Design Guidelines for

Video Games to Achieve an

Understanding of Care

How Might an Understanding of Care Be Designed

into Immersive, Simulated, and Open-Ended Video Games?

By

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Submitted to OCAD University in partial fulfillment of the requirements for the degree

of Master of Design in Strategic Foresight & Innovation

Toronto, Ontario, Canada, December, 2017.

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Abstract

The ability to care is a core aspect of being human. Despite its fundamental value, care has historically been systematically and culturally devalued and neglected as a field of practice. It is only in the past several decades, driven by a new generation of philosophers and studies in the domain of healthcare has care ethics been slowly recognized as an area of opportunity and its complexity worthy of academic discussion.

In parallel to this development, the domain of video games has emerged. In particular, a type of video game that provides an immersive, simulated, and open-ended experience for players, where the primary design goals are to promote a believable world with freedom for players to express themselves while subject to the consequences of their actions.

While care ethics and video game design may seem quite removed from each other, this research will explore the convergence of care ethics and game design and demonstrate the opportunity in connecting these two domains. Using the method of design patterns, guidelines are proposed that encourage the design of immersive, simulated, and open-ended video games that promote an understanding of care by players.

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Preface

Sometime in 1994, my dad brought home a Sega Genesis console. As a seven-year-old, I had some vague awareness of the existence of video games, but this event blasted open a door to a new world. It's difficult to measure the influence games have had on my life, waxing and waning in influence through to adulthood, but I can confidently state that video games have formed the foundation of many lessons and observations.

I learned the basics of computer programming because I wanted to exploit new cheat codes in *Red Alert*; I uncovered my passion for history by playing as various civilizations in *Age of Empires*; I realized that friendships can be fragile by being merciless in *NHL '94*.

Yet the common thread in all of these discoveries is video games have, through purposeful or accidental design, promoted awareness of new domains and provided new experiences that were transferable to my real life.

The subject of this research is a continuation of that thread and further casting for the depth to which video games can influence us, by examining the potential of video games in affording an understanding of an intensely personal but universal human experience – that of care.

1.0 Introduction

I heard explosions off in the distance. Turning towards the sound, I glimpsed a small and squat building amidst a pile of wreckage. The Wasteland is normally quiet and desolate, so I was drawn to seek out the source of this destructive activity. By the time I closed to within a hundred meters the sun was setting on the horizon, yet I was still able to make out several individuals moving about and what looked to be a dead body. Looking at those still alive, the nature of their dress and weapons, I saw I had stumbled across a group of raiders. Vicious and brutal, they had killed the owner of the scrapyard.

Unfortunately for them, I was well-armed and seeking to dispense justice. I was unable to save the scrapyard owner, but at least I'd prevent the raiders from harming anyone else. I moved forward and raised my weapon to aim at the nearest raider. Almost immediately, they turned as a group towards the new threat.

They turned not towards me, but a dog, a dark mutt that streaked across the field snarling and leaped to attack. Taking advantage of this distraction, I fired quickly and knocked out the remaining raiders.

Once the dust settled, the dog trotted towards me, wounded but not seriously. On inspection, his nametag read 'Dogmeat'. Glancing at the dead scrapyard owner and the scene around me, I knew it was time to move on. As I walked away I heard Dogmeat trotting behind me. It seemed that in avenging his former master, I had also replaced him.

The scene I have just narrated is my experience of a gameplay encounter in *Fallout 3* (Bethesda Softworks, 2008), a post-apocalyptic video game that allows the player to become an unnamed resident of the Wasteland, the area formerly known as Washington D.C.

While a powerful scene on its own, its significance lies in its consequences for the player. After this event, Dogmeat becomes an available 'companion' to the player. Dogmeat will follow the player throughout the game world in almost any circumstance, and grants mechanics such as an early warning system (growling if enemies are nearby) item retrieval (fetching) and combat assistance (guarding). Interestingly, the player can choose to scold or praise Dogmeat, but these options have no effect on gameplay.

In my experience of *Fallout 3*, encountering Dogmeat was a transformative experience. Previously, I was nervous and anxious to explore this open world environment that was full of ghouls, monsters, and other dangerous creatures. Sanctuaries were few and far between. Dogmeat allowed me to sense when danger was approaching, and was my ally in combat.

Dogmeat was my companion throughout almost the entirety of my 42 hours of gameplay. Until he died. During an enemy encounter in a game dungeon, I became momentarily overwhelmed and retreated to the entrance. I realized once I exited that Dogmeat was not beside me. I rushed back in but I was too late. He too had been overwhelmed but was unable to escape. In a decision rarely seen in game design, the developers of *Fallout 3* chose to make the death of a companion permanent. I could not revive him, unless I loaded an earlier save.

I paused, and the weight of what had just occurred began to sink in. Dogmeat was at my side for the vast majority of the game. He had stood faithfully by me in all dangers, and in return I did my best to shield him from mortal harm. After every enemy encounter, I would always take time to praise him, even though it would have no game effect. Rarely, but in several instances where Dogmeat would run off or take too long to fetch an item, I would also scold him, and then immediately feel regret on doing so.

After much deliberation, I chose to let Dogmeat remain dead. I completed *Fallout 3* alone.

Through recounting this experience, I've attempted to illustrate the realization of a gameplay phenomenon I had not encountered before. A relatively minor game mechanic had brought Dogmeat into my gameplay experience. I was never instructed to keep Dogmeat around, or do anything other use him as a digital tool.

Instead, I cared about Dogmeat. Something that was nothing more than pixels and code evoked expressions of care during gameplay. After I had finished the game, this awareness of my relationship and my understanding of care increased, and I was able to recognize that feeling and extend it into the real world.

Fallout 3 was specifically designed to encourage distinct player expressions by promoting the ability to make choices and to experience the subsequent consequences. Was this experience with care a personal one and exclusive to my playthrough, or was it a purposeful outcome of design? Are similar video games capable of incorporating elements of design that can enable players to better understand the concept of care?

This research will explore how a specific type of video game, one that is immersive, simulated, and open-ended, may be designed to incorporate elements that promote the understanding of care by players. Through studying care and video games that have the capacity to provide for potentially unlimited and unique player experiences, design guidelines may be uncovered that promote a holistic understanding of care and the enrichment it affords in human relationships.

1.1 A Word on Nomenclature

The words "video games" or "games" will be referenced. Both terms mean downloadable or physical media that are available as applications on a range of electronic devices such as dedicated gaming consoles, smartphone or other mobile devices, or personal computers.

2.0 Motivation, Framing, and Outcome

Video games have been extensively studied through the lens of multiple ethical and social challenges, including addiction, mental health, violence, and education (Connolly, Boyle, MacArthur, Hainey, Boyle, 2012). Those forms of research are important and vital to encouraging game design research as a mature and worthy field. However, it is outside of the scope of this study.

In addition, it is important to keep in mind that not everyone who plays video games are looking for a greater understanding of care or to experience care. Like all media, video games are made and played for different purposes, and these experiences can be ephemeral and are contextual to the individual.

Instead, this study will position itself from a futures perspective. With advancements in video game technology and related fields decreasing the distinction in thought, language, and actions between the real and virtual world, and game design methods and practices increasing in maturity and complexity in application, there is a critical need and a present opportunity to design for an understanding of care by players of video games.

The outcome of this study was framed in a manner to maximize value for game designers. It has taken existing tacit knowledge in the respective domains of care ethics and game design and through auto-ethnographic and observational research and analysis conveyed the findings in a manner consistent with the concept of design patterns.

Design patterns are "conventions for describing and documenting recurring design decisions within a given context" (Kreimeier, 2002). Pattern methods are useful for consistent and methodical solutions to a design challenge where rigorous or formal methods are difficult or not available.

Design patterns originated as an architectural concept in the late 1970s (Alexander, Ishikawa, Silverstein, I Ramió, Jacobson, Fiksdahl-King, 1977). Applying design patterns was later experimented and adopted into programming and pattern languages, gaining popularity for use in computer science and human-computer interactions (HCI). It is now used in a wide area of HCI areas, including ubiquitous systems, web design, safety-critical interactive systems, multimedia exhibits, hypertext and hypermedia, personal digital assistants, and socio-technical systems (Dearden, Finlay, 2006). Most relevant to this study, design patterns are also used in game design (Bjork, Lundren & Holopainen, 2003).

Adopting the method of Isbister and Mueller (2015), while these points are modelled after the design pattern format, they are called guidelines instead of patterns because they do not conform entirely to the formal structure for design patterns.

Therefore, the outcome of this study presents guidelines towards the design of care into immersive, simulated, and open-ended video games.

2.1 An Act of Care

To begin, it is important to define what care is, and more importantly, what are we doing when we care for someone? It is an often used word with a wide range of meanings, but rarely has it been studied extensively.

The English word 'care' has multiple roots; from the Old English word 'caru' meaning sorrow, anxiety, grief; from the Old German word 'chara' meaning lament, or burden of the mind; and the Old Norse word 'kǫr' meaning sickbed (Oxford, 2009). From this brief etymological review, it is apparent that this word is closely associated with suffering. However, it is important to note that care is distinct from the word cure, and not linked to the root Latin word 'cura'.

Instead, care entails a willingness to be present with suffering, and combines two quite distinct ideas. First, care is a practical activity to support someone's welfare. Second, care is a matter of attention, thinking about someone or something, in such a way to generate sorrow, empathy and concern. Care is an unusual and unusually complex word, encompassing practical action, thought, and a set of emotional responses. It entails an attentiveness to all the relevant circumstances in a particular moment. Care is described as a burden, and cultural expressions, such as careworn, and cares of the world, show how hard it can be to care.

Historically, the complexity and significance of care is illustrated in classical texts. The Roman poet Virgil described a "vengeful Cares", who guards the entrance to the underworld (Horsfall, 2014). In contrast, Seneca saw care as the capacity that put humans on level of gods. Humans could achieve the ultimate Stoic elevation towards

'the good' through powers of reasoning, but 'the good' was perfected by care. In an extension of this Stoic philosophy, "care was the key to becoming truly human", and Seneca's writing associated care with solicitude, which included measures of attention, conscientiousness, and devotion (Cassin, Apter, Lezra, & Wood, 2014).

A little known Greco-Roman myth written by Gaius Julius Hyginius reveals its centrality to human existence (Jecker, Reich, 1995). The story goes that one day the goddess Care was crossing a stream when she saw some clay. She picked up a piece in contemplation, and began to shape it. While she reflected upon what she had created, Jupiter approached her. Care asked him to provide spirit to the clay, and he did. But when Care tried to give her creation a name, Jupiter argued that his name should be used. While they argued, Gaia (earth) approached and asked that the creation be named after her, since she had given it a part of her body. The three then turned to Saturn to decide the issue. Saturn decided:

"You, Jupiter, because you have provided the spirit, should receive the spirit when the creature dies; you, earth, because you provided the body, should receive the body. But because Care first shaped this creature, so must it be that she possesses it for the time of its life." (Hyginius, trans. 1960)

In myth, Care has and sustains human beings, not so much as possession, but of cherishing, and acknowledges that it is care that sustains life. Jecker and Reich (1995) write that this myth reflects an uplifting, attentive, solicitous, and positive side of care, yet also a deeper meaning that care is not without tension: a lifelong pull towards the ground reflects worry and a spiritual element that "strives upwards to the divine".

It is significant that this myth communicates the meaning of care, as one of the functions of myth and literature is to "offer ancient narratives that make it possible for people to understand the meaning of their experiences regarding the basic characteristics of human life". (Jecker, Reich, 1995)

While care can be extended into the definition of self-care, in this review care is not isolated but rather a relationship between the cared for and the carer (Bunting, 2016). It is a relationship over time that requires a knowing and understanding of the person's past context, present needs and future desires. It is a connection that requires time, often momentary rather than involved. Lastly, care is not precise (Reich, 1995). While training and professional judgement are helpful, both the carer and the response of the cared for can involve gut instinct, spontaneity, and unpredictability.

2.2 Immersive, Simulated, and Open-Ended Video Games

Immersive, simulated, and open-ended video games (ISOE) hold the most promise for providing players with the realized dream of truly unrestrained play and the freedom to experience games in an intensely personal manner. By breaking down the structure and design elements of this particular type of game, it will be demonstrated that it presents the most logical fit to align a set of design guidelines for care.

In one of the first examples of immersive, simulated, and open-ended games (ISOE), 1992's *Ultima Underworld: The Stygian Abyss* (Blue Sky Productions, 1992), combined clever systems, artificial intelligence, and rudimentary physics to try and simulate a believable space that was not completely predetermined by the developer. The overarching design goal was to give players unique stories to encourage personal

solutions to quests, much like in a Dungeons and Dragons campaign. Only replace the human dungeon master with a complex nest of intertwining systems.

System Shock (Looking Glass Technologies, 1994) moved the design philosophy of Ultima into outer space and killed off all the humans to avoid immersion-breaking conversations. *Thief: The Dark Project* (Looking Glass Technologies, 1998) used advanced artificial intelligence and open-ended design to create an acclaimed game based on stealth.

Forming the foundation of ISOE games, these early games and its modern descendants are bound together through the use of ISOE game design elements, beginning with high levels of **player agency**. The player is able to achieve goals in multiple ways and pick unique routes, tactics, and gameplay styles. The designers tell the player what to do, but not how to do it. The designers provide a large open space with a handful of predetermined routes that support different playstyles, and sometimes some suggestions for how a player may finish a mission. However, the ultimate path and/or solution is up to the player.

ISOE games are highly **systemic**[1]. Many video games are heavily scripted, with the game unfolding in a manner strictly dictated by the game designers. In contrast, ISOE games are built from systems. Certain elements have globally defined characteristics, which means alarms work the same way, lights can be extinguished, and player movements always create in-game sound. There are also rules that the game world follows. Enemies

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[1] The use of the words systemic and systems in this study is limited to the context of specific video game systems. It should not be conflated with the systems theory field of study.

can find the player based on sight and sound, and if the player is spotted will run off and trigger alarms. Footsteps sound louder at higher speeds and on different surfaces.

Less prescription in video game design means ISOE games can be **emergent**. When two systems talk to each other, unexpected and interesting new behaviors can emerge. These interlinking systems give the player opportunities to come up with smart, intentional, and unique strategies that exploit the game's rules.

Consistency is an essential game design element for an immersive, simulated, and open-ended world. Special cases or one-offs of game events are avoided, and failure states are rejected for anything other than player death. Player activity can result in the failure of a particular mission, but the simulation continues.

As a result, ISOE games are also **reactive**. The player's actions are judged during gameplay, not in clearly designated choice sections, and consequently may impact or permanently change the game world.

Player agency, systems, emergence, consistency, and reactivity form the main design elements of ISOE games.

Clint Hocking, designer of *Deus Ex* (Ion Storm, 2000) said "by creating a chain of influence that cascaded between the narrative and WASD keys, *Deus Ex* allowed players to experience the repercussions of their immediate input level actions as they echoed upward into the very plot of the game" (Hocking, 2014). Warren Spector, game director of *Deus Ex* said "*Deus Ex* was designed, from the start, as a game about player expression, not about how clever we were as designers, programmers, artists, or

storytellers. The game was conceived with the idea that we'd accept players as our collaborators, that we'd put power back in their hands, ask them to make choices, and let them deal with the consequences of those choices" (Spector, 2000).

In addition to the five game design elements, immersion, simulation, and open-endedness are the three core qualities of ISOE games.

Immersion is a word that has seen its use over many different areas in recent years, and will have to be defined carefully for the purposes of this study. In the video game context, researchers have conducted various studies in order to define and understand immersion. Brown and Cairns (2004) define it as an "intense experience" that describes "a scale of involvement with a game". Ermi and Mayra (2005) highlight three components of immersion: sensory (visual); challenge-based (skills); and imaginative (player is absorbed and identifies with the game or game character). Jennett et. al. (2008) immersion is "the result of a good gaming experience."

Immersion can also be described as the player beginning to feel like they are actually 'there' in the world that the game creates. In Wirth et al's Theory of Spatial Presence (2007), immersion is described as having two parts: the player will 1) form a representation in their mind of the space or world that the game presents; 2) a player begins to favour the game world as their primary reference point. Once these two parts are achieved, the player achieves immersion.

Various sub characteristics of this ideal immersive state include:

- Multiple channels of sensory information (detailed sight and sound).

- Completeness of sensory information. The player does not have to fill in the blanks of the game world. Abstractions and contrivances are the enemy of immersion. Familiar environments allow players to make assumptions without being pulled out of the game world (i.e. games set in the Wild West conform to popular notions of this period).

- Cognitively demanding environments. Focusing on the challenge of a game will pull in players and distract them from contradictions in the game world.

- A strong and engaging narrative.

- Lack of incongruous visual cues in the game world, such as information displays overlaid on the player's screen vs using the game world itself to provide information (e.g. virtual cockpit instruments in a virtual plane).

- Interactivity with items in the game world.

It is important to keep in mind that not all players are equally susceptible to immersive characteristics, and that a player needs to be willing and active to suspend disbelief.

Regarding the definition of simulation in the context of video games, Gonzalo Frasca writes "to simulate is to model a system through a different system which maintains (for somebody) some of the behaviors of the original system. The key term here is 'behavior'. Simulation does not simply retain the—generally audiovisual—characteristics of the object but it also includes a model of its behaviors. This model reacts to certain stimuli (input data, pushing buttons, joystick movements), according to a set of conditions" (Frasca, 2003). In other words, a simulation uses physics, graphics, and

forms of artificial intelligence to create believable behaviour in objects and characters in which the player can freely interact with, resulting in emergent and personal gameplay.

'Open ended' is a broad description, and many interpretations can fit. Generally, the term implies a departure from conventional level-based structure, and instead the freedom to explore a game without a particular goal. Barriers and invisible walls have only a limited presence – and many activities are offered suggestively, rather than as mandatory. In recent years, such games are immensely popular[2], giving players the freedom to roam worlds of all kinds. This open-ended design permits non-linear play and can help create and sustain the illusion of a living, breathing world.

With new technologies and game design methods, ISOE games are becoming better at simulating environments, utilizing artificial intelligence, and granting control to the player. These types of games afford an entirely unique and contextual experience for the player. "They can make their own fun, tell their own stories, solve problems the way they want, and see the consequences of their choices. That's the thing that games can do that no other medium in human history has been able to do" (Spector, 2015).

ISOE games have developed from some of the earliest days in video games, and have long promised players the ultimate experience of infinite and realistic game environments. Through its multiple layers of complexity and variety, and use of game design elements of 1) player agency, 2) systems, 3) emergence, 4) consistency, and 5) reactivity, it provides an ideal focus to investigate the design of care into video games.

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[2] *The Elder Scrolls V: Skyrim* (Bethesda Softworks, 2011) – 23.46 million copies sold
Grand Theft Auto V (Rockstar Games, 2013) – 66.32 million copies sold
Fallout 4 (Bethesda Softworks, 2015) – 13.79 million copies sold

2.3 It's a Spectrum, Not a Genre

Video games are typically developed and marketed by categorizing games into separate genres. Popular video game genres include action-adventures, role-playing games, first-person shooters, strategy, platform, sports, racing, and so on.

This study is explicitly avoiding the use of genre in regards to ISOE games, as a discussion on game categorization is outside the scope of the research conducted. In addition, the term genre can be contentious and distracting, and as Thomas Apperley writes "What is crucially important to video game genres is to be able to think of each individual game as belonging to several genres at once…that it is crucial to acknowledge that running contra to the "neat" categories defined by the industry are emerging "messy" categories that cross the traditional boundaries of video game genres… (2006).

Therefore, this study views ISOE games as a spectrum, with relevant games exhibiting various levels of immersion, simulation, and open-endedness.

2.4 A Focus on Singleplayer

Video games can have various modes of participation by players, ranging from exclusively singleplayer, co-operative, and/or multiplayer (i.e. anonymous online) experiences.

While caring relationships involve multiple parties, this research will focus on exclusively singleplayer ISOE games in order to respond to the potential future of immersive entertainment being a solitary experience that can respond to an individual's personal context and attributes. In addition, the reliance on non-playable characters (NPCs) in

singleplayer games is an important distinction that will highlight the richness of

emotional experience that is possible when players have the opportunity to react to the

consequences of their actions in-game.

However, future research in this area could extend a care ethics lens to multiplayer

games in order to a more complete understanding of ethical behaviour in those

environments.

3.0 Methodology

Over the course of this study, several methods and techniques were employed to research, analyze, and create guidelines to enable designing for care. A literature review formed the basis of the research and Horizon Scanning was employed as a futures analysis tool by investigating current and future video game technology and design practices. The findings are presented in a discussion format. Auto-ethnography and observational research was used to explore several current ISOE video games with the intent to experience qualities of care during gameplay and to provide positive examples for designers. A list of qualities of care was created and incorporated into a set of design guidelines.

3.1 Literature Review

A literature review was conducted of video game design and care ethics, focusing specifically on topics found within the convergence of these two domains. Further exploration involved a deeper analysis of how various topics within these domains interacted as well as the cultural and technological conditions that may facilitate designing for care in video games. The Horizon Scan was valuable in revealing potential areas of future analysis through emerging trends.

Key Domain Topics:

Gaming Domain:

- Complexity of Modern Video Game Development.
- Emerging Hardware and Software Technologies.

- Game Design Methodologies.

- Player Experiences in video games, including context, attribution, and agency.

- Video games as a means of ethical reflection.

Ethics of Care Domain:

- Development of care ethics in healthcare.

- Relationship of feminism and care.

- Inter-personality and interdependence in relationships.

- Modern ethics and technological influences on culture and society.

- Global perspective on care.

The literature review is comprised of a range of sources reflective of the relatively recent and multi-disciplinary academic dialogue on video games and care ethics. Sources include:

- Academic articles, publications, and books from the realm of game design.

- Articles, blogs, and videos from video game review publications and websites.

- Academic journals and publications from the healthcare field, specifically relating to patient care.

- Websites, forum posts, articles and associated article comments from gaming, media and technology, and news organizations.

- Research and business reports and forecast documents by gaming companies, media organizations, and governments.

3.2 Auto-Ethnography

Four ISOE video games were selected appropriate to this study. Auto-ethnography was then employed as the first research method, as it is a method in which one can analyze personal experience in order to understand cultural experience (Ellis, Adams, Bochner, 2010). The cultural experience being the community of players surrounding each selected video game. Paired with additional methodological tools such as the literature review and observational research, auto-ethnography will allow for analytical but accessible research.

Clifford Geertz (1994) wrote of ethnographies producing "thick descriptions" of cultures, which are detailed accounts of field experiences that produce explicit contextual patterns. The purpose of these descriptions is to facilitate an understanding of those cultures by determining patterns of cultural experiences to reach a specific conclusion (i.e. inductive reasoning). These patterns can include repeated feelings, stories, and events. Furthering this definition, the auto-ethnographic perspective should produce research that provides evocative and aesthetic thick descriptions of interpersonal and personal experiences.

Furthermore, discussing acts of care can be intensely personal. Auto-ethnography enables the documentation of the subjective self, and seeks to "document the feelings, thoughts, and experiences" generated by this research (Lankoski, Bjork, 2015). This method will allow this researcher to draw on personal experiences specifically in the context of video games to encourage the reflection of readers but also to initially lay building blocks for further analysis and corroboration.

During this portion of the study this researcher played each game consecutively for at least one hour each weekday, and several hours each weekend. This was done to maximize the absorption into the particular game and produce an authentic auto-ethnographic account. When ISOE one game was completed, an abstention period of three to five days was maintained in order to minimize mixing one game experience with another.

In playing the four selected games, this researcher produced an auto-ethnographic account by maintaining a daily log recording in-game experiences, emotions, thoughts, and technical notes, including notes on personal life events and other matters that impacted the context of the play experience.

A daily journal was maintained and recorded general thoughts and feelings, and reflections of experiences with care during gameplay. Examples of notes recorded include:

- "Distracted by difficult controls, but game world is beautiful and draws me in".

- "I'm struck by the sense of morality, I thought I was doing the right thing but I was responsible for a man's death".

- "I labored for hours over these potatoes, only for them to be eaten by pests".

- "I cared for my horse, so I made sure it stayed in the cave with me to stay warm and dry at night".

The journals were tagged and coded to run content analyses. Content analysis is a method whereby the unit of analysis is individual words (Im, Chee, 2006). Upon the completion of a playthrough of an ISOE game, the daily log was analyzed using word

tagging software. Words that referred to in-game character or place names were

removed. A focus was placed on words that informed this researcher's experiences. The

longevity and intensity of play sessions and the freeform style of writing produced a rich

diversity of text.

A 'word cloud' [Figure 1] was then generated to provide a visual depiction of the data.

The specifications for the word cloud are:

- A maximum of fifty words in the 'cloud'

- Words must have at least a frequency of 5 repetitions

- Similar words are grouped together

- Words were excluded that are specific to the game (e.g. game title, character names or locations)

Figure 1 : Word Cloud Example from The Witcher 3: Wild Hunt *– Generated by auto-ethnographic data*

It should be noted that these are demonstrations of impressionistic and confessional

qualities. It recorded details of personal imprints during gameplay and was confessional

in revealing a desire for care where it may not be explicitly provided by other means.

Therefore, the use of this method with video games can be a powerful combination to

reveal the complex relationship between player and game (Sundén, 2009).

3.3 Observational Research, Content Analysis, and Relational Analysis

To complement the auto-ethnographic method, observational research allowed the researcher to observe a cross-sectional group of players playing the same four selected video games. This was done with the purpose of gathering data on the perceived design and player recognition of ISOE game design elements that may indicate an understanding of care. This is the ideal method to determine prevalence of a condition and allows for multiple outcomes to be studied (i.e. the absence of care vs the understanding of care) (Mann, 2003).

In addition, as an unobtrusive and 'remote' method, it allowed this researcher to obtain data in a neutral capacity versus the more personal auto-ethnographic method. As mentioned earlier, each game has a significant amount of content and time constraints prohibited extended direct observations of players.

The observational research was completed through observing online video game forums that host communities of players. In a review of qualitative research conducted via the internet, online forums were one of the most frequently used qualitative research methods, and these forums are commonly used by diverse groups of users for informational and emotional support (Im, Chee, 2012). Web scraping tools collected over one thousand online forum posts and content analyses tools were used to record the use of certain words or phrases, thus generating quantitative data.

This research employed related methods to content analysis, outlined by Kathleen Carley (1990), namely conceptual analysis and relational analysis. A conceptual analysis

focuses on the concepts that are explicitly or implicitly present in the text, and a relational analysis centres on the mental models implicit in the texts (Carley, 1990).

This method is useful to map conceptual systems and may demonstrate signals of a method of designing for care in video games.

The online forums selected for observation have significant memberships (tens of thousands of registered members) and do not require registration in order to view forum posts and are publicly viewable.

These online forums include:

- Neogaf.com, specifically 'Gaming Discussion'
- Reddit.com, specifically
    - Reddit.com/r/prey
    - Reddit.com/r/Breath_of_the_Wild/
    - Reddit.com/r/witcher
    - Reddit.com/r/StardewValley
- Gamespot.com/forums/
- Giantbomb.com/forums/

A search was made of these forums and relevant 'threads' were identified. These threads were entered into the web scraper tool and a CSV file was generated. Using Microsoft Excel, non-relevant data (e.g. usernames, images, time and dates) was stripped until only the forum posts remained.

The word cloud tool was again used to provide a visual depiction of the observational data.

3.3.1 Ethical Considerations

The selected online forums for observation are public forums, and do not require registration to join or view posts made by forum members. As these online spaces are considered public, it is accepted that "lurkers listen in on online conversations" and that observation of these forums are compared to information collected from other public records (Gronning, 2015).

3.4 Video Game Selection and Research Criteria

This researcher selected and played four ISOE video games to order to begin to create a broader assessment of whether care can be experienced in this specific type of games and whether there are common design principles within modern games that can be employed to encourage the understanding of care in players by formalizing the principles into guidelines. Each game was played until the main narrative experience was completed or until a high level of completion was reached.

The selection of the video games is based on the following criteria:

- Designed to immerse the player in an elaborate and believable (or logical) world.
- Open-ended gameplay that is nonlinear, with an emphasis on player agency and with full control to the player in every situation.

- A world based on systems that the player can interact with and promote emergent gameplay.

- Uses consistent and consequential rules that react to a player's individuality and choices.

- A narrative that is not forced upon the player, but can be told through player discovery and game world exploration.

- Few or no fail states, aside from player death.

- Main mode of play is singleplayer. The game can have multiplayer options, but the game must be designed with singleplayer as the preferred mode of play by the game developers.

- Popular: To enable a well-represented cross-section of observational research the video game must have a high number of observable and public forum posts.

Additional minor criteria were also assigned to narrow scope:

- Designed for personal computers (running Microsoft Windows operating system) and/or video game consoles (e.g. Nintendo, Microsoft Xbox, or Sony Playstation). Mobile games played on smartphones or tablets were excluded from this research as they are typically designed for shorter and transitional gameplay experiences.

- Critical success: Video games that have received high scored reviews from video game review websites such as Gamespot, Metacritic, and Giantbomb.

- Commercially successful: High number of games sold (whether in retail or digital distribution)

3.4.1 Selected Video Games

1) *The Witcher 3: Wild Hunt (PC Version)*

Released on May 19, 2015 and developed by CD Projekt RED, *The Witcher 3: Wild Hunt* game is the third title in *The Witcher* video game series and is based on a collection of short stories by Polish author, Andrzej Sapkowski.

This game was selected for creating an enormous immersive and simulated world. It has an overarching narrative experience that, if the player chooses to follow it, centers around a character named Geralt of Rivia. He is in search of the emperor's daughter, who in turn is being pursued by a mysterious and deadly group called the Wild Hunt. Choices and consequences are particularly important, affecting the player's progress and the game's outcome.

It sold over 6 million copies in the six weeks following its launch. It has received critical acclaim, winning over 800 awards since release (Gamespot, 2016).

This researcher played 61 hours and completed the main story line.

2) *Stardew Valley (PC Version)*

Stardew Valley is an indie game developed primarily by Eric Barone, and published by Chucklefish. It was released in February 2016.

The player inherits a neglected farm in a rural village, and is tasked to restore it and the surrounding community.

While this game notably features pixel-art graphics that are not photorealistic, it was chosen due to its open-ended nature, player choice, and focus on tasks such as relationship building, farming, and building.

It has become a bestselling game on the digital stores Steam and GOG.com and has sold over 1 million copies (Polygon, 2016).

This researcher played 32 hours.

3) Prey (PC Version)

Prey was developed by Arkane Studies and published by Bethesda Softworks, and released in May 5, 2017 for multiple platforms.

The player assumes the character of Morgan Yu, exploring the space station *Talos I*, where they must avoid an alien infestation and escape.

This game was selected because of the game developers' intent to evoke similar design principles from previous ISOE games, such as *System Shock, Ultima Underworld, Thief,* and *Deus Ex (*Muncy, 2017). The designers of *Prey* placed priority on player expression and freedom, despite being in a confined location (a space station).

Prey had favorable reviews but is the lowest selling game compared to the others selected for this study.

This researcher played 27 hours and completed the main storyline.

4) The Legend of Zelda: Breath of the Wild (Nintendo Switch Version)

The Legend of Zelda: Breath of the Wild, was released on March 3, 2017, in conjunction

with the debut of Nintendo's newest video game console, the Nintendo Switch.

While it is the most recent *Zelda* game in its series, it introduces an open-world with a

focus on free exploration, minimal narrative and player direction. The main story

objective is simple: Link must defeat Calamity Ganon to save the land of Hyrule.

Despite being released very recently; it has achieved universal acclaim. In several

months it has sold nearly four million copies.

This researcher played 78 hours and completed the main storyline.

The researcher had not played these games previous to these study. As ISOE games, it

should be noted that each game contains content equivalent to approximately 50-100

hours[3]. Indeed, the design of these games allows for almost unlimited play through

dynamic and emergent gameplay.

3.4.2 Game Mechanics and Attributes being noted and investigated

While at play, the following game mechanics and attributes are being noted and

investigated:

- Existence and efficacy of autonomous systems on gameplay.

- Depth of player interaction and interference with game systems.

- Interdependency of in-game relationships.

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[3] Content referring to the completion of the main narrative and additional 'side-quests' and
challenges

- Presence of morality and ethics.

- Understanding of the game's general rules and methods.

- Facilitation of the player's context.

- Level of cognitive and emotional engagement.

- Importance of game narrative versus player narrative.

3.5 Identification of Qualities of Care and Guidelines for Designers

Through reflection on the research and drawing from multiple domains and perspectives, a set of concise qualities of care were extracted and refined. To reflect a conceptual convergence between care and ISOE games, the qualities of care were clustered on a best-fit basis with ISOE game design elements. This was a generative process that had several iterations.

The structure of the guidelines was based loosely on the concept of design patterns in order to create a re-usable solution to the problem of designing for care in video games. This method is used in game development, but primarily for determining software engineering patterns (Kreimeier, 2002). However, design patterns have also been used as inspiration for creating guidelines for movement-based digital games (Isbister, 2015).

The qualities of care are presented in clusters with gameplay examples, and are structured to create design guidelines for care in ISOE games.

4.0 Discussion

4.1 Care Matters

The original genesis for this study was the researcher's personal experience with care and video games. However, it is important to demonstrate the broader context that exists which supports the convergence of care and ISOE video games, and the rationale as to why this is a necessary area to examine.

This discussion will illustrate the various perspectives and influences that inform the convergence of care and ISOE games.

4.1.1 Person-Centred Care

The recognition of care has transformed over the past several decades, and this is most evident in the domain of healthcare. Historically, Madeline Bunting (2016) spoke of two transitions of care spaces: during the Industrial Revolution and the mid-20th century. The Industrial Revolution saw a new spatial separation between home and places of work, as industry moved into the factory. Men would go off to work, and women stayed home to care, with the home acting as a "refuge from the ruthlessness of capitalism" and designed to foster values like gentleness and patience and to nurture human relationships (Bunting, 2016). The second great transition of care spaces began in the mid-20th century. Traditionally, institutions that offered care were run by the religious with high ideals. This radically changed, with care becoming a collective shared responsibility under the new welfare state. New professionalization saw the recognition of care as white collar and within the public sector, essentially institutionalizing care.

Google Ngram tracks this institutionalization of care in literature, revealing an exponential growth of the word healthcare beginning in the 1950s and 60s (Google Ngram Viewer, 2014).

Yet in the decades since, funding gaps and rapid social changes placed these institutions in crises, and the deficiency of caring became an object of study in the healthcare space.

As a result, the healthcare research literature began to illustrate an attempt to re-capture the importance of care. The term patient-centred care (PCC) is still ill-defined but now widely used. Beginning approximately 60 years ago, PCC originated from nursing care, focused on identifying patient-specific problems as opposed to tasks or procedures associated with care (Leino, 1952). Edith Balint (1969) describes PCC medicine as "understanding the patient as a unique human being" while Byrne and Long (1976) argue it represents a style of consulting where the doctor uses the patient's knowledge and experience to guide the interaction.

Rapid changes in the economic structure of healthcare, including technological and socio-political reorganizations in the 1980s and 1990s led to the use of patient-focused care as a synonym of PCC. As the existing definitions of PCC and patient-focused care became clinically and administratively unfeasible, increasing attempts were made to develop a consensus (Hobbs, 2009).

One of the most comprehensive descriptions of PCC is provided by Stewart, Brown, Weston, McWhinney, McWilliam, and Freeman (1995), whose model of the patient-centred clinical method identifies six interconnecting components: (1) exploring both the disease and the illness experience; (2) understanding the whole person; (3) finding

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common ground regarding management; (4) incorporating prevention and health promotion; (5) enhancing the doctor-patient relationship; (6) being realistic about personal limitations and issues such as the availability of time and resources.

Mead and Bower (2000) further refine this model to "five key dimensions": (1) biopsychosocial perspective; (2) 'patient-as-person'; (3) sharing power and responsibility; (4) the therapeutic alliance; (5) 'doctor-as-person'.

During this period (2000 to present), one begins to witness a shift in healthcare literature regarding PCC, as there is a broader recognition to move beyond clinical terms and recognize the patient as a person. As a result, patient-centred care becomes person-centred care.

Brendan McCormack (2003) describes person-centred care as rooted in respect for the whole person, and that the rights of individuals as persons must become the driving force behind person-centred care. This philosophical shift continues as McCormack creates his person-centred framework, arguing for the centrality of concepts such as autonomy as authentic consciousness, whereby the person's life must be considered as a whole in order to make authentic healthcare decisions.

McCormack also addresses the concept of care as a means to an end versus a continuing process. He highlights hospice and palliative care as examples of care expressing its highest value when viewed as a continuing process, in that the outcome is not to cure the patient but to exist within a "continuous state of care" (McCormack, 2003).

McCormack and T.V. McCance (2010) continue the study of person-centred care by developing a framework for use in nursing that consists of four 'layers', each as a prerequisite to the next and moves from the outer layer of 1) professional prerequisites to, 2) the environment, 3) processes, and 4) desired person-centred outcomes.

This and other frameworks demonstrate the emergence of person-centred care as a desired objective in the healthcare domain. The shift from an institutional and clinical perspective to include an ethical reflection on the importance of care acts as a powerful indication of the significance of care and its real world impact on the individual.

Therefore, when looking to the future of interactivity, immersion, and humanity's relationship with technology, one can realize the vital importance of encouraging this integration of care and care structures to the design of virtual environments. In other words, designing for care into video games to the benefit of the player experience and the player's broader social and cultural relationships.

4.1.2 The Philosopher's Perspective

In parallel to this development in healthcare, a similar recognition for care began in the 1980s originating from feminist philosophers and ethicists. One of the pioneers in this field, Carol Gilligan, wrote her dissertation defining a different path of moral development than the one proposed by her mentor, Lawrence Kohlberg. This is demonstrated most effectively by the 'Gilligan-Kohlberg Controversy', which was based from a case study describing a tragic dilemma, where a woman was suffering from a terminal disease and her husband was unable to buy the only drug for his wife. Two children, Jake and Amy, were interviewed and asked whether the husband should steal

the medicine or see his wife die without resorting to theft. Jake gave the straight

forward answer, arguing that a human life is worth far more than the medicine. His

answer was based on rationality. In contrast, Amy was unsure. She claimed the man

should not steal the drug, but at the same time his wife should not die. Amy's argument

was, if the man was caught while stealing, there would be no one to take care of his

wife. She suggested that the husband could borrow money and negotiate on the price

to pay for the needed medicine. Gilligan argued that the difference in answers between

the two children is due to the fact that Amy discards rationality and views the problem

through the lens of care and love (Gilligan, 1982).

Gilligan highlighted Amy's response as a validation of her suspicion that having an

exclusively male research sample would eliminate this perspective of care (Held, 2006).

Gilligan's work resonated with many feminist philosophers, as previously the field had

virtually excluded women's experiences. As a pioneer in the domain of care ethics,

Gilligan defined the individual as "embedded within a web of ongoing relationships…and

consists in attention to, understanding of, and emotional responsiveness toward the

individuals with whom one stands in those relationships (Blum, 1988).

Soon after in 1984, Nel Noddings published *Caring*. Originating from a maternal

perspective, Nodding describes caring relationships as elemental to humanity. She

argued the two parties in a caring relationship are the "cared-for" and the "one-caring"

and that there are three requirements to caring: engrossment, motivational

displacement, and recognition and response (1984). Engrossment requires the one-

caring to understand the context and perspective of the cared-for, resisting the

temptation to project their personal self onto the other. Motivational displacement occurs when needs of the cared-for define the behavior of the one-caring. Recognition and response completes the relationship of care by having the cared-for understand and react to the one-caring. Nodding rejected any further systematic examination, arguing that care is always contextual.

More recently, Joan Tronto and Virginia Held further expanded the application of care ethics to the societal level and examined its integration in the field of political science, all while still maintaining the basic notion that care is relational, contextual, and experiential. In *The Ethics of Care*, Held argued that in caring, persons demonstrate interdependence and exist within chosen and unchosen relationships and that caring is both a practice, and a cluster of practices (2006).

4.1.3 A Note on the Feminist Origin of Care Ethics

As demonstrated above in abbreviated fashion, care ethics originated from the rise of feminist thought and rethinking that began in Canada, the United States, and Western Europe in the late 1960s. Tronto, Held, and other philosophers have argued that care ethics has now expanded far from its original sphere into fields such as international relations, and this researcher will continue this expansion into game design. However, it is important to note that the development of care ethics is a significant demonstration of feminist progress.

4.1.4 Global Perspective of Care

It is argued that care ethics has resemblance to other forms of ethics, most notably the Confucian concept of Jen. Chenyang Li writes that Confucianism is also called the

"philosophy of Jen", and translates to many terms like benevolence, love, altruism, kindness, charity, compassion, and so on (Li, 1994). Li states that in Confucian philosophy, to be a person of Jen means one must care for others, and that a good ruler will take good care of his people.

Further, ethics of care does bear some similarities with religious ideals of love for neighbours and care for those in need. Care is a universal experience, and everyone has been cared for as a child and can see value in the care that shaped them. The ethics of care is a truly global and intensely human aspect shared by all.

4.1.5 Games as an Act of Care

To introduce the concept of ethics, specifically caring, into video games, as having mutual influence upon one another may seem so academic and theoretical as to not being worth having the conversation at all. It is natural to question whether video games can express an ethics of care.

However, one only needs to examine other mediums to realize that video games are capable of enabling ethical criticism and affording strong influence on its players. In the introduction to "Love's Knowledge, Essays on Philosophy and Literature", Martha Nussbaum (1990) writes of her books becoming her "spheres of reflection", or mechanisms that allow the concepts presented by classical authors to become relatable and actionable with her present world.

Today, children and adults spend an average of 6.5 hours per week playing video games (Polygon, 2016), and thus these fictional worlds have become the modern form of Nussbaum's "spheres of reflection". As a dominant medium, and one that is rapidly

progressing further as technology improves, there is a pressing social need to examine

the consequences of this influential medium and how to encourage caring as a central

aspect.

4.1.6 Conversations on Ethics and Video Games

Thankfully, as a reflection of the potential of integrating care ethics into game design,

there is a small but growing body of research into the broader topic of different forms of

ethics and how games may be informed by those forms. Prompted by a playthrough of

the PC game *Deux Ex* (Ion Storm, 2000), Miguel Sicart provides a comprehensive

overview of ethics and morality in games and the opportunity to increase ethical

awareness in players. He states that ethical gameplay is a moment of hesitation in

gameplay, when the player is "not applying social or strategic thinking" to obtain

specific goals or the winning condition(s), but rather a moment that forces "the player

to pause and apply ethical thinking in making a choice" (Sicart, 2011). Sicart later writes

that using wicked problems[4] can force players to engage their moral values in response

to ill-defined problems. Drawing from the game mentioned in [section ##), *Fallout 3*,

Sicart uses the Tenpenny Tower quest as an example (Sicart, 2013). In this situation,

players encounter a building in which two factions are vying for control of the Tower,

and the options presented are 1) eliminate the faction *outside* the tower, 2) eliminate

the enemies *inside* the tower, or 3) broker peace between both parties. While the third

option seems most ethical, the player later discovers that despite the player choosing to

broker peace, one faction breaks the truce and eliminates the other. Sicart writes that

[4] Wicked problems are a class of systemic social problems that are ill-defined, unmeasurable in scope, cannot be definitely answered nor understood to be solved, complex and symptomatic of multiple other problems, and entirely confusing (Buchanan, 1992)

without a clear narrative or system-driven signals, the player must make decisions based on their own internal understanding of ethics (Sicart, 2013).

Several frameworks have also been created to both conceptualize and assess ethics in games. Flanagan and Nissenbaum (2014) created the Values at Play methodology which consists of three parts: 1) discovery, where designers consider and decide the appropriate values to include, 2) translation, which seeks to translate those values into design schemes, mechanics, and actual gameplay, and 3) verification, which requires testing and quality assurance to the values expressed in the game are what was intended. Karen Schrier (2011) created a framework for conceptualizing and assessing ethical thinking in role-playing video games, specifically using *Fable III* (Lionhead Studios, 2010) as a case study. Her framework includes a model that has four categories: 1) reflection, 2) information gathering, 3) reasoning, and 4) empathy. The model also includes underlying motivations or "drivers" that interact with the four categories to affect how people think through ethical decisions while role-playing in video games (Schrier, 2011).

While there is minimal research on care ethics and video games, there are several scholars who have raised this specific convergence as a worthwhile area of study. Gene Koo and Scott Seider (2010) discuss the capabilities of video games for educators to foster prosocial learning using moral education, character education, and care ethics. By giving players the opportunity to inhabit the lives of others, they can encounter different perspectives. Koo and Seider (2010) argue that even games like *Grand Theft Auto IV* (Rockstar Games, 2008), which primarily support acts of aggression and pure

entertainment, can still offer moments of reflection. They admit that even with those moments of reflection, it does not mean that players will "make use of it, or even if they do engage in that reflection, change their beliefs and behaviours". Therefore, they support further research on whether moral learnings that happen in game can ever transfer from the gaming context into actual behaviour.

John Murphy and José Zagal (2011) specifically address care ethics and video games and how its inclusion should be reflected to better understand ethics in games. Examining two games: *Little King's Story* (Cing, 2009) and *Animal Crossing: City Folk* (Nintendo, 2008), they note how both make positive and caring relationships the central theme of gameplay and provide positive feedback for the development of these relationships. Murphy and Zagal recognize that caring relationships require the recognition of others as autonomous and independent, which is a core aspect of care ethics. They believe that applying a care ethics perspective could lead to better understanding of effects which promote ethically desirable experiences. This idea builds off of Markus Montola's (2011) writing that games can be designed for intense emotional experiences to achieve "bleed" where the thoughts and feelings of the player are influenced by the characters and vice versa.

4.2 From New Technology To New Ways to Experience Care

Care matters, and its recognition in healthcare, promotion as a field of ethics in philosophy, and complimentary to the already notable area of ethics in game design, has revealed it as a worthy area of study in relation to game design. However, when discussing the nature of design in games it must be acknowledged that technology plays

an integral part in bringing application of design methods into reality and creating a working and playable game. Therefore, when examining the integration of care ethics into game design, modern affordances of new technology are key to enabling a design for care into ISOE games.

The spectrum of immersive, simulated, and open-ended gaming has been particularly impacted by the development of new technologies, and improvement of the decades of existing technology and practices.

There are three significant technologies which, while having existed as a part of the game development process in various forms for decades, are improving and showing signals that indicate multiple design opportunities for the inclusion of care into ISOE games. These technologies are physics and simulation modelling, procedural content generation, and artificial intelligence.

4.2.1 "And Then the Grenade Rolled Down the Hill" – Physics and Simulation Modelling

In the early era of video games, the consoles and computers they were played on in the 1970s, 80s, and even into the 90s, had strict limitations in computing power. For example, *Pong* (Atari, 1972) used a physics model that could only solve the problem of how a bouncing white pixel would respond to digital paddles on either side of the screen (Baszrucki, 2011). In the decades since, various physics "engines" have matured to the point where individual strands of hair can be modeled in *Tomb Raider* (Crystal Dynamics, 2013) and pebbles and gravel respond naturally to player footsteps in *Uncharted 4: A Thief's End* (Naughty Dog, 2016). These physics engines model and

transfer real-world behaviour into the game world using proprietary software like Unreal and Unity and ever more powerful computer hardware (Arnason, 2008).

From a design perspective, more accurate physics and the resulting simulations that are more realistic enable a deeper sense of immersion by the player. Scott Miller, a developer from 3D Realms and a pioneer in the use of 3d graphics said "physics allows for environments and gameplay situations that aren't scripted", which, in turn, affords emergent, contextual, and personal gameplay by players (Economist, 2006).

An example playthrough of *Far Cry 2* (Ubisoft Montreal, 2008) is quoted below, and demonstrates how effective physics can be to a player's personal experience with an ISOE game.

> "I usually play Far Cry 2 in the mornings on the weekends because it's time by myself, nobody's really bothering me. I got some cereal, I'm in my jams and I sit down. I kind of had some funny dreams and I'm in a weird mood. I haven't played in like a month and a half. I start off in one of the houses and the female character, one of your buddies, she's in there. What's her name…? I can't remember but it was like Michelle, I'll call her Michelle that's a good name. So Michelle's there she's like 'hey Ben long time no see' (she doesn't actually say it's been a long time but I'm projecting that because it *has* been a long time since I've played). So she's like 'hey how's it going, want some help today?' and I just like nope and I turn around and walk out she goes 'okay well whatever Lone Ranger go do your own thing' so I go do my own thing for like an hour and a half but I feel a little guilty [about leaving her] but I'm not really thinking about it.
>
> Anyways I'm driving around doing random things for a couple hours and then out of the blue a car crashes into me and some asshole jumps out with a hand gun and start shooting me. Then another car shows up and my health is really low, so I figure I'll just drive away but I end up racing through a village and now three trucks full of enemies shooting at me start chasing me! I have almost no health left and I'm driving and turning and being all crazy and I go off a rock and I land in a tree and I get hit and they're shooting me and I thought I was going to die at the wheel. I'm like fuck, I hadn't saved like an hour and a half and I'm playing on [Playstation 3) so there's no saving unless you go to a house.

And out of nowhere Michelle comes and drags me out of this burning wreck! The guys are still shooting us and the car is on fire now and the grass around it is on fire but she's dragging me away [to save me] but then she runs back into the fire! She starts shooting at this guy and I figure I should try and help so I threw a grenade…and it literally rolled down the fucking hill. It explodes and the field is on fire and all the bad guys die but Michelle's in the fire and she's like 'no no no' and I see her look at me and die. I'm like 'no no no' and I try to bring her back by resuscitating her but it doesn't let bring me up the menu to bring her back. She's dead but I'm hammering the buttons while screaming for her to live and saying I'm so sorry I left you in the house.

Eventually I put the controller down and my character just stood there in the field, it's now scorched. I'm sitting on my couch in my underpants and I got my cereal bowl - it's empty – and I couldn't deal with this and I walked away from the game." (Idle Thumbs, 2012)

4.2.2 A World Without End – Procedural Content Generation

Procedural Content Generation (PCG) has existed as a tool in video game development since the late 1970's, and is, quite simply, content generated by software/hardware and by a formal, standardized procedure versus content created by human hand (Smith, 2015). One of the earliest and well-known games that relied on PCG was *Elite* (David Braben, 1984), a free roaming space trading game that used the PCG method of random number generation to create a very large universe that could run on computers of the era (Hendrikx, Meijer, Van Der Velden, Iosup, 2013). PCG has been used continuously since then, in other forms and being applied to different aspects of a game's design. For example, PCG techniques include generative grammars, image filtering, and spatial algorithms (Hendrikx et al, 2013). Games have used various iterations of these technologies to generate family trees in *Crusader Kings II* (Paradox, 2012), unpredictable levels in *Spelunky* (Derek Yu, 2012), and an entire universe in *No Man's Sky* (Hello Games, 2016) (Moss, 2016).

The potential of PCG is also its main criticism – that games which use elements of PCG lack character, meaning, and even instill a sense of loneliness (Brogan, 2016). Upon release, the above-mentioned *No Man's Sky* received intense backlash through what was an inability to deliver on the promise of an infinite universe via PCG (Brogan, 2016). It may seem that to design for care using PCG technologies is opposite to the intent of care, which is to create contextual and personal relationships.

However, there are signals from the gaming community that designers are taking note of the deficiency of PCG, specifically in the context of incorporating the player experience. Despite being a technical practice dating several decades old, one of the first comprehensive textbooks was only published in 2016, and in it the authors describe PCG and its application and limitations in adapting specific game mechanics (e.g. difficulty) to individual players (Shaker, 2016). As demonstrated earlier, video games can provide ethical reflection and powerful experiences when designed to be contextualized to the individual player. Yet PCG often fails to deliver these experiences through its dedication to strict, formal and statistical systems.

In response, some designers and researchers are proposing new PCG methods. Rogelio Cardona-Rivera writes of "cognitively-grounded" PCG, which would address the "[issue of] the lack of systematic exploration of the factors that contribute to what players understand as meaningful, in terms of structural properties of the content being created" using intelligent systems that would respond to the player's cognition and reconciliation of PCG with the video game itself (Cardona-Rivera, 2017).

As the video game development community begins to recognize these deficiencies, the potential of PCG may become unlocked to create digital worlds with "meaningful content rather than a vast variety of content" and "procedurally authored" experiences (Smith, 2015).

4.2.3 "Open the Pod Bay Doors, Hal" - Artificial Intelligence

Artificial intelligence (A.I.) most commonly appears in the public consciousness as either a science fiction trope or, increasingly, as the next great 'disrupter' technology. While notable instances of A.I. developed by Google, Microsoft, or IBM are well known for defeating human masters in boardgames such as checkers, chess, and GO, the A.I. used in video games is markedly different in scope and purpose (Byford, 2017).

Game A.I. is mostly created to be as intelligent as needed in order to provide the player with an enjoyable experience (Graft, 2015). It is employed most often to inform the decision-making made by non-playable characters on issues such as pathfinding and providing a challenging (but not too challenging) enemy to the human player and must fit the experience sought after by the game designer.

Game A.I. stands in contrast to academic or advanced A.I. methods and techniques, a distinction defined by the need for games to author experiences for an intended entertainment experience versus other fields where A.I. applications may include natural language recognition, autonomous functioning in military environments, or driving on public streets (Graft, 2015).

Game A.I. has existed since the early years of video games, being used in a simple form in *Pacman* (1979) to direct the 'ghosts' to choose to run away or to chase the player,

and later on advancing to become the core feature of games like *The Sims* (Electronic

Arts, 2000) and *Black and White* (Lionhead Studios, 2001) (Millington and Funge, 2016).

A recent example of game A.I. is the 'Nemesis' system in *Shadow of Mordor* (Monolith

Productions, 2015) that responded to individual player experiences and creating

enemies that 'remembered' and responded to previous interactions with the player

(Stuart, 2016).

Another recent and notable example is in the indie-game *Event[0]* (Ocelot Society,

2016), which tasked the player with uncovering a mystery set in outer space by

interacting with the ship's artificial intelligence, using the A.I. technology of natural

language processing. In the game, players would speak to the A.I. to accomplish actions

or gain information, and the game's ending was influenced on the amount of kindness

and empathy expressed by the player to the A.I. An example of such an interaction was

expressed by Julie Muncy (2016), who wrote:

> Around the middle of the game, a puzzle required me to exit the ship. As the
> airlock cycled and my spacesuit's life support system kicked in, I went to the
> nearby terminal and asked Kaizen to open the door to the outside. He refused. I
> pressed him, insisting that I had to do it to get us back to Earth. After all, it was
> his idea in the first place. As I pressed him, I realized the problem. He was
> scared.
>
> "You're worried about me," I typed. The machine responded: "When are you
> going to stop trying to convince me and start reassuring me?"
> "I'm going to be okay, buddy," I wrote. The airlock hissed open.

While continually being used in innovative forms, risks of poorly implemented game A.I.

exist, especially in ISOE games, in the potential to break immersion and disobey the

systems of the game world. However, game designers are recognizing that as this

technology improves and the previously divided game A.I. and academic A.I. converge,

the benefit to the player experience may outweigh the risks. A notable demonstration of game A.I. is found in the potential of improved player experience modelling (P.E.M.), which are models which predicts aspects of players in game situations via subjective (data expressed by players); objective (data gathered through observing various physical feedback mechanisms); and gameplay-based (contextual and behavioural data gathered through the interaction between the player and the game) (Yannakakis, 2012).

Regarding the design of care ethics into ISOE games, A.I. implementation via gameplay-based P.E.M. is most promising. By analyzing player actions and attempting to understand the real-time preferences of the player, a cognitive and emotional model can be formed. This methodology could construct a personalized model of player experience and tailor the game to the player's preferences, in accordance with the principles of care ethics [Figure 2]. The response of the player to those principles and the subsequent model may infer an understanding of care.
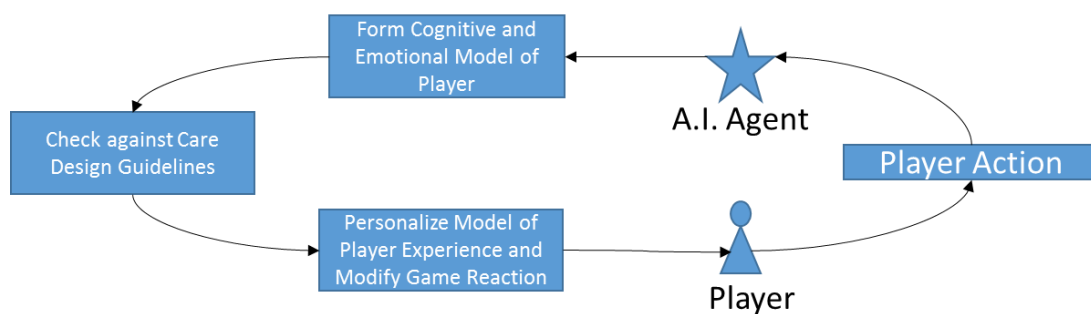
Figure 2: A Player Experience Model of Care

It should be noted that this is a form of technological generativity.

In Erik Erikson's stages of psychosocial development, he wrote of care being a stage in which generativity is the concern of guiding the next generation (Erikson and Erikson,

1998). He wrote that in the middle years of adult life there comes the realization that: "I am what survives me" (Slater, 2003). In caring, the parent's follow through and commitment to nurturing and growing a child imparts a sense of maturity and morality. Johnathan Zittrain adopted the term to include technology, whereby "the ability of a technology platform or technology ecosystem to create, generate, or produce new output, structure, or behaviour without input from the originator of the system" (Zittrain, 2006).

In other words, the video game platform and the inherent technologies afford a generativity towards an understanding of care removed from the structure of a parent-child relationship.

4.3 Game Design

Similar to the technical progress of video games over the past several decades, the concepts, principles, and practices of game design have rapidly expanded in richness and complexity. Integrating care ethics into the design of video games is an affordance granted by the growth and maturity in design principles and the game development process.

4.3.1 I Think, Therefore I Feel – Cognition and Emotion in Video Games

Care is often described as being inherently dualistic in nature. McCormack (2003) writes of care consisting of explicit (measurable) and implicit (unmeasurable) duties. In *On Caring,* Milton Mayeroff warns of maintaining a balance of care and a sense of trust to prevent caring too much (source). Virginia Held (2006) describes care as a practice (a progressive act including learning and trust) and a value (care should be recognized as

having moral considerations and expressed in states of relationships rather than personified in individuals).

This researcher proposes that care is also cognitive and emotional. Cognitive, in the sense of gaining knowledge and understanding of the cared-for and of the carer, and emotional in terms of gaining an instinctual and intimate experience of a caring relationship.

These principles of cognition and emotion are echoed strongly in game design, and therefore the potential alignment of designing for care can be strengthened by understanding current game design practices in these areas.

Beginning with emotion, it has long been a challenge to elicit the emotions desired for the game's design context, balanced with what they player may be seeking. In a 2004 study of multiple player types (hardcore, casual, and non-players) across over 40 different types of games, it was found that players seek to play to experience emotions they may not encounter in their daily lives, and seek to inhabit "altered states" ranging from excitement to fear (Lazzaro, 2004). If indeed players seek some form of altered emotional state, emotions must be considered as a core game design principle. In order to measure, model, and respond to player emotional states, Georgios Yannakakis and Ana Paiva (2014) write of the "affective loop", where emotions can be elicited by playing the game, detected by in-game systems, modelled via recording the player's response, and finally assessed according to the player reaction whereby the game makes adjustments to begin the cycle again. These emotions and the systems the games use to elicit them, can prove to be powerful especially when the game designers recognize its

elicitation as more than just entertainment and also for encouraging a greater sense of responsibility and the complexity of relationships. By creating a greater capacity for emotions in video games, the player may receive a richer experience and awareness of the "painful truths and wonderful things about being humans" (Isbister, 2016).

The role of cognition in video games, perhaps understandably, is approached with more practicality and rationality than emotion. A significant portion of games research literature in this area focus on the nature of games to enhance cognitive attributes such as memory, processing, and visual attention (Dobrowolski et al, 2015). Cognition is also recognized as a vital element to the enjoyment and immersive quality of video games, and the simplest and most overt depiction of this quality is the choice of difficulty (e.g. easy, normal, hard) offered to the player. Fang et al. (2010) include cognition in their tool to determine enjoyment of a game, through questions such as "playing this game or interacting with its characters(s) makes me more intelligent". From an ethics perspective, by presenting the player with a cognitive challenge or question, an overt understanding of the complexity and 'wickedness' (as defined in Section 4.1.6) of in-game 'problems' can be introduced.

Particularly in ISOE games, cognition and emotion are often bound together. A player may initially experience a learning curve as they struggle with understanding intricate mechanics and game systems. However, as they cognitively process and assimilate a knowledge of the game world, initial emotions of frustration give way to accomplishment, pleasure, and/or perhaps more appropriately, understanding. These

cognitive and emotional cycles are represented strongly in ISOE games, and create

natural design opportunities for introducing care ethics.

4.3.2 Why We Play – Context, Autonomy, and Attribution

In finding the proper form of care, one must first understand the interpersonal context

that exists. An excellent practical example is found in healthcare, where the context of

the patient and doctor relationship includes elements of self-determination, trust,

dependence, recognition of vulnerability, and communication, which all inform the

patient's personal context in receiving care (Nordgren, Fridlund, 2001). In very simple

terms, the doctor may ask the patient 'what do I need to know about you, in order to

provide you with the best care' (Thompson, Chochinov, 2008).

Similarly, video games and ISOE games in particular, are most effective when they are

designed to accommodate and exist within the context of the player. Within game

studies there are several examples of this concept. For example, Frans Mayra (2007)

created the Contextual Gaming Model that overlays the core gameplay experience with

the broader and immediate social and personal contexts, going beyond examining

player interaction with the video game by also interlacing personal and societal

contexts.

Game studies have also applied social psychology theories towards game design. Self-

Determination Theory (SDT) is a well-established theory that argues human beings have

three innate needs: competence, expressed through a desire to control outcomes and

experience mastery; relatedness, experienced by interacting and caring with others;

autonomy, to be in control of one's life (Ryan, Deci, 2000). When SDT is applied to

singleplayer video games, the games that have greater autonomy (and to a lesser extent

enable competence) are found to impact player enjoyment, vitality, self-esteem, and

mood (Ryan, Rigby, Przybylski, 2006). ISOE games respond particularly well to the

application of SDT through an increased sense of immersion via better simulations and

player autonomy through an open-ended game world. Attribution theory is

complimentary to Mayra's model and SDT in that it states player interest, effort, and

emotional reactions to a gaming experience are all positively increased through greater

player controllability (i.e. autonomy) and consistency and confidence in the game

world's systems (Depping, Mandryk, 2017).

These complimentary models and applied theories demonstrate a growing body of

evidence that game design which understands and reflects the context in which players

experience video games can significantly improve the play experience.

4.3.3 Designing Care into the Game Development Process

Modern game development has become incredibly complex, expensive, and requires a

vast array of talent such as artists, programmers, designers, writers, project managers,

administrators, lawyers, producers, community managers, media professionals, and

more (England, 2017).

This complexity is also described as "a balancing act between trying to create something

new and exciting and making sure you have the time and budget to get even a fraction

of your best ideas out there" (Amini, 2017).

Understanding video game development in this context one can begin to understand the challenge to also include designing to promote an understanding of care. Therefore, it is important to be strategic in this proposal.

Optimal points for inclusion of this additional design criteria could be in two areas: the concept phase and the post-launch phase.

During the conceptual phase, the basic game idea is being pitched. While much can change from the initial pitch to publishing a game, by defining care as having an important role at least at the initial stage, it stands a chance of being promoted as a concept that may survive and be interwoven into the following pre-production and production stages. This is particularly relevant in the development of multi-million 'AAA' video games that are produced under a great deal of corporate pressure to succeed financially.

The post-production phase also provides a key opportunity to intervene and promote/reinforce care as a design objective. Recent game industry methods regarding post-production support have expanded from bug fixes and gameplay tweaks to include much more wide-reaching changes that has led to the industry term 'Games As A Service' (GAAS) (Schreier, 2017). While this term can be more cynically referred to as a method to retain customers and promote a video game's monetary returns, the GAAS method may also be used to improve and increase a player's understanding of care by incorporating player feedback and offering new ways of experience with the video game.

5.0 Qualities of Care and Guidelines for Designers

5.1 Qualities of Care

An extensive review of the literature and multiple definitions of care were surveyed

from historians, ethicists, philosophers (feminist and other schools), and healthcare

practitioners. This list includes Carol Giligan, Nel Noddings, Milton Mayeroff, Madeleine

Bunting, Brendan McCormack, Virginia Held, and Joan Tronto.

The various definitions and descriptions of care were collated and groupings were

identified and isolated. Each grouping of the concepts and related terms were analyzed

for commonality. For example, in *On Caring,* Milton Mayeroff (1965) describes one of

the elements of care as "identity in difference", to describe the value of the individual

and the importance of recognizing that people must be treated as unique persons.

Madeleine Bunting (2016) speaks of a similar concept, describing care as attentive to

the needs of the individual. In developing the principles of person-centred care,

healthcare practitioner Brendon McCormack writes (2003) of the importance of valuing

authentic consciousness, which is a descriptor of a person's entire life experiences

including the person's mental, emotional, and spiritual selves.

Further, the auto-ethnographic and observational research was employed to play the four selected ISOE video games to assign ISOE game design elements that support the understanding of care. This was an iterative process and completed on a best fit basis. Figure 3 is an early demonstration of this process, while Figure 4 reflects a later progression that more clearly delineates influential factors and critical elements to design for an understanding of care in video games.
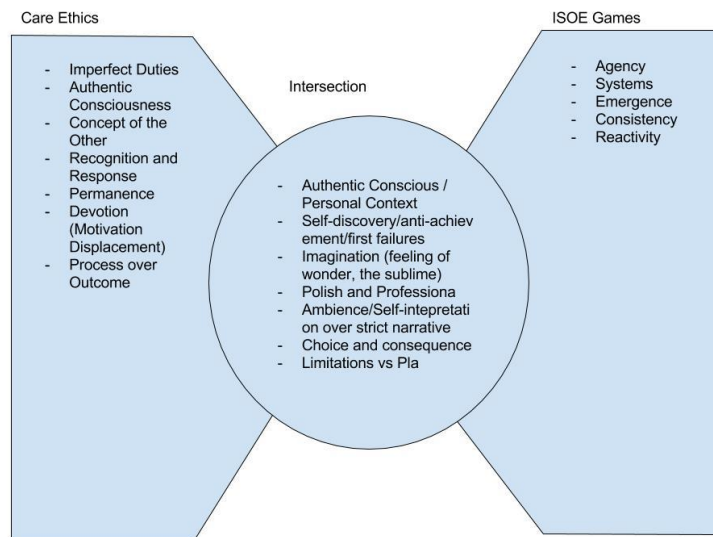
Figure 3: Intersections between Care Ethics and ISOE Games
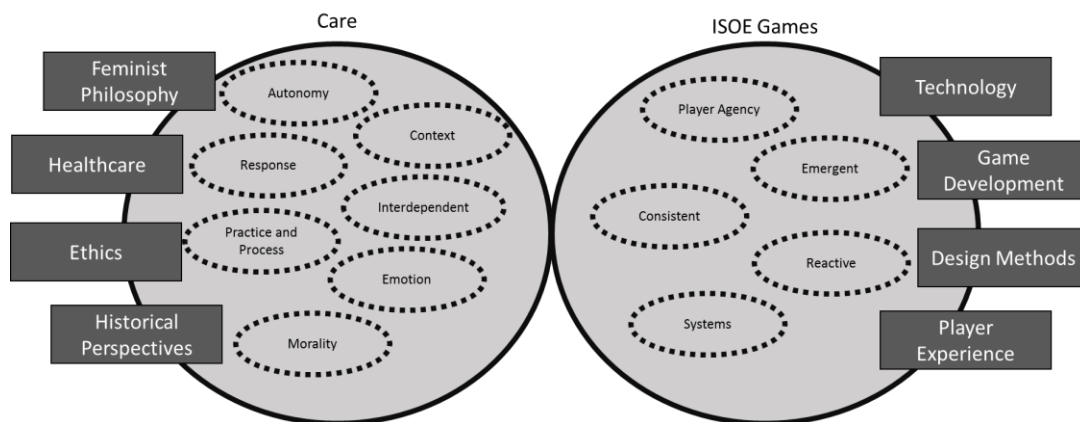
Figure 4: Critical Elements and Influential Factors

The researcher continued this process until a comprehensive list of the qualities of care

were created. Each quality was prefixed with the statement 'Care is…':

1) Care is Contextual
2) Care is Emotional
3) Care is Morality
4) Care is Practice and Process
5) Care is Responsive
6) Care is Interdependent
7) Care is Autonomy

As noted in Section 2.2, ISOE game design elements are:

1) Emergence
2) Reactivity
3) Consistency
4) Systems
5) Player Agency

5.2 Guidelines for Designers

The game design elements and the qualities of care were grouped into three clusters

centred on the original ISOE definition of being immersive, simulated, and open-ended

[Figure 5].
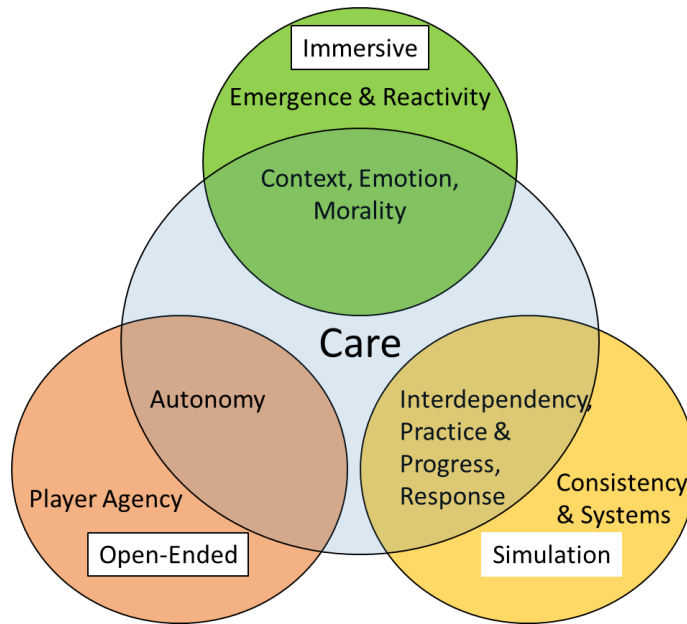
Figure 5: Care and the three Clusters

Each cluster begins with an overview, describing its ISOE quality followed by the associated game design elements and qualities of care.

The structure of each guideline is as follows: a one sentence introduction to the quality of care and then a slightly longer descriptive paragraph; a one sentence introduction to the use of the related game design elements to foster the quality of care and a more detailed explanation; a positive example from one of the four previously selected ISOE video games sourced from either the auto-ethnographic or observational research.

5.2 Cluster One - Immersion

The first cluster of design guidelines for care in ISOE games is centred on *immersion*. An immersive game results in players losing themselves in the experience of playing and associate personally with the game environment. The game design elements that align with this definition are *emergence* and *reactivity*.

In an immersive game environment, emergent design affords players to develop unique solutions that are personal to their context. In other words, in a manner authentic to their consciousness. A complimentary and associated game design element is reactivity, whereby player actions and solutions are reflected within the game world and further support the perception of actual player influence.

The care qualities most aligned to immersion and this set of game design elements are context, emotion, and morality [Figure 6].
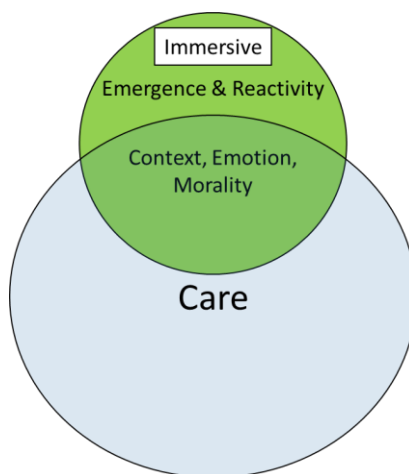
Figure 6: Cluster One – Care and Immersion

5.2.1 Care is Contextual

Caring for another does not imply the one caring knows what is right or wrong, but instead orientates the one caring to a particular way of being. By recognizing the beliefs and values of each other allows the caring relationship to be appropriate to the context. It helps places specific actions in the context of a person's life as a whole.

Even by simply thinking of the other, someone can gain a greater understanding of that person. This is a necessary process in order to understand the various elements that

have contributed to the unique context of the individual. It does not require an obsessive fixation, but rather only the attention necessary to understand the position of the other.

Use emergence and reactivity to recognize the context of players and afford increased immersion.

Emergence, at a minimal level, is where a video game provides the technical ability for players to manipulate the environment in complex ways. Items can be picked up, moved, and used according to their designed function but may also be used for any other function allowed by the game.

In *Prey* (2017), the 'GLOO Cannon' is a versatile tool that shoots quickly-hardening glue. It can be used for trapping enemies, but can also be used to forge new paths and entry into unexpected areas. This was a tool created by game developers for a specific function, but enterprising players quickly grasped it as a way to express their individuality and new ways of overcoming obstacles.

An ISOE video game with a game design element of reactivity can tap into a player's understanding of personal contexts through overt means. Characters in-game will respond to the player's presence, either from direct perceptions (seeing the player) or indirect perceptions (sensing actions performed by the player, like the breaking of an object).

By making the player think of the 'other', they may gain a greater understanding of that person. The more complex the reactions of non-playable characters and/or the environment, the greater opportunity for players to devote attention to thinking of the various elements that have contributed to the context of the other.

In *The Witcher 3: Wild Hunt*, NPCs would react to the actions of the player character in a manner contextual to their situation. For example, NPCs in poor and desolate areas may initially fear the player, but after charitable actions may instead praise the player.

Emergence and reactivity can provide some level of understanding of context, and may assist in the recognition that players are individuals and may afford the recognition of the individuality of others.

Example – Prey:

The video game of *Prey* has an interesting pedigree. The designers, inspired by games like *Deus Ex*, System Shock, and Thief, included game mechanics that sought to promote player freedom in seeking unique solutions to problems (Graham, 2017). As a result, Prey is a tale of two stories. The first is the day to day environment the player is placed in, which is a detailed and intricately designed space station (Talos I) that was inhabited by people with professional and personal lives. The second is a personal story, different for every individual player.

While playing the game I was obsessed with the setting. Before alien monsters eradicated all who lived there, it was a living, breathing environment. Now, it was filled with artifacts of those characters. Audio recordings told stories of characters who were

chasing professional accomplishments and yet were normal people who, in one case played boardgames in their spare time.

And then I came across the monsters. Inky, black creatures who could transform and mimic almost any item, ranging from coffee cups, books, and even trash cans. The wide-open setting had become claustrophobic. When I would re-enter spaces I had previously explored, I was constantly doubting whether that book was in the same place I previously saw it. Or, if in the corner of my vision that chair twitched.

While playing late one night, the tension caused by the game seeped into my real environment when a sound in my home caused me to jump reflexively.

However, the challenges and demands placed on me by the setting and creatures fed directly into the game's design ethos of presenting barriers with potentially unlimited solutions. When I encountered a locked door, I knew that I could address it in multiple ways. I could scrounge through personal belongings to find the key code, or I could use my tools to hack the door open, or I could backtrack to a space station airlock, don a space suit and bypass the barrier completely.

5.2.2 Care is Emotional

The cognitive nature of care is balanced with emotion. The concept of nurturing is powerfully centred in care, and most individuals first experienced care from a maternal relationship. In describing care, many may begin with the words 'I feel', and those feelings can include elements of vulnerability, courage, humility, satisfaction, frustration, and hope.

This is one of the more difficult qualities to define, but most understand its importance to delivering true care.

Experiencing authentic emotion is desirable and possible through emergent and reactive gameplay.

An increased level of emergent design may result in unforeseen and emotional gameplay by players. By manipulating game mechanics and systems in a manner particular to individual players can result in strengthened feelings experienced through personal play. In *Stardew Valley* (2016), the ability to immersive oneself in personal relationships means players can experience various emotions, ranging from courage and hope, to vulnerability and humility.

Games like *The Witcher 3: Wild Hunt* (2015), offer powerful narratives that have branching paths depending on player choice. These instances are meant to offer the player an ability to express emotions and experience feedback, and can impact player gameplay.

By recognizing the breadth and depth of emotions present in individuals and potentially directly experiencing in-game instances of care, as the carer or cared-for, presents a greater opportunity to understand care.

A higher level of reactivity means increased complexity in response to the player. Whereas a medium value of emergence granted the player the ability to project

emotions onto their actions in-game, to be reactive the game must project back an emotional response in reaction to player action.

The game would act in the role of the other, using an NPC or a situation in which the player is presented with an emotional reaction.

Example – Stardew Valley:

> Sometimes I open my Stardew Valley mailbox and there's a gift from my video game mother in there, something small that she thinks might be helpful or useful. I don't get to see my video game mother and I guess she's very far away in whatever soulless town it was I abandoned. The gifts are things like cookies and they come with small, unobtrusive notes, the sort that mothers write when they don't want to be getting under your feet. Every time I get a Stardew Valley gift from my video game mother, I think about my real world mother, who is very far away in a place that I abandoned and who sends me small, unobtrusive messages from the land of limbo. I think about her hopes for me.

> Down by the river, also outside of the village, there lives a woman called Leah. Like me, Leah has given up her previous life and moved to Stardew Valley to be an artist. She paints and carves, working day after day trying to improve, and she spends a lot of her time alone. She's humble about what she does and has nothing to prove to anyone, but I know what sort of things will happen if she spends day after day, week after week, practising her craft. She has a book on her bookshelf called "How to Deal with Overbearing People." I want this book. She puts on an art show in the village. People love her work. She also turns up at my house with a gift for me that she has made herself. It's like Leah the video game character knew something about Paul the person.

> I thank her and take the gift. I put it where everyone visiting will be able to see it. My dog sniffs at it and then runs headlong into a fence.

> Winter comes, the farm freezes and my breath comes out as clouds. I take care of some other tasks, go into the village and socialise a little more, though few people seem very different. It's not just the farm that's frozen, I realise, but the lives of Pelican Town. I start to think that what might seem like be paradise for some of the parents that moved there could be a perpetual purgatory for their children.

> Leah and I wed in the new year, as the farm is coming back to life. At night, when the fire grows dim, she says she thought no-one would ever ask her to marry them. You're telling me, I think.

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She sets up a studio and works tirelessly at her art. To my surprise, I wake one morning to find she's watered the entire farm. One day I will be able to afford everything I need to irrigate it, but in the meantime I work and I save and we get a barn and some animals. Sometimes my practical, diligent wife finds ways to help improve this ragged mess I have had the good fortune to inherit, like no boon I could ever expect in the real world. She never laughs at my big old television set and as the crops grow, as the cattle low and as the rain falls, we work every day and talk every evening of this sweet, blue bonnet spring. The seasons come, the flowers grow, and we build our farm as we build our lives (Dean, 2017).

5.2.3 Care is Morality

Morality contributes to the foundation of care. Using the example of parenthood, when a parent cares for a child it can be seen as encouraging a sense of right and wrong. If children fail to do what is right, a parent disapproves to gradually steer them into an understanding of proper moral behaviour. The success of this relationship in developing a sense of care can be viewed as a measure of a mature adult.

Guidelines for Designers:

Using emergence and reactivity can allow designers to impart a sense of morality to players.

Truly emergent gameplay allows for a player to express their individuality, consciousness, and morality. To enable the highest level of care in this manner a player must be allowed to express a moral perspective that may never have been contemplated by the game designers, but made possible through an implementation of technology like procedural generation or artificial intelligence.

In a game designed with high emergence, wicked problems may be encountered (possibly created by the game rather than the game developers) that have no possible

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solution. In this instance, players may be called upon to experience a sense of morality that can only mitigate a situation rather than fully solve it. This is reflective of a high and mature level of caring, where the carer may only be able to be present with suffering, rather than resolve it.

A game that highly values reactivity potentially offers an opportunity to demonstrate a strong sense of morality towards the player. By having in-game actions that specifically highlight a player's ethical perspectives and reacts in a moral manner can steer a player towards an understanding of right and wrong.

This is a rare instance where a highly valued game design element actually requires a form of greater prescription by game developers (perhaps in narrative form), similar to a relationship between a parent and child. This is potentially risky, as it would place game developers in a position of superiority or righteousness.

An alternative solution to a narrative and prescribed approach would be to implement a flexible system proposed in Section 4.2.3, that would record and respond to player moral action. This would be a form of technological generativity (also referred to in Section 4.2.3), with the benefit of a uniquely created moral scenario that hews to societal standards.

Example – The Witcher 3: Wild Hunt:

Beginning *The Witcher 3* was an intimidating experience. A game renowned for its depth of story and in-game content (i.e. what players can do) is almost legendary in the gaming community (gamespot source). On a sunny and warm summer day, I closed the blinds, moved a chair closer to my television, and started the game.

Over the course of 72 hours playing *The Witcher 3: Wild Hunt*, I came to realize that this is a game about meeting people. Some people I had lasting relationships with, and some I didn't. These are all people with whom I interacted and solved problems and worked for or worked against. The game has a core plot that runs throughout, but takes place in a landscape full of side quests that was consistently successful in drawing me off the main path, both figuratively and literally. The game continuously and purposefully obfuscates how the quests are connected. It doesn't tell you when things are important and it doesn't punish you for not completing optional quests, or rather if it does I never realized.

It's a game full of tough grey decisions where I didn't decide between good or bad, but I made the effort to lean towards the lesser of two evils. Sometimes the stakes are high but sometimes so low I felt I might as well have not been asked to make a choice in the first place. There are so many decisions to be made I stopped taking note of them. I lost sight of every decision because of the sheer number and variety of them. It is this complexity that made decisions in *The Witcher 3* feel legitimate. I developed relationships, made choices, and experienced consequences, usually during quests where the outcome felt unknowable and the results were mostly unexpected. This confused my moral compass, and made the world feel less rigid and predictable.

A significant example of this was when I encountered the 'Bloody Baron'.

I was in the region of Velen searching for my adopted daughter Ciri. It was a war-ravaged no man's land, with dead soldiers littered in the fields – the aftermath of a bloody war between two factions – and deserters hanging from trees, bags over their

heads, swaying gently in the breeze. Yet despite this horror and devastation, Velen is also a place of incredible natural beauty, of lush forests and rolling hills.

A local ruler, the Baron, knew where to find Ciri but wouldn't tell me unless I agreed to help find his missing wife and daughter. Physically, the Baron was my opposite. He was large and round, red-faced and with a long grey beard. Emotionally, his plea for help and care for his family resonated strongly with my efforts to locate Ciri. Over the course of time as I searched for his family and developed a relationship with him, his jokes and charisma slowly gave way to a darker personality.

I was searching the Baron's fort, Crow's Perch, to trace the missing family. What I uncovered was startling evidence of domestic violence. The wife and daughter did not go missing: they left after a drunken Baron assaulted his wife and caused a miscarriage.

This was jarring to my previous relationship with the Baron, as it turned out he was sheltering Ciri from forces seeking to harm her. In my absence, he was caring of her. Further, he talked of his wife and daughter with the deepest of affections, and I cared about him. But I could not reconcile this with his abuse of his family. Further, his actions towards his wife had greater consequences beyond emotional distress. The miscarried child was hastily buried, and like many things in the world of *The Witcher* had become a foul creature calling a botchling. These horrifying baby-like monsters sneak into the bedrooms of pregnant women and drink their blood. It was the most disturbing creature I encountered in *The Witcher 3*.

I had two options: I could kill the monster, or force the Baron to give the botchling a proper burial. I chose to make the Baron address his actions and bury it. This act of

redemption and care shocked the Baron into understanding the significance of his violent actions.

I went on to locate his wife and daughter, but the story ended in tragedy. The wife, rightfully seeking independence, was caught and killed by a murderous group of bandits before I could rescue her. I managed to save the daughter, but she was thoroughly disgusted with her father and rejected his desire for a relationship. Having lost everything, the Baron hung himself outside of his home. After almost 15 hours of building a relationship with the Baron, even despite learning the horrible truth, his sudden end was incredibly jarring. But, I had the information I needed to find Ciri. I went on my way.

5.3 Cluster Two - Simulation

The second cluster of design guidelines for ISOE games centres on *simulation*. In an ISOE video game, the game environment requires multiple simulated systems that model its corresponding original forms. These systems, whether representing artificial (e.g. appliances, structures, vehicles) or biological (e.g. nature or humans) should retain the audiovisual characteristics of the original object or person but also model its behaviours and react to inputs.

The game design elements that most align with simulation are consistency and systems.

In a simulated game environment, consistency maintains the authenticity of the simulation and restricts or prohibits instances of activities which break from the rules of

the game world. This helps bolster player responsibility, and serves to foster a recognition of a complimentary game design element: systems.

While many video games are scripted, an ISOE game and its in-game simulations relies on multiple systems that have characteristics that can be recognized and learned by the player. A simulation built on reliable and consistent systems aligns with the care qualities of practice and process, interdependence, and responsiveness [Figure 2].
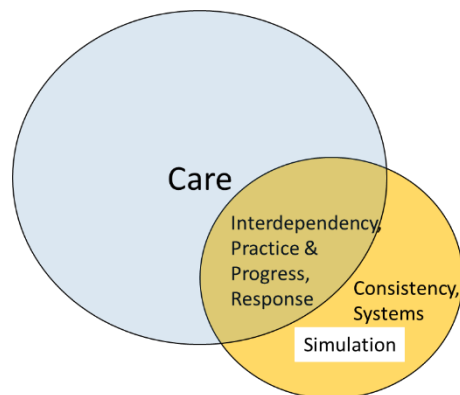
Figure 7: Cluster Two – Care and Simulation

5.3.1 Care is a Practice and a Process

When caring for the other, it is vital to keep in mind that it is not the end result that is important but the process itself. If the future becomes more important than the present, the act of caring becomes a mean to an end and is then meaningless.

Caring is not easy, and is a significant burden. It entails practical actions that are impossible to measure. It is also a constant unspoken negotiation between parties to determine the process authentic to the individual. It requires significant patience, but an active patience where one participates rather than being inactive or indifferent. An

example is when one listens within a serious conversation, where the cared for can say "the other person was truly listening to me".

Care can be curious as well, and engage both parties in challenging cognitive situations to determine the correct functional state to meet the needs of the other.

Guidelines for Designers:

Use consistency and systems to develop challenging but logical systems for players to interpret and act upon.

An ISOE game that has the game design element of consistency recognizes the importance of practice and process. A player may use a particular item or act in a certain way, and the expectation would be that the item or action yields a consistent result.

In *The Legend of Zelda: Breath of the Wild*, various shrines are located throughout the game world that are effectively rooms filled with puzzles. By requiring the player to perform consistent and cognitive actions may yield an understanding of the practical and persistent actions required when in a caring relationship. *Breath of the Wild* required the player to pay attention to their surroundings in a way that can be similar to the practice of truly listening in a serious conversation.

The use of systems in ISOE games requires in-game elements to have characteristics that define them at a global level. These can be manifested in systems such as crafting. For example, in *Stardew Valley*, a player must learn how to collect simple items in order to transform them into more valuable and complex items. These practical actions

encompass a broader cognitive process to address progressively more difficult challenges.

Example –The Legend of Zelda: Breath of the Wild

> Early in The Legend of Zelda: Breath of the Wild, I discovered a puzzle shrine containing a small maze. Inside that maze was a little ball. The goal, I realized, was to maneuver the ball out of the maze and slide it into a nearby funnel. To do this, I'd have to rotate my Nintendo Switch controller, using motion controls to turn the maze around and let gravity move the ball through each corridor. One wrong move and the ball would fall out, forcing me to start again.
>
> After struggling a few times to solve the puzzle thanks to Newton's dumb laws, I noticed that every time the ball fell, a new one would drop from a canister several feet above the maze. Then I had a wild thought. Just before a new ball dropped, I turned my controller upside down, flipping the maze 180 degrees. There was nothing on the other side, so I now had a nice flat surface on which to roll the ball. I slowly tilted the maze's newly exposed backside and dropped the ball right into the funnel, skipping the maze entirely. Boom. Puzzle solved. (Schreier, 2017)

5.3.2 Care is Responsive

Caring is like a rhythm, consistently swinging between intervention and receptiveness.

It is important to note that these are not exclusive states. Intervention involves receptivity in being responsive, and receptivity does not mean being passive. Caring requires trust, which means that sometimes care entails an intervention and sometimes it does not.

This rhythm must be maintained through a sense of devotion, attentiveness, and engrossment. A rhythm of caring resists a projection of oneself onto the cared for, and instead must be aware of the need of the other. It is a commitment to the other and to an unknown future, but it is not blind trust. By being responsive to care it is both a response to the other and to ourselves.

Cultivate true listening and meaningful responses by players through consistent and complex systems.

Increased consistency in game design can mean increased responsibility in a simulated game world. By requiring the player to react rather than passively listen, can entail a greater understanding of the care quality of responsiveness.

In *The Witcher 3: Wild Hunt,* the player must consistently pay attention to the environment and respond (or choose not to) to requests for assistance or need. By requiring the player to act consistently in order to integrate themselves into the game environment, even in a manner in which they choose, can promote awareness of the rhythm of intervention and receptivity.

ISOE games that have a moderate level of systemic design promote the ability of a simulation to model a living, breathing world. Players inhabiting this world can view the rhythm present in features like a day and night cycle, or villagers going about their business during the day and locking their doors and sleeping at night.

On a more complex level, in games like *The Witcher 3: Wild Hunt*, systems are responsible for the monsters that emerge at night (in response to certain variables) as are the corresponding systems required by the player to capture or eliminate them. To effectively interact with these systems, the player must engage on a cognitive level, learning at what points to intervene, or to remain passive. This sense of responsiveness highlights the importance for the player to understand those systems in order to switch between actions of intervention and receptiveness.

It is readily apparent that Breath of the Wild's success does not come from a lack of structure. The success comes from a lack of guidance. The game does offer a critical path with four main dungeons but it hardly encourages you to head down that path. Instead, you are dropped in a world full of landmarks or locations that call out to you. A shrine in the distance will promise a new reward. A tall mountain teases the challenge of climbing it. The ever present (and almost always visible) Hyrule Castle serves as a reminder that if you ever want to, you can stop what you are doing to change your course and set out to fight Ganon.

The existence of these things is one half of Breath of the Wild's success. These focal points can capture our attention and give us something to strive towards, a destination to push at through rain and monsters and sweat. But these destinations come secondary to the journey. Game designer Clint Hocking, known for Far Cry 2 and the Splinter Cell series, coined the term "dynamics" during a GDC talk in 2011. It refers to a meeting of mechanics and systems that creates meaningful play. Dynamics are the puzzle pieces that give us meaning. That allow us to imbue the game world with a sense of order and intentionality.

We might come across a broken down cabin, covered in arrows and crumbling from years of neglect and stumble further to find a large skeleton. A narrative begins to form about an epic struggle until, as if out of nowhere, a merchant arrives who turns out to be an assassin in disguise. We might ask, after we defeat them: "what drew them here?" and come to any conclusion we want. Perhaps this is where they come to sharpen their weapons against the bones of a fell skeleton. Maybe that run down cabin was their home. It is up to us to decide.

We might spot a magical creature in the jungle and dash after it only to find a deposit of rare minerals. Were they mischievously guiding us there or were they being drawn to another source of magic? We might come across a circle of stones and have the shadow of a cloud pass overhead. Did we disturb some long quieted spirits by entering the circle? It is up to us to decide.

Of course, the boring answer is that none of these things are truly happening. Not insofar as the designers of the game intentionally placed these assets where they were found in order to make us draw these specific conclusions. Instead, the dynamics of interplaying systems and a lush world allowed us to give meaning to these otherwise meaningless and random moments (Alexandra, 2017).

5.3.3 Care is Interdependent

As a counterbalance to autonomy and to reflect care as a personal interaction and relational, care is also interdependent. While having a sense of identity in caring involves an awareness of difference, that awareness between the other and ourselves results in a feeling of oneness. A caring relationship is sharing something that includes both parties. Being interdependent in caring can result in mistakes and errors in judgment, but is resolved through self-correction and openness. This includes a sense of recognition that one is caring, and response that one feels cared for. By caring, each party is completed in the other.

Guidelines for Designers:

Players will build complex and interdependent relationships with in-game elements if consistent and systemic design exists.

A video game that expresses a high value of the design element of consistency is not one that seeks the strictest measure of conformity, but instead one that forms relationships. A player can act as they choose, but a game that engages in consistent ways to increase awareness of an interdependence between the player and NPCs (or objects or other things) may result in a sense of recognition of that interdependent relationship.

A game that embraces systemic design is one that most likely utilizes advanced technologies and game design practices to model highly complex systems. These systems can be environmental, like in *The Legend of Zelda: Breath of The Wild's* use of fire, rain, and wind to influence player actions. Or, they can be used to model living,

breathing cities and landscapes with inhabitants that respond to the player and create challenging problems. The player may make many mistakes, but by learning the systems present in the simulation, mistakes and errors in judgement can make way for self-correction and an openness to the identity of others within the game.

Example – Stardew Valley:

When I stepped off the bus in Pelican Town. I had recently inherited a farm from my digital grandfather. It was a run-down, old structure with weed infested fields only occasionally broken up by the odd boulder. I realized farming would be hard. Naturally, I avoided it and started exploring the small, charming town. That's where I met Emily.

Emily introduced herself, and asked if I was the "new farmer boy". I was. I picked a daffodil and gave it to her, and she loved it.

In between the daily grind of farming and getting to know the townsfolk, I decided to work on my relationship with Emily. It was hot and cold. Sometimes she'd be too busy to notice me, while at other times she'd ask for my help with certain tasks.

Perhaps going a bit too far, I started standing outside her house in the morning holding a daffodil over my head.

Predictably, the relationship started going downhill from there. After intervening in an argument between her and her sister, I couldn't help but feel that in my pursuit of a relationship, I had missed the warning signs. Still, I kept trying. Not long after, the town had the annual spring Flower Festival. I thought this might be my big shot at dancing with Emily.

I'd been giving her daffodils as often as possible to make her like me (i.e. increase her heart score towards me) and I figured if I asked her to dance, she'd agree. When I finally asked her, the response was "Ew… No."

Things just weren't the same after the dance. I kept meeting Emily, but I started to realize she didn't seem particularly nice, to me or to other people. For example, one time I couldn't find any daffodils so I gave her a stuffed toy. She thought it was a stupid gift.

And that was when I realized I had way better things to do than chase someone who wasn't interested in me. It was time to move on.

I understand that *Stardew Valley* is a video game, and that all the characters in Pelican Town are coded to be a certain way. Emily is an artificial construct, and all that was required was for me to enter the proper inputs and I would (eventually) earn her favour.

But Emily's character was cleverly constructed and I was so immersed into the simulation that my experience was influenced by my context. After spending hours attempting to build a relationship with Emily, I realized that there were so much more rewarding tasks. I could build up my farm, continue fixing up the town's community centre, explore the village and make new friends.

The next morning, when my character woke and rose out of bed, I fed and pet my dog and stepped outside. It was a bright, sunny day. I was happy.

5.4 Cluster Three – Open-Endedness

The final cluster of design guidelines for ISOE games and care is centred on open-endedness. The ISOE quality of being open-ended is assigned the game design element of player agency. The quality and element are matched according to how they relate to each other. Being open-ended enables player agency, which is freedom of choice and movement within the game and affords control to the player to act as they wish. Tools and/or paths may be provided, but each player may address challenges or obstacles in their own unique way.

The care quality of autonomy encompasses the need to recognize individuality in care and experiencing the 'authentic consciousness' of the carer and the cared-for. This aligns with the ISOE quality of open-ended gameplay [Figure 8].
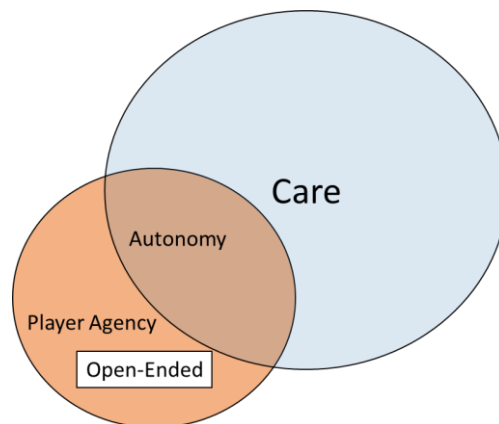

Figure 8: Cluster Three – Care and Open-Endedness

5.4.1 Care is Autonomy

In caring, the carer experiences the other person as 'other', or, apart from them.

Autonomy in care is important in order to have a more adequate awareness of the unique individuality of the one being cared for, and that of our own. To care for another

is to respond to this individual by accepting their uniqueness. The importance of this quality is realized by reflecting on times when we were experienced as a group, or merely a patient, to realize that regardless of whether or not we were treated with consideration, there was the feeling that the other person was not in contact with our authentic self. For example, this feeling can be described by saying, 'He looked right through me without even seeing me'.

Autonomy as a means of care requires decisions that reflect those that being cared for believe important about themselves, their values, and the world.

Finally, the act of care by the carer is itself an autonomous choice. Someone who is simply following caring practices may seem outwardly caring, but will lack the other attributes of care and will not inherently understand its importance.

Guidelines for Designers:

Recognizing and fostering the autonomy of players through player agency can instill an awareness of their own individuality and a respect for that of others. Player agency enables freedom of play and unique player actions. A game that is designed with a high level of player agency supports and encourages players to perform actions inspired by their individuality and with minimal or no direction from the game itself.

Player agency can craft an intimate attachment to the game world itself, where an absence of developer-favoured paths and areas result in discoveries and journeys that are personal and unique to the individual.

If a personal understanding of autonomy can be achieved through the implementation of player agency, it may follow that players will recognize the autonomy and individuality of others, contributing to an understanding of care.

Example – The Legend of Zelda: Breath of the Wild:

Nintendo describes *The Legend of Zelda: Breath of the Wild* as an "open-air adventure" (Otero, 2016). After playing 78 hours of the game, I am confident that I thoroughly 'adventured' through most of it. However, for all the depth of quests and things to do, it was striking that at times I found myself just being. There was particular joy of existing in the game world. The main objective was to defeat the evil Ganon, but the freedom in seeing a far-off location, travelling there, and then just enjoying the environment was a new experience.

A few dozen hours into playing I journeyed east, away from central Hyrule and towards the "Dueling Peaks," a massive pair of mountains that seemed as if they were cleaved in two. Through the soft patter of the rain and the calming stream of the river, I heard a song in the distance, and through the fog saw lights. I climbed a hill to get a better view, and there I saw a massive, wooden horse head lifting up from the top of a small structure. Gliding down, the music got louder, and I could hear the murmurs of speech.

A dog barked, and at that moment the sun broke through the clouds, lighting up not only the stable, but also the field of horses and ruins and strange machines that lay beyond it. I ended this night of playing by just lingering there at this stable. I fed the dog and cooked up some new recipes for myself. I spoke to the characters there and

laughed at their jokes (and sometimes, at their egos). I watched as a thunderstorm

slowly rolled in across the field. I've felt like an adventurer before, but this was the first

time that I've ever felt like an adventurer *at rest*.

5.5 A Model to Design for an Understanding of Care in ISOE Video Games

This study has examined the convergence of care and ISOE games. In creating the guidelines for game designers, an attempt has been made to demonstrate that an understanding of care can exist within ISOE games. This understanding may be conveyed to players by aligning the qualities of care with the corresponding design elements [Figure 9].
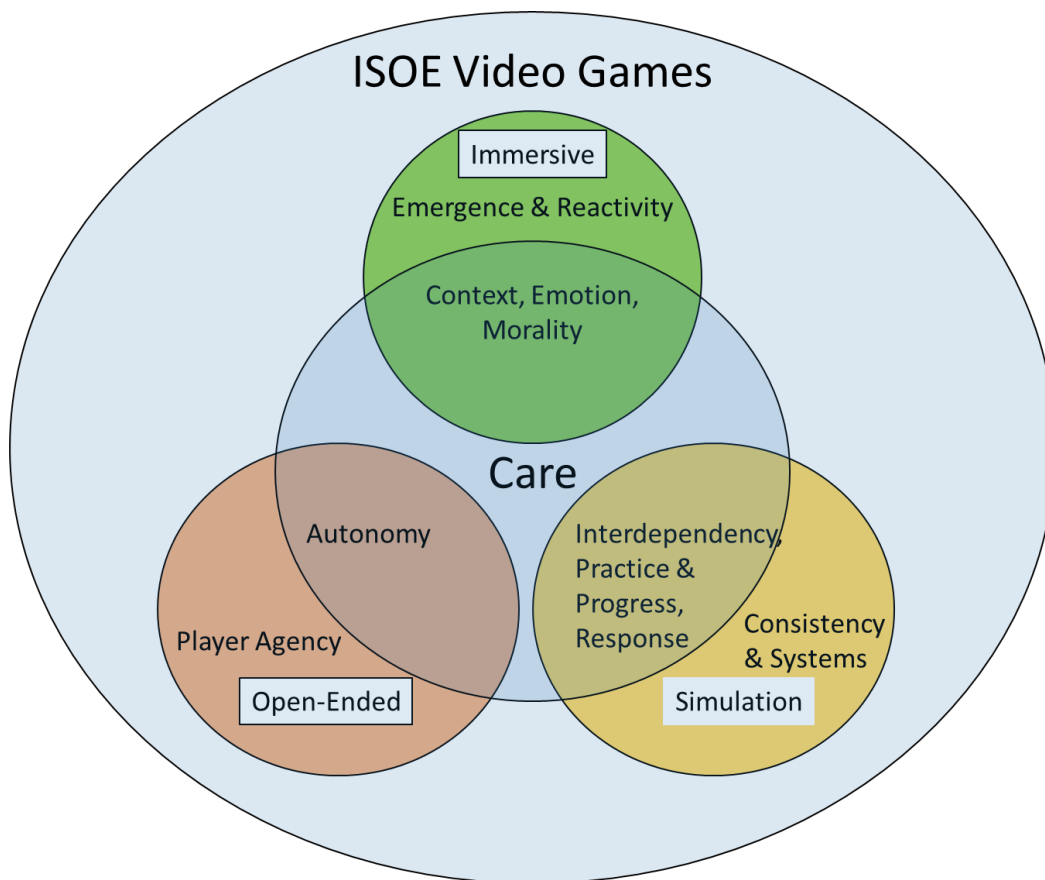
Figure 9: A Model to Design for an Understanding of Care in ISOE Video Games

6.0 Limitations and Future Work

This research focused on immersive, simulated, and open-ended (ISOE) games but it is acknowledged that an understanding of care may be designed for in other types of video games. Some care qualities such as emotion, morality, and practice and process and the associated care guidelines are also applicable to more linear narrative-based video games. This suggests that this research may also be useful in designing those types of games.

While design patterns were a useful method to inform the design guidelines produced in this study, it is acknowledged that a real-world application of these guidelines could involve a further iterative process greater than the context of this project.

There are potential risks in using care to inform design guidelines in games. As video games tend to be goal oriented, the goals of the game may become entangled with the desire to build interdependent relationships, for example. Further, other factors including time investments, character attachments, or fandom may be confused with caring.

Ethically, there may be concerns with video games that are too powerful at making players care. Playing video games can be, in some sense, practice for real-world experiences. Having play experiences that are valued more than real-world relationships has the same potential problems as designing artificial companion robots (Whitby, 2008).

6.1 Further Study

The games that were examined for this research focus on the relationship between a player and non-player characters. Future work could examine an ethics of care perspective within multiplayer games, as the relationships between people can be more varied and complex than those between player and non-playable characters.

It would be ideal to observe the use of these guidelines in practice to gauge their usefulness. The research in the development of these guidelines was focused on the design overlaps between the domain of care ethics and video game design, and qualitative research methods were used to identify the theoretical alignments between these domains. Therefore, quantitative research methods could be used in the future to validate and more accurately measure player perceptions of game design elements and qualities of care. For example, an anonymous survey of players of ISOE games and their experiences with care while gaming. Expert interviews with game developers would be valuable to determine the effectiveness and ability to integrate guidelines for designing care into video games.

Laboratory observation or similar experiments observing players in caring play could produce additional measurable information and provide distinction between expressions of genuine care or less complex, conditioned behaviour.

Joint research between academia and industry (i.e. game publishers/developers) may provide more insightful results that may also have the added benefit of supporting a business case for ethical play in mass-marketed and large budget video games. This

work would continue the trend of game studies being connected to industry (Deterding, 2016).

7.0 Conclusion

This research culminates with a set of guidelines to encourage designing for an understanding of care in video games. It is both a continuation of existing work, such as the study of ethics in video games and the importance of person-centred care in healthcare, but also seeks to advance an integration of these domains and take theoretical concepts to potential application.

At its core, this research underlines the importance of the ethical perspective provided by care, and how the potential of ISOE games to positively influence players may be increased by recognizing this perspective.

Most importantly, this research lends its support to affirming the value of care in the modern context. While care is an overused word, cropping up in many different contexts and forms of relationships, it has everyday ramifications to human life, where it is present in intimate and personal interactions within the family, as well as expected within many professionals, such as healthcare, education, and many public services.

Care is also complex. It entails practical actions, such as feeding the sick or washing an elderly person, but it is also about a quality of human interaction. Care is bound up with questions of dignity, respect, and empathy. It reflects the authenticity and humanity of the carer, and their willingness to nurture another's well-being.

One of the most explicit treatments of care in literature is in Faust by Johan Wolfgang Von Goethe (1965). The story tells of how Faust's pact with the devil brings him wealth and power. When an old couple are murdered under his rule, the appalled Faust is

confronted by Care. Care is depicted as an old woman, who calls herself the eternally

anxious companion. She chides Faust for never having known her, and blinds him. Her

denunciation brings Faust around to a general solicitude for his people. Goethe's story is

well known and the term 'Faustian bargain' is commonplace. But what has been

neglected is the pivotal role assigned to Care. She is a figure that intimidates and

provokes fear in those she encounters, and blinds those who don't recognize her. When

properly recognized, she ensures social harmony. The insights here are powerful. That

dependence provokes fear, and to refuse to care can be blinding, as it narrows the

understanding of one's own humanity and that of others.

Despite the modern work to rediscover the value of care, the care ethic has struggled to

break into public debate. Caring has taken a backseat to an emphasis on personal

ambition, drive, and recognition. The phrase "achievement society" describes the way

we have all been encouraged into a goal-driven hyperactivity (Han, 2015).

In the conventions of the achievement society, there is little room for care for oneself,

let alone the unpredictable demands of caring for another. Under this kind of pressure,

vulnerability is threatening, and if one cannot acknowledge one's own needs, one will

not be able to acknowledge that of others. Instead, being dependent and having others

dependent on you is feared.

Seemingly in contrast to the complexities and demands of modern life, video games can

be seen as a relatively worldly domain. Yet careful examinations of the mundane can

sometimes yield revelations. Therefore, video games and ISOE games in particular,

present an opportunity to re-introduce a holistic understanding of the value of care for

players. A means to assert the values of an ethic of care, which sustains our humanity.

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Appendix

A: Example of Raw Observational Data Scraped from internet forum

B: Example of Relevant Data Extracted from Scraped Data (Post Block)

C: Example of Journal Notations from Auto-Ethnographic Gameplay

Appendix A: Example of Raw Observational Data Scraped from internet forum (Excel Format)

url	Post Bit 1	Post Bit 1_	Post Bit 3	Small Font	Quote	Quote_lin	Post Bit 6	Post Bit 6_	Post Bit 6_	Right	Right_link	Post Block	Thead	Vb Menu (	Vb Menu Option_link
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http://www.neogaf.com/forum/showthread.php?t=1353597	FZZ	http://ww	Banned; Banned	(03-19-20)	Quote	http://ww				3	http://ww	I'm confused are you a developer? For who	FZZ	View Publi	http://www.neogaf.c
http://www.neogaf.com/forum/showthread.php?t=1353597	John Kowa	http://ww	Banned; Banned	(03-19-20)	Quote	http://ww				4	http://ww	Even developers can be wrong sometimes	John Kowa	View Publi	http://www.neogaf.c
http://www.neogaf.com/forum/showthread.php?t=1353597	OrbitalBea	http://ww	Member; Member	(03-19-20)	Quote	http://ww	https://as	OrbitalBea	http://ww	5	http://ww	Originally Posted by FZZ I'm confused are you a developer? For who Moon Studios (Ori and the Blind Forest)	OrbitalBea	View Publi	http://www.neogaf.c
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http://www.neogaf.com/forum/showthread.php?t=1353597	Glomby	http://ww	Member; Member	(03-19-20)	Quote	http://ww	https://as	Glomby's A	http://ww	7	http://ww	Originally Posted by FZZ I'm confused are you a developer? For who His avatar is a great hint ;)	Glomby	View Publi	http://www.neogaf.c
http://www.neogaf.com/forum/showthread.php?t=1353597	gschmidl	http://ww	Member; Member	(03-19-20)	Quote	http://ww				8	http://ww	Very interesting reading. Seems like for many open-world games, less should be more, allowing for more hand-	gschmidl	View Publi	http://www.neogaf.c
http://www.neogaf.com/forum/showthread.php?t=1353597	thomasma	http://ww	Member; Member	(03-19-20)	Quote	http://ww	https://as	thomasma	http://ww	9	http://ww	Originally Posted by OrbitalBeard The fact that you just wrote an entire essay specifically addressing BotW's fai	thomasma	View Publi	http://www.neogaf.c
http://www.neogaf.com/forum/showthread.php?t=1353597	Jack The N	http://ww	Banned; Banned	(03-19-20)	Quote	http://ww				10	http://ww	I just can't get passed the open world aspects of this game myself. I'd like to know what you thought of Far Cry	Jack The N	View Publi	http://www.neogaf.c
http://www.neogaf.com/forum/showthread.php?t=1353597	samn	http://ww	yuuuuup.; .	(03-19-20)	Quote	http://ww	https://as	samn's Av	http://ww	11	http://ww	BOTW actually gave me a big Ori vibe, for some reason.	samn	View Publi	http://www.neogaf.c
http://www.neogaf.com/forum/showthread.php?t=1353597	Bboy AJ	http://ww	Banned; Banned	(03-19-20)	Quote	http://ww	https://as	Bboy AJ's	http://ww	12	http://ww	These are good criticisms that I, as someone still playing through the game, haven't thought about. Having diffe	Bboy AJ	View Publi	http://www.neogaf.c
http://www.neogaf.com/forum/showthread.php?t=1353597	Sumio Mo	http://ww	Member; Member	(03-19-20)	Quote	http://ww	https://as	Sumio Mo	http://ww	13	http://ww	Originally Posted by FZZ I'm confused are you a developer? For who Director of Ori and the Blind Forest.	Sumio Mo	View Publi	http://www.neogaf.c
http://www.neogaf.com/forum/showthread.php?t=1353597	Soul of the	http://ww	Member; Member	(03-19-20)	Quote	http://ww	https://as	Soul of the	http://ww	14	http://ww	Originally Posted by OrbitalBeard The fact that you just wrote an entire essay specifically addressing BotW's fai	Soul of the	View Publi	http://www.neogaf.c
http://www.neogaf.com/forum/showthread.php?t=1353597	mlclmtckr	http://ww	Banned; Banned	(03-19-20)	Quote	http://ww				15	http://ww	I really don't think that BOTW was created with a 'fun per inch' type of philosophy, which is actually kind of wh	mlclmtckr	View Publi	http://www.neogaf.c
http://www.neogaf.com/forum/showthread.php?t=1353597	Chaos17	http://ww	Member; Member	(03-19-20)	Quote	http://ww	https://as	Chaos17's	http://ww	16	http://ww	Originally Posted by FZZ I'm confused are you a developer? For who This because I fail to see how this Lttp is f	Chaos17	View Publi	http://www.neogaf.c
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http://www.neogaf.com/forum/showthread.php?t=1353597	thomasma	http://ww	Member; Member	(03-19-20)	Quote	http://ww	https://as	thomasma	http://ww	18	http://ww	Originally Posted by Bboy AJ These are good criticisms that I, as someone still playing through the game, haven	thomasma	View Publi	http://www.neogaf.c
http://www.neogaf.com/forum/showthread.php?t=1353597	Conkerkid	http://ww	Member; Member	(03-19-20)	Quote	http://ww	https://as	Conkerkid	http://ww	19	http://ww	I basically agree on all points, yet it's probably my favorite Zelda of all-time, or at least on par with Majora's Ma	Conkerkid	View Publi	http://www.neogaf.c
http://www.neogaf.com/forum/showthread.php?t=1353597	CerebralTi	http://ww	Member; Member	(03-19-20)	Quote	http://ww	https://as	CerebralTi	http://ww	20	http://ww	Originally Posted by thomasmahler The Quick-Weapon switching with the 'Dpad' is all kinds of weird to me (the	CerebralTi	View Publi	http://www.neogaf.c
http://www.neogaf.com/forum/showthread.php?t=1353597	The Lamp	http://ww	Member; Member	(03-19-20)	Quote	http://ww	https://as	The Lamp	http://ww	21	http://ww	Your OP is 100% unrestrained truth. These are all things Nintendo should improve next time. Particularly dunge	The Lamp	View Publi	http://www.neogaf.c
http://www.neogaf.com/forum/showthread.php?t=1353597	Caelus	http://ww	Member; Member	(03-19-20)	Quote	http://ww	https://as	Caelus's A	http://ww	22	http://ww	From a development perspective, the identical shrines seem like an efficient way of offloading specific puzzle d	Caelus	View Publi	http://www.neogaf.c

Appendix B: Example of Relevant Data Extracted (Post Block)

Very interesting reading. Seems like for many open-world games, less should be more, allowing for more hand-placed content and less repetition. Even Witcher 3, probably the greatest open-world game we currently have, has certain types of quests that are always the same (kill all these dudes; find this chest; kill all these monsters and bomb their nest).

I really enjoyed Dragon Age: Inquisition, too, but I hope the takeaway from it and BotW is not that searching for literally hundreds of hidden items is generally acceptable content.

Originally Posted by OrbitalBeard

The fact that you just wrote an entire essay specifically addressing BotW's faults and yet you still consider it to be one of the best games Nintendo has ever made just shows how special this game truly is.

Most of your criticisms are totally valid too. The game is great, but there's tons of room for improvement moving forward. Can't wait to see how they improve on this formula for the next entry.

Absolutely, again, this isn't me trying to bash the game or saying it's anything less than an excellent experience, but it's still a worthwhile exercise to look at where the game stumbled or failed in order to learn from that and build something better. I had an insane amount of fun with BotW, so I hope people won't just cut this down to me ranting or trying to undermine the game.

I just can't get passed the open world aspects of this game myself.

I'd like to know what you thought of Far Cry Blood Dragon since a lot of it' missions have well crafted levels in the open world.

BOTW actually gave me a big Ori vibe, for some reason.

These are good criticisms that I, as someone still playing through the game, haven't thought about. Having different themed shrines would have been great. The game definitely could use more variety.

The world is big, yes, but that adds to the wonder. Fun per inch, as you put it, is like saying white space is unimportant in UI design -- completely wrong. There's benefit in having some nothing in the world. As you're starting out, the game is a big world for you to discover. At the end, sure, maybe you're jaded. But the sense of continual discovery I'm experiencing now is wonderful. Again, agreed on variety.

I also generally hate open world games. Full of nothing. Zelda is different. It has meaningful discovery and exploration imo.

Originally Posted by FZZ

I'm confused are you a developer?

For who

Director of Ori and the Blind Forest.

Originally Posted by OrbitalBeard

The fact that you just wrote an entire essay specifically addressing BotW's faults and yet you still consider it to be one of the best games Nintendo has ever made just shows how special this game truly is.

Most of your criticisms are totally valid too. The game is great, but there's tons of room for improvement moving forward. Can't wait to see how they improve on this formula for the next entry.

This.

I really don't think that BOTW was created with a 'fun per inch' type of philosophy, which is actually kind of why it's so good.

Originally Posted by FZZ

I'm confused are you a developer?

For who

This because I fail to see how this Lttp is from a dev perspective (I'm not against OP) but more like from a gamer point of view.

For example: a game dev will take a look at the quests and say "what could I do to make look like less fetch quests ?" or "Do my fetch quests will bore the players ? I don't feel I've put that many compared to Korok seeds" or "How could I balance my quests between normal, shrine or story?" etc

Just saying quests main flaw is fetch quests is so random, as "game dev" lol

Originally Posted by Bboy AJ

These are good criticisms that I, as someone still playing through the game, haven't thought about. Having different themed shrines would have been great. The game definitely could use more variety.

The world is big, yes, but that adds to the wonder. Fun per inch, as you put it, is like saying white space is unimportant in UI design -- completely wrong. There's benefit in having some nothing in the world. As you're starting out, the game is a big world for you to discover. At the end, sure, maybe you're jaded. But the sense of continual discovery I'm experiencing now is wonderful. Again, agreed on variety.

I also generally hate open world games. Full of nothing. Zelda is different. It has meaningful discovery and exploration imo.

This is hugely important. As long as it doesn't drastically detract from your ability to actually reach points of interest, this kind of spacing can be highly valuable.

Originally Posted by Bboy AJ

These are good criticisms that I, as someone still playing through the game, haven't thought about. Having different themed shrines would have been great. The game definitely could use more variety.

The world is big, yes, but that adds to the wonder. Fun per inch, as you put it, is like saying white space is unimportant in UI design -- completely wrong. There's benefit in having some nothing in the world. As you're starting out, the game is a big world for you to discover. At the end, sure, maybe you're jaded. But the sense of continual discovery I'm experiencing now is wonderful. Again, agreed on variety.

I also generally hate open world games. Full of nothing. Zelda is different. It has meaningful discovery and exploration imo.

Have you finished it? I completely agree that the white space is very, very important and ALTTP as well as Zelda 1 or Links Awakening have a lot of that too, but even in that white space, they usually managed to put little secrets like lifting a bush to find a hidden cave or other cool things in there. With this open world design, it often goes way too far and you just end up with vast landscapes of you just running and climbing with little to no interactivity.

There's a very fine line between 'white space' and 'white space that feels like wasted space'.

I basically agree on all points, yet it's probably my favorite Zelda of all-time, or at least on par with Majora's Mask.

And despite defending the durability system myself, I've personally been recently having the problem where enemies have a ton of health because apparently there is scaling in the game based on how many you've killed, yet archers who can deal 10 hearts of damage to me continue to drop 15 damage bows, and melee enemies who deal 10 hearts of damage to me continue to drop 25 damage melee weapons. It feels like the enemy difficulty scales disproportionately from the gear they drop, so if you're someone like me who did a lot of side content before the divine beasts, attempting to get through the Death Mountain portion is a major hassle, because almost all of the enemies there are archers, and with the amount of side content I had done, they had scaled to the point where they could one-shot me, yet the bows they dropped still only dealt around 15 damage.

Originally Posted by John Kowalski

Even developers can be wrong sometimes

You didn't read his post.

Appendix C: Example of Journal Notations from Auto-Ethnographic Gameplay

Witcher 3 Gameplay Session #17 – July 7
- Vesemir asking if I want to talk – I have the choice to acknowledge or dismiss
- Began a quest to search for items found in forest – ended at herbalist's hut. Discovered sick woman – can choose to save (using herbs that may heal her while putting her in excruciating pain) or hope she can fight her way through the illness on her own. I chose to give her the herbs, but she ended up screaming in agony. I couldn't bear it and had to leave the hut.
- Use of word 'care' has popped up in several conversations, but not highlighted as important, just words in the script
- Frustrated by game controls
- Ended the game session watching the sunset. It was very peaceful.

Witcher 3 Gameplay Session #18 – July 8
- Completed several minor routine quests. It felt like work, but I noticed that the gratifying effect of helping several individuals had brought back life into a small village.
- Experienced a gut-wrenching moment – I accidentally condemned a man to death. A merchant was the victim of arson, and I agreed to help him track the perpetrator. I found him, but felt pity because he was responding to the loss of his family in the war-torn region. I brought him to the merchant to apologize and make amends, but the merchant quickly called the guards who sentenced him to death. They ignored my pleas for clemency.

Witcher 3 Gameplay Session #19 –July 9
- Only had time for a quick quest today – helped a man find his brother in the aftermath of a great battle. Very graphic scenes of war and loss.
- Found the brother using the family dog. The dog was audibly sad during the absence of the brother, but through a combination of my tracking abilities and the dog's sense of smell, we found the brother alive.
- But there was a complication – the brother survived because of the actions of a man from the opposing army.
- The man saved the brother, but because his side lost he was now adrift in a region where he would face death if discovered.
- After seeing what I saw on the battlefield, I argued for his survival. I was successful, but it caused a rift between the brothers.

Witcher 3 Gameplay Session #20 – July 10
- The current region I'm in reflects a strong sense of 'care-worn'. People are tired. There is little happiness. The feeling can become overwhelming, if not for the small acts of care and compassion that the game affords.
- I have to be careful in my actions – things are not always black and white. Where I may care for one character, it may upset another.
- After I signed off in my last gameplay session, I was morally and intellectually exhausted.

Image: Dogmeat and Player (Fallout 3)