort out.

While this uncertainty can be connected to a lack of experience in design and diary keeping, the complexity of the work specifically, along with resisting the player centered design paradigm, should not be ignored. After writing particularly long and detailed scratch notes, I would sometimes skip attempting to condense them at all, just copying and pasting them directly into the diary, which later lead to legibility issues. Using the diary to prepare for related essays or presentations also attributed to a lack of specificity, however, these particular notes were ultimately necessary in shaping up the concept of Player Decentered Design.

The diary recording began as a disciplined daily activity that I was able to maintain. I made an effort to be a productive machine, using the diary to keep track of all work-related activity. While at first I utilised separate programs to manage checklists and monitor time spent, eventually I would default to recording everything in the diary. The diary also ballooned in size as I recorded notes from related online talks, occasional dreams, and worries for the future. I could have kept a secondary private diary for more personal reflection, but I was generally so wrapped up in my work it was hard to separate the two. A benefit to the MDMA method outlined by Khaled et al. (2018) is that the diary entries are recorded through the *GitHub* website, which should keep the text more focused under a public gaze. Had this project chosen to follow a playcentric method or similar, I suspect the diary entries would have stayed far more succinct and focused. Either way, I think that my diary keeping captured an organic process with great detail: the issues that ultimately sabotaged the project arose from the conceptual rather than diary keeping as the chosen data method.

As an autoethnography, the text is designed to be both evocative and aesthetic (Ellis, Adams & Bochner, 2011), providing a 'thick' description of the personal experience. I have been more restrained than autoethnography does allow for, partially due to my inexperience in writing in the style, but more specifically owing to a desire to communicate a large amount of technical information in the context of my own creative decision making. This autoethnography can be understood as limited in the absence of any culture (ethnos) other than perhaps being representative of amateur solo gamemakers working with similar tools. Naturally, that the story told here involved me either sat at a computer or sat near a computer has been fairly limiting to a dramatic retelling.

I have instead attempted to describe where key ideas originated and how they developed over time, either into the game or the theory. I have highlighted instances where

overscoping or motivational problems began, or where certain texts began to overtly influence the game's development. The original draft of this process was much more detached as I seemingly attempted to remove myself from the work, but this was disingenuous to the actual experience. Autoethnography allows a way for my research to be authentic and personal, and I regret discovering its relevance so late into the writing process. As I reflect on this autoethnography, as a reflection of the design diary, which in itself was borne out of the reflection in the daily scratch notes, I am finally seeing the value in my research. By writing an autoethnographic text on my work, I have been able to discern new meaning in the sprawling process and eventually become satisfied with the result.

Lawson (2006) mentions four aspects to reflecting on design, which I have aimed to cover in this thesis: reflection in action, reflection on action, guiding principles and collecting precedent or references. The previous chapter discussed videogames as a set of references that informed my own design decisions. This chapter began with a discussion of the values composing some of my guiding principles. Yet the entirety of this thesis can be read as an expression of these principles in what I have chosen as important; the references I have highlighted and the arguments I have expressed. In the diary keeping and subsequent autoethnography, I have reflected on both my design decisions as well as my own creative process.

According to Lawson (2006, p.300), one of the most important skills a designer has is to know when to reflect on actions, stating that "a delicate process can be brought to a grinding halt by too much early reflection." I recognise in my own process that I have often over reflected at the expense of making more actual design progress. Design research knowledge often presupposes a professional designer, which I have not always been able to emulate in my work; I have felt my own inexperience highlight this repeatedly. I believe this can only be rectified as I gain more experience, and this discussion should demonstrate some of the lessons I learnt on that path.

Development of the game was slow, which was an intentional decision at first. Despite describing my work initially in terms of it being a game jam, I did not want to rush the development or make too many compromises to what I saw as the 'integrity' of the game. Over time this perspective solidified further, as I began looking at the game as a possible artwork rather than a delineated design experiment. Given the limited time I had available, and considering that the work was in support of an academic thesis, I should have retained

a focus on the game being foremost a prototype design. Losing days to incremental tinkering, feeling that I couldn't share the game until it was complete, and having the game live or die by my enthusiasm, were all part of a mindset detrimental to the project's success. I do not invalidate the role of art research in this project, owing to it shaping the development of the theory, but internalising my role as an artist was largely disadvantageous in hindsight.

I believe that the rules of Player Decentered Design are a tool that can aid in the creation of interesting and experimental games. Although they could have been modified further during the design process, I chose instead to treat them with some rigidity after printing them in a physical form (Figure 20). I treated the rules as a set of internal constraints which would guide the development of *power-one,* but this rigidity proved to be a major problem in the development process. Essentially, I felt as if I was creating the prototypical game for the concept and that all five rules should be adhered to strictly, without bending or twisting any of them. On reflection, the rules I designed further amplified every other constraint in the project, and the combination of all five of them was far too extreme to be addressed in one project. The rules were created as part of an experimental process and should have remained flexible rather than acting as a crux to the project. Owing to a sunk cost fallacy associated with developing *power-one*, I was wary of starting any secondary game project to further experiment with the rules, yet I still consider them worthy of future experimentation.

The origin of the first two rules, that the game should have no beginning or ending, are discussed at the end of Month 2 as partially inspired by the television work of David Lynch. Because the game was never completed, it can be said that both of these rules were literally satisfied in *power-one*. The technical implementation of these rules was never fully realised, but the game was designed to start in the middle of the action and continue to repeat on loop.

The third rule, that the game should progress without you, is mentioned in the first month of the diary: it was connected to a pre-existing idea about ambient games. This rule proved complex to satisfy with every additional system added into the game. Every game system needed to act autonomously to fit. I did not want this concept to be implemented in a superficial sense, and tried to avoid hiding a secondary, more interesting game as a reward for the player to find within *power-one*.

The fourth rule, that the game should have no singular meaning or explanation, was inspired by Schrank's (2010) thesis on avant-garde videogames. This proved to be the most difficult rule to implement. Most narrative threads that I started to develop would be discarded, as all I could see in my story concepts were singular meanings. This could possibly have been rectified by having other people experience the game and share their reflections with me, but I felt that this was against the ethos of the work.

The fifth rule about always having something to interact with, is discussed in Month 3. It only grew to be problematic as the amount of interactions that I had planned for the game grew too large. A single interactive element on screen at all times would have been enough to satisfy the criteria for this rule.

At the beginning of the project I expected to incorporate qualitative data from playtesters into the thesis. By the end of the third month I felt that, due to its association with the playcentric method I was opposing, playtesting should be avoided and conducted only after the game was complete. This mindset was justified by the somewhat arrogant artist persona I embodied: I felt that this game, this vision, was my creation alone and did not need to be diluted with feedback from other people. This line of thinking only grew worse and worse. I felt the game did not need to be played by anyone, at any time. Taken to a seemingly logical extreme, decentering the player meant removing them as far from the game as possible, so that even having them playtest the game after completion would be unnecessary. Unsurprisingly, this removed a lot of motivation from me to finish the game entirely.

Once I began to question if the game should ever be played, I also questioned if the game needed to be finished or even worked on any further. Late into the process, I debated adding a sixth rule of Player Decentered Design late, along the lines of "The game should not be played" or "The game should not be finished" but this felt disingenuous to the work I had already completed. I don't believe that the failure of *power-one* to materialise should utterly discount the concept of Player Decentered Design, owing to a multitude of other factors at play, but I do believe conceptually that the idea is almost paradoxical.

Towards the end of the process I had lost all the discipline I had for the work. I was driven by an enthusiasm for the project that carried me through the first several months, but as time dragged on I began to waver. This induced a snowball effect; I would spend more time away from the work which made returning to the work harder each time. I predict

that this lack of motivation could have been avoided if I was working with other people more directly, or at least got some feedback from others playing the game. After a certain amount of time developing in isolation, I was no longer able to see any value in my work or push the project forward. Considering this difficulty, I would nowadays yield to the advice that you should playtest early and often. Not to necessarily incorporate playtester feedback into a game, but rather to see the game as something existing independent from yourself. The design process grew maddening to me because I was unable to resolve my personal conception of decentering the player within a design process that constantly revealed new inconsistencies and incompatibilities.

For a long time, I felt that the lack of success in the design process invalidated the value of any accompanying research. What become clearer through approaching this research later as autoethnography, was that the knowledge gained from the process was more valuable than the game, as fitting the concept of Frayling's (1995) research through design. Late in the design process I may have misrepresented this concept to justify never needing to finish the game. Ultimately, to better understand research through design required me to first complete a research through design project.

Calling the research complete when I had not finished the game was difficult, but eventually I achieved the necessary distance to reflect on the process authentically and positively. The knowledge shared varies in substance and value due to the maximalist approach I took to recording information in the process. Design thinking has been shared alongside technical development information, which, given the game's focus on the ambiguous and experimental, has been challenging. Despite these issues, I have been able to discover the narrative of the process, discern its value and formulate the rules of Player Decentered Design, which I elaborate on further in the next chapter.

In this chapter I have discussed why I chose the design diary to collect data, and why autoethnography was chosen as a method to communicate the results. The design process recalls the development of an experimental game alongside the theory of Player Decentered Design. Despite the game not being completed, there is still knowledge in the process that is unique and valuable. In discussing the process, I have attempted to highlight some of this knowledge with further commentary and reflection. In the following chapter, I present the extended rules of Player Decentered Design, and reflect further on the theory and its future applications.

5 PLAYER DECENTERED DESIGN

In this chapter I will present the five rules of Player Decentered Design, with an expanded description on how each can be understood individually. This discussion extends upon the autoethnography of the previous chapter, with the rules presented as an artistic statement that has derived from my design process. A discussion on the rules is then presented to help contextualise them further. This chapter concludes with a description of the game developed throughout this thesis as an example of Player Decentered Design.

The following rules are presented as a set of guidelines for developing games against the player centered design paradigm. They are shared here for the benefit of other individuals who are interested in experimenting with the videogame medium, specifically the idea of disorientating, decentralising, or even deconstructing the player. The intention with these rules is not that they should replace the player as the central subject of the game with the author or computer, but instead make moves to purposefully reposition them. The rules have been designed to be platform agnostic and should fit every electronic gaming system, from the Atari to the PlayStation, mobile phone to virtual reality, and other as yet unimagined devices. These rules should be understood as malleable and porous, and can thus be read as either a creative prompt or a set of strict constraints. While these rules can be adapted, translated, expanded or contracted to meet the needs of any hypothetical future project, the following five rules were designed to specifically complement each other.

5.1 The Five Rules of Player Decentered Design

1. THERE IS NO BEGINNING, NO TUTORIAL OR INSTRUCTIONS, NO LEVEL ONE OR EXPOSITION

Player Decentered Design is interested in presenting *ambiguous middles* to the player, understood both narratively and ludically. The player should not be settled into the experience at the start of the game, instead the game should appear to have already been running for some time before the player's presence was detected. Understanding how the game operates requires a process of trial and error from the player, with no tutorialising through an explanation of the system or the controls given. If this rule has to be broken, then any instructions or exposition would ideally be given outside the game system itself, through the use of paratexts. In that regard, this rule recalls early arcade games that lacked the capability to explain their system to the player, having instructions printed on the

machine exterior instead. There should be no tutorial level, level one, or any similar incrementation of difficulty. The game should start from the middle, without explaining any of the backstory or giving any instructions.

2. THERE IS NO ENDING, CONCLUSION, GAME OVER OR CREDITS

This rule has a similar intention to the first, that the designed 'middle' of a game should act as the entirety of the played experience. The middle of a narrative structure is a climactic point and Player Decentered Design is thus an attempt to maintain a state of sustained climax. Not all games have endings; MMO and other live service games are designed around never being finished, although they may contain many smaller self-contained stories or individual matches inside them. There should never be a 'game over' screen, because the game is never over. Lives are always infinite, because life here is never-ending. If the game must give credit to its creative team or included assets, then this would ideally be implemented through the use of paratext. Quitting the game should require forcefully powering off a device.

3. THE GAME WILL PROGRESS WITHOUT YOU

Many platformer game levels already scroll automatically. Japanese role-playing games sometimes allow battles to be fought without user input. The auto battler genre is designed around certain actions being performed without player input. This rule is an evolution of these similar pre-existing concepts taken to an extreme. The entirety of the game, from middle to middle, should be able to progress without the need for player intervention. This is the most critical rule in reducing the players role within a larger ludic system, and as such can be the most difficult rule to technically implement. Perhaps the player character can have agency, or a player character is not necessary at all. The most essential instruction is that the game should play itself.

4. THERE SHOULD BE NO SINGULAR MEANINGS OR EXPLANATIONS

Player Decentered Design is an attempt to create games that engage more with art thinking than communicative design. It is an argument against an emotional engineering of games: to not aspire for all players to react to events similarly and predictably, to not

cater to the lowest common denominator, and instead play around with vagaries and ambiguity. The player should work to find their own meaning inside the game.

5. THERE IS ALWAYS SOMETHING TO INTERACT WITH

It can be easy to forget, when creating 'middle-y' games that play themselves and make no sense, what medium you are trying to work in. Games are interactive mediums and should be primarily understood as such. If the finished game could have been just as easily represented by a video or an animation, then it is probably better suited to a different medium. Without interaction, a player becomes a viewer.

5.2 Discussion on Player Decentered Design

The first two rules of Player Decentered Design can be understood as an attempt to deconstruct traditional narrative frameworks. Traditional dramatic structures, such as Freytag's pyramid (1863) divide a narrative into constituent parts, with the middle point labelled as the climax. The template of the Hero's journey or monomyth (Campbell, 1990), plots a similar narrative structure over seventeen stages, or three acts, with the central crisis situated in the middle.

The first two rules of Player Decentered Design are a conceptual exercise to try and focus on this climatic middle, stripping away the supporting stages of rising and falling action. The Hero's Journey is a dramatic structure that informs a lot of popular media and videogame design; Jenova Chen (Joystiq Staff, 2012) specifically alludes to it in reference to his own videogame *Journey* (Thatgamecompany, 2012). Jenova Chen is linked to the playcentric school of design by his education and appearance in Fullerton's book (2008), and through this association I connect the monomyth structure as being complementary to the playcentric approach. *Journey* is a successful, well-designed, experimental game, an example of Player Centered Design producing thoughtful and meaningful work.

However, in attempting to push experimental game making even further with Player Decentered Design, I have felt it was necessary to break away from these traditions and there supporting ideals. An alternative Eastern dramatic structure to the monomyth is kishōtenketsu, which has been described as informing the design of modern games in the Super Mario series (Philips, 2015). This structure replaces the central conflict with a less dramatic 'twist' to the story, but is still constituent on both an introduction and

conclusion. The use of kishōtenketsu in the Mario series is interesting because the story structure is implemented ludologically rather than narratively; the structure informs how new game mechanics are introduced, refined and built upon throughout the course of a single level. Similarly, the discussion on narrative structures here is not literally related to any game's narrative, but also the mechanics of the gameplay experience, as seen through the removal of tutorials, level progression or endings.

The third rule describes how the design should support ambient experiences that are not dependent on the player. The fourth rule developed from visual art research and encourages artistic experimentation over emotional manipulation. The fifth rule attempts to stress the importance of the videogame medium to the concept: without this, the remaining rules could otherwise fit alternative art forms. All five rules are discussed in relation to an example Player Decentered Design game project in the following subchapter.

While these rules were developed alongside a process heavily inspired by the work of abusive game design and dialogic game design (discussed in Section 2.2), I believe Player Decentered Design is distinct from these approaches in meaningful ways. Crucially, there is no purposeful attempt to initiate a dialogue between the designer and player. The hypothetical games of Player Decentered Design are more akin to a monologue, although this is not their intended conception. It is possible that by attempting to remove 'player narcissism' from the game, it has only been replaced by 'developer narcissism', although again I would dispute this comparison. However, had I approached this research as an attempt to instead tackle 'Gamer narcissism', through a 'Gamer Decentered Design', I may have avoided some of the more glaring conceptual problems I discovered in my own process.

I would posit that after a game has been playtested, even by the developer, a 'Player' has been necessarily created. To create a game without a player would involve writing and compiling all the necessary game code and assets, and never testing the game before calling it complete. 'Player' is a neutral term, which is difficult, if not impossible, to decouple entirely from the medium of videogames. In my own design process, attempts to decenter the player have proven frustrating as they led to paradoxical thinking. Despite these issues, I would argue that the five rules I have presented here do offer a way to conceptualise a Player Decentered Design, even if it is best understood in the hypothetical.

5.3 Player Decentered Design Example Game

While documenting the development of *power-one* in the previous chapter, I have had to describe the game as an evolving concept, rather than a coherent whole. Because the game was never completed, it inhabits a liminal state of existence which makes it more difficult to reference and further discuss. To rectify that, *power-one* is presented here as a description of a hypothetical game. This can be understood as a work of Game Design Fiction: while the game may not exist, this descriptive text does. While attempting to reduce the game down to a description alone can be understood as breaking the rules of Player Decentered Design, the intended ambiguity of the game has to be explained away in order to communicate the game's intentions clearly. To help aid in this description, the following text refers to Figure 24 when describing the positions of its constituent parts.

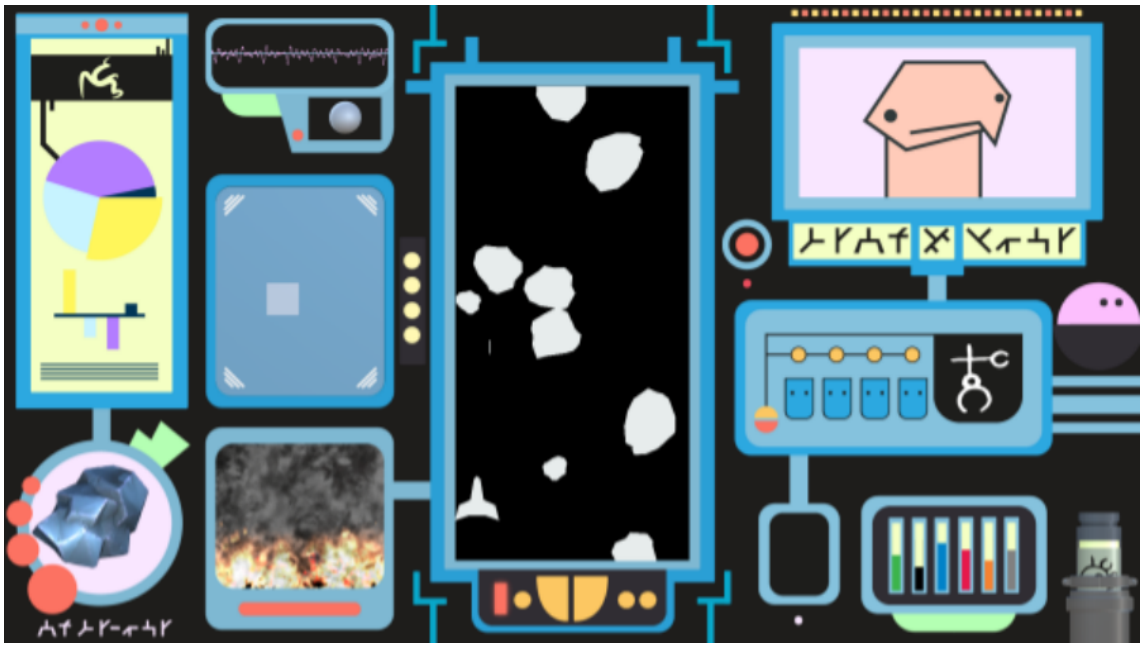

Figure 24 The final screenshot appearance of *power-one* from April 2018

The game displays a user interface of an alien ship, filled with many animated parts to represent different sensory readings. The player is able to interact with different buttons and switches, with the interface providing feedback to actions before resetting to a previous state. At the center of the screen a ship can be seen moving, firing at asteroids and collecting falling debris. This ship can be manually controlled by buttons on the screen, but will otherwise act automatically if not interacted with after some time.

As the 2D asteroid debris is seen to be collected from the central window, it reappears as 3D geometry of varying shape and colour, and slowly fills a window to the left of the

interface. Once this window is filled, the contents are incinerated and disappear from view. The player can move debris from this window and examine it more closely as a 3D object; this debris can be then moved to a central inventory window, where other objects, such as a yellow stress ball, already exist and can be similarly examined. All of these objects are able to interact with different parts of the interface.

Inserting objects into a window to the top left of the interface results in different music or sounds being played. To the far left of the interface, alien glyphs are displayed to show the composure of ingredients in the object; these glyphs also act as objects which can be removed and interacted with. Inserting objects into a window to the middle right of the interface causes a sequence to be played on a set of blue keys. If the player repeats the pattern of this sequence, different 3D canisters of materials appear at the lower right. These canisters can then be used on the interface to produce different types of visual effects.

Intermittently, an alien appears in the top right of the screen and makes sounds, which appear to be translated through another set of glyphs directly underneath them, representing an alien alphabet. These glyphs are requests from the alien and act as objects to interact with. By inserting the alien glyphs into the sequencer and repeating a pattern, a canister is created. This canister can be given to the alien to satisfy their request. This process is automated if the player does not interact with the game, but by taking action the player can speed up the process. Passing other types of objects to the alien makes them react differently, from making them unhappy or causing fatal damage to them.

power-one meets all the requirements of a Player Decentered Design game. When the player starts the game, the ship is already moving, the incinerator window is half full, and cannisters are already being created to meet an alien's request. The game does not end, but after a short time it repeats itself with similar aliens reappearing on screen. The game is designed to progress without the player, so that it is possible to just sit back and watch the machine operate itself. There is an ambiguity in what all the symbols mean, whether the aliens are good or bad, and if you should be hurting or helping them. There is a variety of different ways for the player to interact with the game, through a finite but extensive amount of different interactions and combinations to be discovered.

6 CONCLUSION

This thesis began by discussing how concepts such as the playcentric model have proven to be fundamental to contemporary game research. A number of methods that promote an experimental approach to creating games have been shown as deriving from traditional user-centered design principles. The research presented here has worked towards an alternative method of creating games, that is purposely decoupled from the best practices of game design.

In the literature review I have presented a history of Player Centered Design as a concept in part arising from the need to bring scientific methods into game studies. I have discussed game studies as inheriting models and methods from HCI without always providing a critical evaluation, instead adding further complexity. A game studies that is striving for deeper integration with commercial factors has to be cautious owing to continued unethical industry behaviour. Abusive game design was proposed in an academic manifesto almost a decade ago and still stands out in a more crowded game studies field as an uncommon example of alternative game design thinking. While gamer entitlement continues to overshadow the more positive elements of game culture, scholars should consider what behaviours designing for the status quo reinforces. The incorporation of critical design and visual arts into academic game design has generally been shallow and may be better developed through a detachment from paradigms such as Player Centered Design.

I have argued for using an inclusive definition of videogames that better fits the creative work that has been enabled through the democratisation of the medium. I have discussed how difficulty is one axis through which to develop an understanding of games, and how the removal of difficulty has been implemented in progressive and creative game designs. The design process documents a UI game, so this category was explored further with an axis of UI games presented to help categorise them in future research. Game Design Fiction has been discussed as a possible way to understand game related art and media removed from the medium of game entirely, and is a concept worthy of future research.

The design process was recorded through the use of a reflective diary as a data collection tool. This enabled the creation of an autoethnographical text that allowed me to communicate a unique and personal explorative journey as I battled against game design best practices in discovery of the new. The design process describes one particular

example of game making that, while not reproducible, includes knowledge on the creative process that is distinct, timely and valuable. The discoveries and issues that I have encountered throughout this design process have been documented at length and could offer some precedent for other designers working on relatable problems or in relatable conditions.

Player Decentered Design is finally presented as a set of five rules that arose from my design process and are presented in a way that they can be utilised by others as an aid in creating experimental videogames. While my own research was hampered by attempting to adhere strictly to the letter of the rules, I would instead encourage others to adapt and modify them to fit their own future research. The rules of Player Decentered Design are one answer to the research question 'What could be an alternative to Player Centered Design?'. Player Decentered Design is one possibility, as is abusive game design, and I would hope for future research to reveal even more alternative paradigms.

The research I have presented here demonstrates how fighting against strong conventions such as Player Centered Design is messy and difficult, but a process that can reward a distinct and unpredictable knowledge. This research project began by recognising, through abusive game design, that there was an unexplored possibility space in videogames. Abusive game design offered some directions for me to begin an exploration of this space, which in turn helped lead me to my own discoveries. I hope my research can now provide some directions to others in exploring both the inside and the outside of the possibility spaces of games.

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