A golden, ornate robot with intricate mechanical details and purple accents stands in a lush, green field. The robot is positioned on the left side of the frame, looking towards the right. In the background, there are rolling green hills and snow-capped mountains under a dramatic, cloudy sky. The overall scene is bathed in a warm, golden light, suggesting a sunset or sunrise.

Are You Ready For Something New?

*How you play changes who you are,
and the story you tell.*

An Exploration of
Ludo-Narrative
Consistent Game
Systems

An Exploration of Ludonarrative Consistent Game Systems

By

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Recomendation 0

This is a supporting document to a Videogame Prototype. I recommend playing the prototype prior to reading.

You can access the prototype here:
<http://bit.ly/LudonarrativePrototype>

Abstract 1

Video games are increasingly seen as a meaningful form of art and storytelling. A common critique of video games is that the player's in-game actions can easily become disconnected from their character and the storyline, referred to as Ludo-narrative dissonance. To date, no published academic research has been carried out on how to avoid Ludo-narrative dissonance from a game systems level. Yet, the development of Ludo-narrative consistent game systems have the potential to enhance gameplay and player satisfaction. The aim of this research was to develop a prototype ludo-narrative consistent game system, and to explore the design requirements, strengths and challenges of this prototype system. This was achieved through the development of a prototype video game. The prototype incorporated a trait system that assigned personality traits to the player character based on their style of gameplay, consequently altering the storyline in a way that was aligned with the player's actions. This prototype was user tested by twenty-one participants, who were recruited via convenience sampling. The participants played the prototype three times, then completed an anonymous survey on their experience of playing the game. I observed their play remotely via Zoom and was available to them for answering questions. The prototype was updated based on my observations and user testing survey responses. The prototype development process, my observations of user testers, and the survey results, provided unique insights into the design requirements, strengths and weaknesses of the prototype

trait system. My research illustrates that narrative systems and game mechanics are closely interconnected in the development of a trait system. Furthermore, my research shows that when implementing a trait-based system it is important to consider the following design requirements, including; trait interaction, action weighting, mechanical cohesion and consideration of player intentions. User testing observations and survey results highlighted some design challenges that provided insights for the improvement of the prototype. One insight was how the mechanical difficulty of the game affected the assignment of traits, making some personality traits easier to achieve than their counterparts. This was addressed by increasing the difficulty and adjusting the action weighting of opposing traits. Another insight was from situations when participants falsely attributed certain play behaviours to the traits they were assigned. These false attributions provided additional ideas for the updated prototype. In conclusion, this research contributes to the overall body of knowledge in game design, by illustrating the design requirements, challenges and strengths of a prototype Ludo-narrative consistent game system.

Introduction 2

The video game industry is one of the biggest, fastest-growing entertainment industries in the world, and it is increasingly seen as a meaningful form of art and storytelling (Picucci, 2014). However, many of our narrative systems and structures are pulled from or influenced by other forms of media. This pulling from different media can have both benefits and costs. For example, the “One Shot” film technique translated exceptionally well to the video game *God of War* (2018) creating a greater sense of reality for the player and encouraging their attachment to the characters. On the other hand, the use of dice rolls in a conversation, from the medium of Tabletop Role-Playing Games (TRPG), does not translate as well to the medium of video games. In a TRPG, a human judge can actively rebalance and change the experience for the player in real-time. In contrast, in video games, we currently can only have a static list of responses and reactions (Spector, 2013). Moreover, this problem of structural fit in video games seems to suggest that either brand new or adapted narrative systems can

emerge specifically for video games (Schell, 2013). Within my research, I aim to explore how game designers can implement narrative systems that increase player-engagement and support storytelling within the medium of video games. I propose to do this by creating illustrative examples of such narrative systems within video game prototypes.

Many video games strive to give the player a combined sense of narrative presence, a player avatar(s) that in some way embodies the player, and narrative agency, a level of player control over the narrative. Furthermore, some video game studios have made this aspect one of the primary foci within their games, e.g. Bioware with their *Mass Effect* (2007; 2010; 2012; 2017) and *Dragon Age* (2009; 2011; 2014) series, or Obsidian entertainment with their *Pillars of Eternity* (2015; 2018) series. However, combining narrative presence and agency can often conflict with the narrative told via the gameplay. This conflict can have the effect of undermining the goals of the narrative and distancing the player from the story. To elaborate, a game narrative that

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overtly portrays the player character as a pacifist, but then involves violent and brutal combat mechanics inherently undermines the narrative. This conflict is known as Ludo-narrative Dissonance (Seraphine, 2016). A potential solution to this dissonance could be to combine both narrative agency with gameplay agency. By intertwining a player's gameplay decisions with the narrative outcomes presented in the video game, we can achieve this synthesis of narrative and gameplay, creating a ludo-narrative consistent game system. For example, a player overtly playing in a cautious way could lead to their player-character being treated as cautious, reinforcing the cognitive link between the player and the player-character. This reinforcement could allow for greater player involvement in the narrative and increase the likelihood of both the player role-playing within the game, and replaying to explore different narrative and gameplay outcomes (Franklin, 2019; Hudson, 2011).

Moreover, this could also solve the problem of players gaming narrative for optimal outcomes. To illustrate, sometimes player's desire for specific gameplay outcomes can create an unconvincing or inconsistent player-character, story or world. An example of gaming narratives could be an outwardly good player-character who suddenly commits horrendous crimes then returns to normal because the player wanted a particular item; this moral flip flop creates an issue in the game world. Most narrative structures cannot currently deal with this type of internally dissonant character. For example, in *Fable* (2004) moral actions were attributed good or bad points and the sum of which affected how the player-character was treated, meaning the game treated a good character who committed the occasional murder as a good character. This type of narrative inconsistency has the potential to undermine the player's belief in the game world as a whole. Therefore, by allowing player actions to determine how the player character evolves, you can avoid this internal inconsistency altogether. Additionally, such a system has the potential to prevent designers from unintentionally gamifying their narratives and causing conflicts between a player's desire to roleplay and the player's desire to succeed (Sawyer, 2012). Thus a system

that achieves this synthesis of gameplay and narrative agency could be highly beneficial to game designers interested in maintaining player engagement in narrative and encourages harmony in a designer's and players' intentions.

This leads to my research question:

What are the design requirements of a ludo-narrative consistent game system, and what are the strengths and weaknesses of this system's implementation?

Methodology 3

Research Aims

To develop a ludo-narrative consistent game system and to explore the design requirements, strengths and challenges of this prototype system. Developing, iterating and testing a prototype ludo-narrative system has the potential to offer insights on how to design narrative as a cohesive whole in games and to show ways of improving future narrative experiences in games.

Methodological Approach

The most appropriate methodology for my research aim is research through design. The research through design approach involves the creation and assessment of artefacts or prototypes. In this approach, the process of creation is as important as assessing the results in creating design knowledge (Lois & Martin, n.d.; Stappers, 2007; Stappers & Giaccardi, n.d.). To test and evaluate the ludo-narrative consistent game system, it is necessary to have a concrete example for users to test and evaluate. Therefore, the creation process and assessment of video game prototypes is an appropriate methodology for achieving my research aims (Manker & Arvola, 2011). Creating these prototypes and reflecting upon the design process has the potential to lead to design insights. Additionally allowing players to test and provide feedback for these gameplay prototypes can help with the development

and improvement of ludo-narrative gameplay systems. This research approach will allow for further insights into game design by having the final prototypes tested by participants to determine the prototypes' success in achieving my intended goals.

Research Methods

Prototyping

Prototyping was used to create and test potential implementations of a ludo-narrative consistent game system. These prototypes entailed small enclosed narratives that were influenced by the player-character's actions, which were dictated by how the player chooses to play from moment to moment. The narrative and ludic aspects to be explored in the prototyping stage were:

- player intention
- narrative agency
- dialogue
- player-character
- story development
- combat and movement as predictors of player-style or attitude

The number of prototypes and iterations was time-dependent and was dependent on the size, scope and quality of the initial prototype. Time constraints meant that a single prototype was developed with two iterations. Time constraints allowed for the user testing of the first iteration and not the second. The goal for the prototype was to create an action and narrative game experience roughly ten minutes in length, that allows the player to play repeatedly in different ways to get different narrative results.

User Testing and Observation

The user testing process was originally to be face to face at a private university computer. This setting was chosen to create a friendly atmosphere where the participants could be offered Koha in the form of coffee, tea and snacks. Face to face user testing also had several benefits for the research. I could answer any questions the participants had at any point during the testing. Furthermore, I could receive any moment to moment feedback they had that might be outside the bounds of the survey. I did not prompt them or ask them any specific questions while they were playing. However, I was available to speak with them or listen to them if they chose.

Additionally, this setup was chosen so that I could watch the gameplay section of the testing to observe their gameplay patterns. For example, I could observe how players interacted with the world, where they got stuck or confused, and their overt reactions to different parts of the game. My observations were intended to inform various design decisions on further iterations of the prototype. Also, it was a safeguard against any unintended bugs that could halt gameplay.

Lastly, the final core benefit of this setup was so that all users had consistent experiences of the visual fidelity and responsiveness of the prototype, for example, identical frame-rate, input latency and resolution. This consistency of experience would mean greater accuracy when asked questions concerning either the visual fidelity or mechanical feel of the prototype. Moreover, from a development side, it meant building the prototype to be optimised for a singular system. Thus requiring less development time overall to test the prototype on a range of machines and potentially allowing for more iterations overall.

One final aspect of the user-testing was that participants were asked to play the prototype three times and attempt to play in different ways. This was to allow users to see different narrative configurations and different permutation of the game systems. The idea was that with additional playthroughs

Methodology 3

users would understand the systems involved better, and would be able to report on their efficacy better.

User Testing changes due to Covid-19

Covid-19 lockdown occurred just before the testing phase of the prototype. Thus significant changes to both the testing process and the prototype had to be made. The original intention of having the testing process at the university meant that the intended build target for the prototype was a specific high-end gaming computer. However, this was no longer an ethically feasible option; thus, we developed a couple of ways of remote user testing. Firstly, I integrated the unreal engine's experimental pixel-streaming feature using one of Google's free TURN servers. This feature allowed people to play the game remotely using their internet browser while the game ran on my home machine. This method of remote testing was useful because it allowed users on a variety of machines with a range of operating systems to participate in the user testing. However, this method was limited severely by users' internet connection. To elaborate, whether or not they had an ethernet cable, a fibre optic connection or how close they were to me. A poor connection led to extreme delays between player action and gameplay reaction. The standard action-reaction window is measured in milliseconds; thus delays of half a second to even multiple seconds was intolerable for testers. Therefore, this was not a feasible option for those with poor internet connections, people outside of Wellington or only on Wi-Fi. Additionally, due to how the browser captures control inputs, the users of this method could only use mouse and keyboard to interact. In contrast, users playing locally had the option of a controller.

Therefore I also developed a second option for remote testing. Here I built in an options menu for various scalability features to the prototype. These scalability features would allow users to significantly adjust the visual fidelity of the prototype so it could run satisfactorily on a broader range of systems.

However, this also had the limitation of not being runnable on operating systems other than Windows due to how the unreal engine building process works. Additionally, this second approach still required a higher-powered machine than a standard laptop. Therefore these two approaches combined allowed for the broadest range of potential user testers. These two remote approaches plus a Zoom meeting allowed for most of the initial user testing set up to stay in place, particularly the answering of questions and observing gameplay via screen sharing. Of course, developing these two methods added significantly to the overall production time and required significant software and hardware changes.

Initially there was to be two phases of user-testing, one phase for the first iteration of the prototype and another phase for the second iteration. However, due to the added time constraints and the added difficulty of recruitment, there was only time for three users in the second round of testing. To account for this small number of responses, phase two's responses have been added to the first phase in the results figures where the aspect they are responding to has not changed between iterations. Conversely, if the aspect they are reporting on has changed, their answers have been removed.

Sampling Method

I used convenience sampling via word of mouth, Facebook and student mailing lists to recruit user testers. I recruited participants during level 3 and 4 Covid-19 lockdown. I chose this sampling approach to reduce barriers to participant recruitment at this time. This sampling method had the result that I primarily recruited gamers, as those were the people who were most interested in the project. I recruited twenty-one user testing participants in total. Nineteen reported that they considered gaming to be a hobby, and two did not report that. There were potential benefits to many participants having gaming experience because it allowed them to directly compare the new systems shown in the prototype with alternative systems they had

experienced previously.

I wanted as few barriers as possible for people to sign-up, so I did not want to add any excessive requirements to participation. The one ethical condition I had on participants was that they were over the age of eighteen because there was no need to include minors in this research.

Before Covid-19 restrictions were put in place across New Zealand, I had initially intended to place posters around the University as part of this method of recruitment. This method of recruitment became unfeasible when Covid-19 restrictions occurred. However, I used a digital version of this poster when advertising via Facebook and student mailing lists.

Quantitative Surveys

I used a quantitative survey to ask players about their gameplay experience. The survey asked each player about their experience of the prototype gameplay and narrative, their attitude towards different aspects of the prototype, and what they would choose to improve in the prototype (Creswell, Brühlmann, & Mekler, 2013). I then compared the players' responses. The survey used Likert seven-point scale to attempt to ascertain participants feelings about specific aspects of play.

Pooling the positive and negative responses to the various aspects of the prototype was also intended to inform how the prototype could be iterated upon.

Research Objectives

1. Prototype a ludo-narrative consistent game system within a video game.
2. Survey players on their play experience of the said prototype.
3. Reflect upon my own design decisions and their associated drawbacks and benefits.

Design and Literature Review

4

How narrative and player agency interact in video games

The main themes of this review are Narrative Structures and Narrative Agency. Narrative Structures are how narratives are built within games, and some of the systems used to express these narratives. Narrative Agency is the level of control a player has within those structures and systems. It is essential to note from the outset that these two aspects are closely linked and thus talking about one often necessitates talking about the other. Moreover, for the purpose of this review player engagement and increasing the player's interest in the narrative are taken as good design; and the validity of such an approach is outside the scope of this review.

Narrative Structure

Picucci (2014) gives a useful ontology of the various types of Narrative Structure within videogames. He defines these as Pre-established, Discovery, Sandbox and Computer-generated. Pre-established

Narrative Structure is where there is a set sequential series of events. Discovery Narrative Structure varies the pace and delivery of the narrative based on the player's actions. Sandbox Narrative Structure is similar to Discovery yet gives the player more means of interaction and a higher variance of possible responses. Lastly, Computer-generated Narrative Structure is created based on the interactions between systems and mechanics within the game. It is important to note that any individual game's narrative could be based entirely within one of these structures or different sections of a game could be divided into separate structures. Moreover, these structures do not have hard edges. The definitions exist on a spectrum of interactivity, reactivity and determinability of the narrative; thus, any one game may contain multiple or a blend of these structures.

There are many different explicit and implicit systems of narrative delivery within the medium of video games including dialogue systems, environmental storytelling, cinematics, item descriptions, audio logs,

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in-game encyclopedias and more; even the individual game mechanics themselves can assist in narrative delivery. Game mechanics defined here as the ludic (play) rules, systems and activities the player may take part in or interact with during gameplay (Boller, 2013; Fabricatore, n.d.; “Game Mechanics,” 2020). It’s important to note that the boundaries between a system or mechanic being strictly ludic or strictly narrative are blurred, meaning any one mechanic may have both ludic and narrative aspects. For example, the audio log is generally classed as a narrative mechanic, yet the search and discovery of audio logs has clear ludic elements. However, for the purpose of this review, I will be primarily focussed on dialogue-based systems because these systems interact directly with a player’s narrative agency.

One commonly used dialogue system is known as a branching dialogue system (BDS) or dialogue tree (“Dialogue tree.”, n.d.; Sawyer 2012) this is where the player is presented with a series of dialogue options to choose from that represent different actions the player’s

character can make in the given context. Figure 1. shows a typical example of this system. This system is perhaps best described as a node-based conversation where each node has specific outcomes and or further nodes to branch from. Notably, there are other forms of dialogue system, as Sawyer (2012) outlines in his talk; these are a linear or cinematic dialogue system and keyword or subject dialogue system. A cinematic dialogue system is where dialogue takes place inside non-interactable scenes. However, one would argue that a cinematic dialogue system is generally indistinguishable from cinematics as a system in itself. A keyword dialogue system is where the player picks from a list of keywords which, when chosen, prompt associated dialogue. Yet, the boundaries between keyword dialogue systems and BDS are usually quite vague and are more dependent on the game in question. For example, within games such as Diablo II (2000) each item in the dialogue list consists of the player asking a non-player character (NPC) “Tell me about X?” and then the player is returned to the list.

Figure 4.1. Dialogue Tree example. from Stoic Studio. (2014). The Banner Saga [Computer software]. Austin, Texas, United States: Versus Evil.

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Figure 4.2. Dialogue Tree example. from wikipedia(n.d)

Whereas in the case of *Dragon Age: Origins* (2009) this same system would be within the overarching BDS as a submenu where the inquiries would be written out in full and then again they'd be returned to the list of queries or could continue onwards to further nodes in the BDS. The BDS is particularly interesting as a narrative system because as Sawyer (2012) points out, it is not only one of the main ways we allow a player agency over both their character and the narrative, it also as a system has not fundamentally changed in the 30 or more years of its use (Sawyer, 2012; Spector, 2013). This lack of change is why many have argued for a fundamental shift in how a player can interact with the narrative, whether this be new systems, new mechanics or a new way of identifying player intent (Hudson, 2011). Notably this system is lifted from the medium of literature, primarily from the choose your own adventure (or gamebook) genre ("Dialogue tree.", n.d.; Sawyer, 2012). However this system, in its original form, allowed for a very different user interaction. Particularly a user's ability to quickly flip back and forth

to check the immediate consequences of individual choices and to save an essential point with a bookmark. This style of interaction is often not supported, in that save states, if added, can be inadequate because they do not allow saving at any time. Furthermore, there is also no way to skip gameplay content that the user has already experienced, in the way a reader can skip past pages they have already read.

Narrative Agency

Agency is a core paradigm of game design, whether acknowledged or not, and many mechanics and systems are designed with this very aspect in mind. A game's ability to satisfy a player's sense of autonomy can be hugely useful, increasing player happiness and engagement (Rigby, 2017; Uysal & Yildirim, 2016). However, this is not to say that when designing with agency in mind, we give complete agency; if we allow the player to jump, how do we determine the limits of the jump? Do you press a button to jump? Do you have to be on the ground to jump? Can you double jump? Can you jump off walls? Can you jump ad infinitum? Do you let the player fly via jumping? Anyone of these breakpoints could be the right or wrong choice for an individual game. By deciding where we constrain the player's agency concerning something as simple as jumping, we completely change the nature of the mechanic and the player's experience. This example demonstrates that

if we do not constrain the player's agency at all that we have undermined the point of the mechanic entirely or we make challenges we create for the player trivial. For example, in *The Legend of Zelda: Breath of the Wild* (2017) the ability for the player to climb almost any surface severely restricts puzzle design. Thus the developers chose to remove this ability in their puzzle arenas called shrines. Yet this inconsistency of world logic, undermines belief in the world overall; why should a stone wall of a house be climbable but the stone wall of a shrine not be? Thus how we direct the player's agency with any system or mechanic has to be considered carefully because the consequences can bleed through into other aspects of development.

This brings us to Narrative Agency; this is the player's ability to affect not only the events of the story, the pacing of the story but also their own player character (Franklin, 2019; Hudson, 2011; Sawyer, 2012). There is a vast range of approaches which are informed by or at least affected by the Narrative Structure of the game as a whole. For example, the

Figure 4.3. Link standing outside a Temple, from *Zelda: Breath of the Wild* (2017).

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aforementioned computer-generated narrative can allow for a considerable amount of player control. To illustrate, in a game of RimWorld (2018), the player can direct their colony as they choose. They can be terrible organ harvesting pirates, a peaceful artistic collective of farmers or anything in between. Moreover, there are emergent narratives created by the characteristics of the colonists. They can start relationships with each other, struggle with addictions, learn new skills, tame and train horses only to lose them in a raid with neighbouring bandits and become horribly depressed as a result. Here a player has influence not only over the individual events, “I want Dave to go out and try to tame that horse over there” the win-loss outcomes become part of the narrative: “Dave tamed horse one, they formed a bond, Dave named her Charles” or “Dave was kicked to death while attempting to tame a horse, Dave’s funeral is tomorrow, Gary mourns his husband, Dave.” Therefore, the player interaction and creation of these events creates the narrative of the game.

Moreover, this is an emergent narrative, as Claussen (2017) outlines in a multiplayer session of Minecraft (2011); which is another example of a procedural or computer-generated narrative. She argues that each event in the player’s path through the world can be considered through a narrative lens and that when we design these procedural and sandbox structured games, we can plan our systems and mechanics around potential narrative peaks and troughs. Noticeably this can cause the problem Hudson (2011) outlines of “Systems Soup”, where all these systems and variables interacting can create a player-driven story but also has the potential to develop extraordinarily chaotic and poorly paced narratives.

Conversely, this amount of narrative control for the player is not always possible and narrative control in itself is not always valued. Rigby (2017) illustrates this argument well in the case of the initial release of No Man’s Sky (2016). In No Man’s Sky, the player can explore an entire universe, crafting their story as they go. Yet this is meaningless if the player has no

Figure 4.4. Minecraft promotional imagery, from Minecraft (2017).

Figure 4.5. Prince wallrunning, from Prince of Persia Remake (2021).

desire or meaningful incentive to do so. Also, the level of player agency is often severely reduced when it comes to different Narrative Structures. For example, in Picucci's (2014) Pre-established Narrative Structure, a designer needs to limit the player's control over the narrative explicitly. For example, attempting to tell a story of a hero's journey to save the captured princess and conquer evil, would become extremely difficult if at the same time the player was allowed to stop their quest and become a baker at any point in the narrative. Thus the designer expressly limits the player's agency over the narrative to better tell their own desired narrative. Some examples of this explicit limiting are: taking away character control during cutscenes, limiting the player's actions based on context, expressly telling the player when they fail a challenge that they are telling the story incorrectly. For example, in *Prince of Persia: The Sands of Time* (2003) where the titular Prince corrects the player when failing by saying "no no no, that's not how it happened". However, there is an obvious danger in limiting the player in this

way. This limiting brings us to Hudson's (2011) concept of Disparate Agency where we allow the player's character more agency within the narrative than the player themselves, which functions to push them out of the narrative. To illustrate, if we pose within the narrative that the player's character has a crucial decision to make that will have significant consequences for the world they are in. The player character then has an incredible amount of agency within this world. However, if we do not give a similar amount of narrative agency to the player, we create a world in which the player is a passenger and not a participant in the narrative. This Disparate Agency can be okay if the player's intentions and the character's intentions align. However, game designers have a limited ability to guess each player's narrative desires (Rigby, 2017). When designers get this right, it can be potent, but when they fail to do so, this can completely undermine the narrative. Consequently, game designers must have a range of possible players in mind because this increases Narrative Agency by allowing the player choice within this range.

There is also the issue of appropriately supporting players throughout their play experience. Sawyer (2012) outlines this concept in his talk concerning supporting character prototypes; as he calls them. To illustrate his idea, if we choose at the beginning of a narrative development to support a character prototype, for example, a pacifist monk. Then it is essential to continue this support when continuing to design Narrative Structures and systems. If we fail to do this by creating a win-state that requires killing, we have automatically invalidated all players who have chosen to play this pacifist prototype. Moreover, this thwarting of player expectation and autonomy, as Rigby (2017) points out in the case of Mass Effect Three (2012) can create colossal player backlash and resentment.

Thus we can see there is a considerable breadth of scope when it comes to the amount of narrative control offered the player. Moreover, there's a vast space in between these two extremes of agency; also there is the possibility that in either case I have discussed, there is the potential for even more player control or less respectively. Notably, within this spectrum of agency both Claussen (2017) and Franklin (2019) describe that when discussing the level of player agency within a narrative, we are often describing the relationship between the player and the player character. To illustrate, when given total autonomy, the player and the player character become synonymous within the game. Yet the more we restrict the player's freedom, the more we distance the player from their character. Thus depending on the story the designer wishes to tell, they should consider this phenomenon closely, and how it affects the experience, they are crafting.

Conclusion

In summary, there is still a lot to be explored when it comes to narrative interaction and agency for the player. Whether this exploration is in the form of changes to the BDS, new forms of dialogue system or entirely new ways to allow the player to express their narrative intentions. Moreover, because many of these systems were developed for other mediums, it might be the case that utterly new storytelling systems must be designed for video games as a medium. The trait system, described in the following chapter, is an attempt at creating one of these new storytelling systems. The goal is to meld both the pre-written and well structured narrative content from Pre-established and Discovery structures with the responsiveness and the greater agency allowed within a Procedural Structure, taking elements from both structures to create something new.

Design Process and Requirements of Core Game Systems

5

This chapter is a description of the design process and design requirements of some of the core systems within the prototype. The intention of the prototype was to develop a Ludo-narrative consistent game system and explore the potential and requirements of that system. Thus this chapter starts with a description and exploration of that system, called the trait system. After that, there is a description of some of the supporting systems and how they interact with the trait system. These sections are the combat system and the weather system.

Trait System 5.1

How it works

The trait system operates by observing player actions, summing actions that are indicative of a personality trait—and finally assigning that personality trait to the player's character once those actions reach a threshold. An example from the prototype is the clumsy trait. The clumsy actions looked for by the system are: rolling in dirt, rolling in water, breaking objects, “accidentally” hitting unaggressive non-player-characters (NPCs), “accidentally” killing wildlife. Accidentally, in this case, is defined by whether the player continues the behaviour or not. The number of clumsy actions required for the clumsy trait to be assigned is two.

When a personality trait is assigned to the player character (PC), this trait then guides and changes the player's narrative experience of the world. As the player PC acquires traits, those traits then colour and in some cases fundamentally shift the interactions the PC

has with NPCs. Notably within the prototype, the player does not directly control their dialogue with NPCs. Instead, all dialogue branching is directed by the traits that the PC acquires throughout the game. One example of how this fundamentally shifts the narrative experience from the prototype is the fighter quest and the cruel trait interaction. The NPC fighter asks the player to defend the village from some local bandits. If the PC has acquired the cruel trait, they show an off-putting amount of eagerness to take part in bandit killing, off-putting at least to the NPC fighter. Conversely if the PC is not cruel, and are clumsy or traitless, the PC just passively agrees to help. On the second step of the fighter quest, the player has the option of talking or attacking the bandits. This option is not explicit, there is a dialogue cloud above the lead bandit indicating conversation is possible, but nothing expressly stops the player from running in and attacking, or attacking at any point during the conversation. If the player chooses to attack this interaction is unaffected by the existence of the cruel trait. However,

Trait System 5.1

if the player decides to talk, the exchange is heavily affected. Speaking to the bandits, they inform the player that they are not bandits and are in fact debt collectors and that the fighter is the debtor. Here the narrative splits significantly, if the PC is not cruel: they can talk through the situation with the debt collectors, resolve the quest peacefully and gain the peaceful trait. Conversely if the PC is cruel: The PC shows no interest that they are debt collectors and goads them into combat—thus altering the current and future narrative possibilities for that player's run-through of the prototype.

The choice to have PC traits direct the dialogue decisions in the game is not the only way that a personality trait system could be executed. One alternative design that I considered in the design phase was to combine the current system with dialogue trees (DTs) ("Dialogue tree.", n.d.; Sawyer 2012). I chose not to include DTs in my design because the current design illustrates the possibilities of the trait system more clearly. Combining this system with DTs could have had the

potential of watering down the experience. By integrating the trait system with DTs, the player might not fully grasp how much their responses and their narrative experience was changing based on their play actions vs their dialogue interactions. Moreover creating an effective synergy between the two systems, where both felt well supported, would have made a significantly larger prototype and thus be outside the scope of this master's research. Yet it's important to note that a trait system's implementation could have a variety of different capacities. For example, on one end there is the prototype where all dialogue is dictated by traits conversely on the other end of the spectrum you could have traits simply allow for certain dialogue lines to be available to the player within an existing DTs. Moreover, it's important to note that the trait system's narrative effect does not need to be limited to just dialogue. For example, within the prototype, the trait system effects: the aesthetics of the PC, the PC animations and the weather. This approach can be considered as a holistic approach to game narrative in

Figure 5.1.1 Clumsy Trait Overview from prototype

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Peaceful Trait Example

Example of unique interaction between Non-Player-Characters due to player having Peaceful Trait

Figure 5.1.2 Peaceful Trait Example, from prototype

that all these elements contribute to the story being told by the prototype. Thus it should be evident that there is a vast range of possible implementations of a trait system and not just the one I have shown within the prototype

Design process for creating a trait

When creating a trait for the trait system, there are a few essential design requirements. These are narrative potential, mechanical cohesion, and trait interaction. These requirements must be considered simultaneously, but for clarity, I will discuss each in turn.

Narrative Potential

Narrative potential refers to how a trait changes and interacts with the game narrative. As mentioned above, it is vital to take a holistic view of game narrative here, in that a trait's effect can have a variety of consequences across different game systems, not just dialogue and NPCs. A trait can affect the narrative in a small way; for example, a

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trait can colour existing story, changing the context but not the content of conversations. Conversely this trait could alter interactions significantly, perhaps all interactions for the player. Here it should become quickly evident that you have to write your narrative with this system in mind. It may be possible to write a branching story and then lay this system over it, letting the system dictate the player's path. Yet, to get the most out of the individual traits that you design, it seems optimal to design with this system in mind to understand scope and level of reactivity you want present within your game. There are a couple different useful frameworks to use while examining a trait's narrative potential: these frameworks are narrative fit, narrative scope and reactivity (Sawyer 2012), Character prototypes (Sawyer 2012).

Firstly when assessing the narrative potential of a trait, we must consider its narrative fit. Narrative fit refers to how in-line the character trait is with the story you are trying to tell. For example, does a clumsy trait where the PC becomes a bit bumbling, fit with say a game set in a grim-dark science-fiction post-apocalypse, where the main themes of the story are grief and rage? This tonal mismatch is not to say you cannot have a bumbling protagonist within this setting. However, you may find that such an addition undermines the story you are trying to tell, by causing tonal whiplash for the audience. Thus a potential trait should fit within the narrative themes you have planned.

Secondly, narrative scope and reactivity are two interrelated concepts that comprise one framework to be considered. Narrative scope refers to the range of actions available to the player that influence the game narrative. Narrative reactivity refers to how and the extent to which the players actions alter the game narrative. These two concepts must be considered simultaneously because for each player action, we must consider how the game will respond. For example, how much freedom should we give the player to express emotion, morality or political stance and in what way should the game respond. Notably, limitless freedom is possible in many player-driven settings, Minecraft (2011), for example. However, if our gameplay reactions

are planned and not procedural, we most likely will need to limit players' expression to a range of options. This consideration for player expression is crucial when planning potential traits because we have to consider how this new trait interacts with player expression. There are many examples from the prototype for how traits allow for player expression and then acknowledge/react to that expression within the narrative. In some ways, this is a core aspect of the trait system because all traits are gained via gameplay choices, a form of player expression, and then reflect those choices across the narrative effectively, a form of narrative reactivity. Thus perhaps one of the smallest examples from the prototype would be the most useful to dictate this point, where we have the most limited range of both reactivity and player expression. I highlight this to show that the scope and narrative power of a singular trait can be as vast or as small as the designer wishes.

The peaceful trait has minor narrative consequences; it corresponds to only two conversations and alters a line in one other. Conversely the Clumsy and Cruel traits vary all dialogues bar one. Yet the peaceful trait is vital because it aligns with many players' desire to play a non-violent character. To elaborate, within the prototype, there is one encounter with NPCs that appears to require combat, yet it is possible for the player to resolve this encounter peacefully if they choose to. Crucially at any point in this encounter, they can decide not to be peaceful. Still, by staying the course, they receive a unique reaction from the game. Hence, the prototype offers the player a choice of expression, either dialogue or combat, and presents neither as invalid. This gives the player an opportunity for a limited form of self-expression within the game world. Finally, we reinforce and acknowledge that choice with the trait system. Thus in this instance, we restrict the player's expression to violence and non-violence, and the scope of the game's reaction to minor narrative responses. Yet we still have allowed the player to express themselves, and the trait system acknowledges those choices. Thus when planning a trait, we must regard how it interacts with player expression and how much reactivity is required for that trait to feel meaningful to the player.

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Thirdly, it is important to consider which character prototypes you will use when assessing the narrative potential of each personality trait. Character prototypes are the styles of character you want your game to allow for and the styles you do not. For example, *Fable* (2004) allows for the player the prototypes of a selfless hero or merciless villain; but it does not support roleplaying as the terminator. Identifying what prototypes the game will support is incredibly useful when deciding what traits you want to implement. For example, say you wanted to support a rugged mercenary character type and a chivalrous knight character type. Here the opposing traits of dirty and clean could be useful for you, in order to distinguish between the dirty, rugged mercenary and the clean, chivalrous knight. You could completely switch the PC's personality purely based on this one trait pair, dirty: the player is a rugged mercenary, clean: a chivalrous knight. Alternatively, you could use the trait pair dirty/clean to support the development of a character prototype in combination with other traits. However, if the character prototype is dependent on only one trait pair then this risks being too simplistic. Doing so might severely undermine the narrative experience if the player notices a significant character switch or even worse notices repeated switches back and forth. Thus the traits mutability and frequency of that mutability must also be considered when planning how traits will support a character prototype. In this example, this trait pair might support the character prototype better in combination with other traits. For instance, the rugged aspect of the rugged mercenary could be captured by the dirty trait. Whereas the mercenary aspect could be covered by other traits such as greedy or amoral. Yet, the dirty trait could influence the initial reaction of NPCs, such as commenting on their appearance. Thus the dirty trait can support that character prototype in combination with other traits.

When considering the narrative potential of a possible trait, we must identify: how it fits within the story we are telling; how it effectively it allows for player expression; how it creates or interacts with the reactivity of our narrative; and lastly, how it underpins or undermines the Character prototypes we

wish to support. Therefore with a thorough analysis of all these narrative aspects, we can understand the narrative potential of our hypothetical trait.

Mechanical Cohesion

The second design requirement is mechanical cohesion. Mechanical cohesion refers to how the trait ties into the mechanics of the game and most importantly, whether it fits in a way that the player expects. One example of this could be hitting NPCs makes the PC violent, notably this example assumes both a combat system and an ability for the player to engage NPCs. Conversely a bad example could be walking into NPCs makes PC violent. This example has poor mechanical fit for multiple reasons. Primarily because walking alone does not feel or look violent. Depending on the control structure of your game, either with a controller or with a keyboard and mouse. Walking is usually a precise motion; it requires either a controlled nudge of the controller's stick or two simultaneous presses of a keyboard. Neither can be meaningfully considered from the player's perspective as violent movements. Moreover walking into NPCs you are attempting to talk to, is a very regular outcome, particularly for those unused to the game controls in question or for differently-abled players. Thus this kind of trait assignment does not fit the mechanic, nor is connection easily readable from the gamer's perspective and in this case might feel especially unfair to less coordinated players. Notably in both examples, depending on how you manage the player's expectations, this trait assignment might feel like an admonishment of the player's behaviour. This negative feeling is a potential consequence when it comes to the assignment of any trait that may be seen as unfavourable to the player; thus it is a consequence that must be considered with trait creation and assignment. Moreover, if we return to the original example that may have seemed simple, there are many considerations to contemplate. To elaborate, is a violent trait assigned when hitting any NPC, including attacking enemies or only peaceful NPCs? Additionally, even restricting it to just

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friendly NPCs could still feel punishing to some players. Punishing player behaviour may be acceptable depending on the experience you are creating. However, it is crucial to be aware of when you may be doing so; otherwise, you risk creating unintended negative experiences.

When developing a trait system, the designer may choose to have several levels of a trait that the PC can achieve. Following the violent example, the PC could be assigned different levels of the violence trait, so that the game responds to whether they are less violent or more violent. If so, the designer must ask themselves what mechanical choices must the player make to reach those. This mechanical pathway is a critical aspect of any possible trait because each step has to make sense to the player. If we look at the violent example, what are the possible implementations of a less violent play loop. One overt possibility is conversation; the player choosing to talk in certain situations where there is potential for violence. Viewed from the system's perspective, this could be the player attempting diplomacy. Yet if

dialogue is the expression of the trait in the PC, or the primary expression of the trait, how then does a violent PC within dialogue show less violence? Moreover, how does the system differentiate between different player desires—for example, a player hoping to taunt their enemies vs a player trying diplomacy? If the designer is using DTs, then this might be as simple as having diplomatically tagged options, this is very clean and easily read by a player.

Yet if the dialogue is cinematic based designers do not have such a choice. One solution may be a tone system, such as in Red Dead Redemption 2 (2018). This tone system allowed the player to show positive or negative intent within a dialogue encounter. To elaborate, the player has a negative speak action and a positive speak action mapped to their controls. When approaching or approached by NPCs, the player could use either one, and it would alter the tone of the interaction. For example, if the NPC asked the player for help positive action would lead to the PC agreeing, whereas negative would

Figure 5.1.3 Violent Action Example, from prototype

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lead the PC disagreeing. Alternatively, in a potentially violent confrontation with an NPC, positive would lead to the PC attempting to de-escalate and negative would lead to aggravating the conflict. Notably though, the tone system was used only in the open world and not within cinematics themselves. One more important option is for the trait to be irremovable and unmodifiable, a permanent PC state. This permanent state is a difficult decision to make because it has the same potential for feeling like punishment for the player, as mentioned earlier. However, there is precedent for significant changes to the narrative from singular player choices. One example is from *The Witcher 2: Assassins of Kings* (2011), where the player makes a single decision at the end of act one that completely changes act two—thus changing nearly an entire third of the game's overall content, both narrative and gameplay, from one player decision. Whether or not this kind of design is optimal is debatable, I simply present as a possible option to a designer; yet I would caution it's use or overuse due to how readable

it is to the player. Meaning, many players may be blindsided by such a choice. Thus it should be clear that how a trait ties into existing mechanics is hugely important for the play experience of the player.

If we return to a potential trait's mechanical cohesion, we see that we have to consider: firstly how the player gains the trait, and how/if the player can lose that trait. Secondly, how inline both those paths are with player expectation, and finally the game systems and mechanics we have available to realise these player paths.

Figure 5.1.4 Tone System Example, from Red Dead Redemption 2 (2018).

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Three Traits (XY) exclusive

exclusive rule break =

Four Traits (XY) & (WZ) exclusive

Figure 5.1.5 Trait exclusivity diagram

Trait Interaction

Lastly, it is essential to consider when planning a trait how it will interact with other existing traits. There are a few possibilities when approaching this problem. One is allowing symbiosis between traits; thus, two or more traits combine to create a unique PC personality. This symbiosis can create unique and entertaining characters to both write and play. One example from the prototype is Clumsy and Cautious. This character is written as a bumbling and suspicious detective, which is quite a unique perspective for a PC. However, the downside of this symbiosis is complexity - the more that traits interact, the more systemically and narratively complex the game you are creating will become.

Thus another approach is trait exclusivity. This approach is vital for multiple reasons. Firstly this approach is straightforward when the meaning of the traits are in opposition linguistically, meaning a character possessing both would be contradictory. Yet, this

opposition of linguistic meaning does not rule out the combination of traits as a possible design choice. But the designer must justify the character's internal contradiction. Examples from the prototype of these opposing and exclusive trait pairs are Cautious vs Reckless, and Cruel vs Peaceful. Secondly, this opposing exclusivity is useful from a code perspective, because it allows for these two traits to be managed by one counter. To elaborate, in the case of Cautious vs Reckless, simply incrementing and decrementing that counter per cautious and reckless actions respectively, avoids breaking the rule of exclusivity, meaning only one of those traits can be active at once. Thirdly this exclusivity enhances the designers ability to plan the narrative reactivity at the same time as allowing for a broader range of player expression, specifically by narrowing the possibility space for the player and the designer. Shown in Figure 5.1.5, one can see if trait x and trait y have exclusivity, there are only 5/7 outcomes the designer has to plan for. You can see this exclusivity gain ramps up as more traits are added; in the second example, only

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8/15 consequences remain in the possibility space.

Another approach when it comes to trait interaction and exclusivity is overriding, or trait dominance. Trait dominance is where the acquiring of one trait removes another. This interaction is similar to the opposing exclusivity above, but importantly, it does not always apply to opposing traits. The example from the prototype is how Clumsy and Cruel interact. Cruel overrides and replaces Clumsy even though they are not linguistically in opposition. Meaning a Clumsy and Cruel character would be feasible but it is not in the prototype. This dominance is due to how they compete for similar mechanics. For example, from a systems-level we cannot distinguish between a player hitting an NPC intentionally or unintentionally except by the frequency that they do this. To explain, we can assume one to two hits to an NPC as accidents even if from the player they were intentional. Yet once they pass that threshold, those previous actions are taken to be Cruel, and thus there is no room for an identifiable Clumsy action. Effectively here we are teaching the player; you can hurt NPCs if you hit them if you continue to do so there are consequences for your character. We see this mechanical competition again when it comes to barrel breaking except this time from a narrative level instead of systems one. The player can break barrels and various other objects in the village. Breaking the property of others needs to be narratively justified, and here Clumsy and Cruel come into competition again. They compete for that narrative justification, meaning a Clumsy PC may break property by accident, whereas a Cruel PC may break property maliciously. Thus the Cruel trait overrides Clumsy to maintain mechanical and narrative cohesion within the trait system. Notably however this does come at the expense of player readability of the system; because it may make it harder for a player to follow that doing the same action can have different consequences due to the context of that action.

Thus we can see by combining, opposing and overriding traits the designer has many tools within the trait system to both create interesting characters, and allow for player expression when planning a new trait for their game. Moreover, it is essential to note that these are just the types of interactions I have discovered while creating the prototype and that there may be even more interactions for designers to learn when using this system.

Ludo-narrative Consistency

Ludo-narrative consistency is the primary strength of the trait system and one of the main reason as to why a designer would implement a system like this. To define Ludo-narrative consistency, this is where the story told by player's playing of the game and the story told by the game itself are in coherence with one another. The opposite of this state is known as Ludo-narrative dissonance, a somewhat common critique of many narrative-heavy games (Hocking 2007; Makedonski 2012; Seraphine 2016). An example of Ludo-narrative dissonance is a game narrative that overtly portrays the player character as a pacifist, but then involves violent and brutal combat mechanics. Thus those mechanics overtly undermine the story the designer is trying to tell.

On the other hand, the trait system

actively encourages and reinforces narrative consistency between mechanics and narrative. This consistency arises from two main aspects of the system. One, the personality traits available to the PC are dictated by the mechanical interactions available to the player. Thus assuming the designer has reviewed the interactions and play-styles available, the expected mechanical interactions should constrain the player's expression. Two, the trait system reflects the play expression of the player across the narrative. Thus the story is always a consequence of how the player played and not disconnected from that play expression. Therefore with the trait system, the ludic structures (play-style, game systems, game mechanics) of the game and the narrative structures (characters, dialogue, world) are harmonious.

Figure 5.1.6 Statue from Bioshock, the first case of Ludo-narrative Dissonance critique by Clint Hocking, from Bioshock (2007).

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Conversely this harmony assumes that as designers, we can identify the majority of play-styles ahead of time and that traits can be created from the systems available within the game. Moreover, even an extensive encompassing system like this might not be sufficient for a ludo-narrative consistent game. In the same way a singular immersive game system may not be enough for a game to feel immersive.

Additionally there is still argument on the relevancy of Ludo-narrative dissonance as a problem. Moreover, some even argue it can be used as an artistic tool (Seraphine 2016). One example Seraphine claims is a case from *The Last of Us* (2013): The player, playing as Joel, can climb ledges with the help of an NPC Ellie, when the player approaches a ledge he calls for Ellie, and after a moment she arrives and helps. At one point in the game narrative, their relationship becomes strained; the player approaches a ledge, calls, but Ellie does not come. Instead to progress, the player must now go to Ellie. This example, I would argue, is a case of bundling mechanics with an NPC. This bundling as a tool I believe is a case of ludo-narrative consistency, where we attach narrative reasons and consequences to specific mechanics by linking them to a relationship, within the narrative. Another crucial example of this bundling is in *God of War* (2018). In *God of War*, a number of the player's abilities are bundled within the companion NPC of Atreus, the son of the player's character Kratos. Here again, as their relationship becomes strained within the narrative, and in this case, Atreus becomes rebellious. Those abilities become wholly unreliable and unpredictable in reflection of what the bundled character is going through. Moreover, when the characters become separated, the player loses access to those bundled abilities entirely. Therefore the game structures are actively changed in service to the story. Thus this bundling causes the story and the gameplay to reinforce each other actively. Notably, in the first case, the player expectation of what should happen when they called Ellie might have been undermined. But I would argue that this a separate phenomena from Ludo-narrative dissonance. However, the previous argumentation does not preclude the possibility of Ludo-narrative dissonance

being a useful tool just that these examples are in the author's opinion not precedence. Moreover, even in the case that these are examples are of Ludo-narrative dissonance. Critically they are intended by the designer and not accidental, which arguably is one of the core issues for many critiques (Hocking 2007; Makedonski 2012).

Thus I argue that the trait system does create mechanical and narrative consistency, by drawing player expression from the mechanics available and then reflecting that expression across the narrative. Therefore, for designers who wish to create a more Ludo-narrative consistent game experience and avoid creating dissonance by accident, it may be a useful tool.

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Figure 5.1.7 Ellie helping Joel, from The Last of Us (2013).

Figure 5.1.8 Atreus and Kratos, example of NPC bundling, from God of War (2018).

Player Consistency

One of the critical design constraints and benefits of the trait system is that it encourages player consistency when it comes to the play choices they make. Why this constraint can be seen as a benefit is because it avoids the player undermining their own PC narrative by power-gaming. To explain power-gaming, this is where the player chooses the optimal choice from a gameplay perspective as opposed to any other option they may desire. An example can be a choice between X and Y, X gives the player an excellent weapon, but they dislike this choice, in every other way they prefer Y. Yet, to have the statistically best character they pick X despite the fact they actively do not enjoy this option. This power-gaming is partially a problem due to how we construct choice and how we balance our games. If we design choice as win and loss scenarios instead of avenues of player expression (Sawyer 2012). Then we are encouraging players to gamify the narrative and thus not engage with it

emotionally.

Moreover, if we balanced our games, so all gameplay choices were equal in “power”, however this is defined, we would not have this problem. Yet this is very unlikely to be genuinely feasible nor would the attempt to achieve it be likely to create engaging gameplay variety. The main issue with power-gaming though is when it encourages a player to undermine the narrative choices, also considered as role-playing choices, they make for their PC by choosing narratively inconsistent options in exchange for perceived play “power”. Many games have struggled with how to deal with this player inconsistency. The main avenues seem to be, punish or ignore. For example in the punish category we have Bioshock (2007) and Vampyr (2019), if the player chooses the “evil” option once despite playing “good” for the rest of the game the good ending is locked off entirely. Notably here “good” and “evil” are defined by the respective game worlds.

Conversely in the ignore category we have the Fable series (2004; 2005; 2008;

Figure 5.1.9 Clumsy, Cruel and Peaceful Trait Interaction, from prototype.

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Cautious and Reckless Trait Interaction

Figure 5.1.10 Cautious and Reckless Trait Interaction, from prototype.

2010) and the Knights of the Old Republic series(2003;2004;2011). Here if a player is “good” the majority of time, singular “evil” actions no matter the gravity are ignored outside of their explicit context. For example, in Fable (2003) a good player can murder a whole village yet if they made enough “good” actions previously and afterwards that’ll be virtually ignored by the game world.

Alternatively, the trait system allows for a systemic reinforcement of player expression. There are three critical aspects of this systemic reinforcement. These aspects are: contextualisation, redemption cycles and possibility space management.

One aspect of this systemic encouragement is how the trait system both contextualises and recontextualises the players actions. An example from the prototype is how the transition from no trait, to Clumsy, to Cruel works, seen in Figure 5.1.9. Actions considered inept by the system add the Clumsy trait to the character and thus contextualise those actions in the world. To

illustrate, if the player swings the weapon and hits one of the NPCs, the NPC admonishes the PC, and the PC is assigned the Clumsy trait. Essentially the game suggests to the player that their attack was accidental and gives a narrative context to their action. However if the player swings again and kills the NPC, the player is assigned the Cruel trait.

Consequently, the system has both contextualised the player’s most recent action as an intentional assault and recontextualised the player’s previous action not as accidental but deliberate. Therefore the player’s action and the PC’s personality maintain consistency within the world. Thus even choices seemingly against the PC’s personality become a part of that personality.

However, this leads us to an explicit constraint of the system because the player is then stuck with the consequences. This constraint means, from a design perspective if we want the player to have the freedom of expression to become “unCruel” we have to create an opposing redemptive game cycle to

allow for it.

One example of this redemptive cycle within the prototype is the relationship between the Reckless and Cautious traits, see in Figure 5.1.10. Reckless and Cautious correspond to two opposing playstyles within the prototype. The Reckless playstyle is identified by taking damage and dodging through attacks. On the other hand, the Cautious playstyle is denoted by blocking and parrying attacks with the shield. The useful aspect of picking these identifiers is that they are mutually exclusive actions within the game; you cannot block damage and take damage at the same time, this is also true for the parry and dodge. Thus, they create a clear playstyle divide for players to navigate. Looking at Figure 5.1.10 you can see Cautious and Reckless exist on two ends of a continuum, with neither trait in between. This continuum means Cautious and Reckless have exclusivity and that the player can only possess one at once. This concept is explained thoroughly within the Trait Interaction section.

Importantly this trait exclusivity allows the player to guide their in-game personality organically. To illustrate, if the player does not like their Reckless nature, they can choose to actively change their playstyle to reflect how they wish their character to behave. This cycle then encourages the player to play in a manner consistent with the character they want to play as. Moreover, this cycle actively discourages playing inconsistently because it moves the PC further from the player's goal personality. Thus by creating consistency out of divergent behaviour with contextualisation and by encouraging consistent play of players by creating redemptive game cycles, we see the trait system enables the player to keep consistency with the game narrative.

Action Weighting

Consequently, this leads us to a clear design challenge of the system, how do you as a designer weight the various player actions. Returning to the previous example of Clumsy, how many "Clumsy" actions are required to set the player as Clumsy. We can see that if we put that number too high the majority of players will never see this trait. On the other hand, if we set that number too low the majority of players will gain the Clumsy feature. Either option, or anywhere on the continuum between could be the right choice for the specific trait, it's dependent on the narrative and play experience you're creating. The most important aspect of this weighting though is how in-line with player expectation it is. During the prototype user-testing at least one player noted the character switch from Clumsy to Cruel felt too jarring:

"I feel as though that certain actions can cause an instant, unwelcomed change in personality... my PC was considered to be this optimistic and Clumsy sort of person, until I decided to kill off the last NPC in cold blood. This automatically turned my character into Cruel and Reckless and thus change(d) the ending." -anonymous user tester.

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Here the player did not expect a character change from one murder. Whether or not that is a reasonable expectation is debatable, yet it is clear that expectations were not met and it negatively impacted their play. Thus, it is essential to note if you weight actions too heavily, meaning only a few acts create a personality change, this in itself can cause more of a divide between player and PC. Importantly this is a clear lesson from the prototype. The length of the prototype requires most traits to be weighed heavily, so that in the space of a ten-minute play session, all the traits are easy to get. Yet this then means personality changes are sudden and more likely to be extreme, which in turn can undermine the sense of reality to the game world.

This concession is acceptable in a ten-minute demo, however over a game length of eight hours or more it seems necessary to avoid extreme swings in the PC's personality so as not to undermine their believability as a character. All of this combines to action weighting being a careful balance between the narrative you are creating with the trait system, and what player's expectation of the game and trait system are.

Figure 5.1.11 from prototype.

Combat System 5.2

The intended goals for the system

The primary purpose of the combat systems was to create a collection of combat actions, for the player, that were both engaging for the player and diverse enough to create distinct player combat styles. This diversity of combat playstyles supported the trait system by allowing for different trait allocations to different playstyles. Moreover, to achieve mechanical cohesion (as discussed earlier in the trait system section), the trait allocation for each playstyle needed to make sense to the player. For example, in the prototype, I chose to use block and parry to signify the cautious playstyle because these combat actions are defensive and cautious in nature. Furthermore, when I decided combat actions, I also considered how the associated trait

would fit into the narrative. It was essential to choose traits that could change the narrative in interesting and diverse ways for the player, that could then be represented clearly in the written dialogue. Hence, caution was a distinct character trait for narrative purposes allowing for clear divergence in a character's writing, and it connected to a distinct combat style. The opposing character trait of reckless also allowed for a distinct character change for the narrative writing and for the player to notice. Meaning from the player's perspective, the cautious character and the reckless character would be noticeably distinct. Combat actions in the prototype that led to the allocation of a reckless trait included taking damage and dodging through attacks. These were chosen as reckless combat actions because they represent risky attack styles.

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The secondary purpose of the combat system was for combat to be deep enough that players could engage with it to find different play styles and consequently, trait outcomes. This purpose is an incredibly important aspect of the system because if this fails, then every player will be railroaded towards similar traits and therefore have very similar narratives each time they play. Consequently, undermining the replayability of the overall game.

Why I chose a souls-like combat system

The prototype uses a souls-like combat system. The term souls-like here is a stand-in description of various combat mechanics the combination of which are attributed to the Soul series (2009; 2011; 2014; 2016). For example: slower attack animations; animations you cannot cancel; the ability to dodge, block and parry; a stamina management system, where most combat actions cost stamina thus the player must manage this resource during combat; and various other mechanics that could be considered souls-like. All these mechanics combine to create a relatively strict combat system with clear rules of play. To illustrate, attacking while enemies attack generally harms you. A souls-like system was useful for the purpose of the prototype

Figure 5.2.1 Block and Parry tutorial image, from prototype.

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because there are a myriad of ways to play using this system and thus a multitude of possible playstyles to be described with the trait system.

I chose a soul-like system over other competing systems for both technical and thematic reasons. To explain, alternative complex third-person combat experiences often require aspects like: paired animations, combos and abilities. Abilities and paired animations would have required a lot of unique asset creation. This asset creation was both outside the scope of the research and my technical expertise. I chose not to use combos because my impression was that the added user interface elements were stylistically incompatible with the style of the game I was creating. Another advantage of the souls-like combat system is that I have prior experience building them. Thus knowing some of the pitfalls and problems of the system, it would be much quicker to implement than it's alternatives. This allowed me to put more time into developing the trait system as a whole.

Figure 5.2.2 Lock-On tutorial image, from prototype.

Weather System 5.3

Purpose of the Weather System

One of the early pieces of feedback I got from lecturers on the prototype was it lacked a sense of narrative arc. Given that the prototype is focused on gameplay and narrative interaction this system was devised as a way to address that concern by placing a simple structural arc and a sense that time had passed for the player by changing the time of day and weather. Moreover this system then further evolved by interacting with the primary trait system, in that the trait system reflects the player's gameplay interactions in their social interactions with the NPCs, and the weather system then reflects the cumulative tone of those social interactions.

How does it work?

The weather system uses unreal's level streaming tech, in particular, the precomputed lighting scenario. This streaming tech allowed me to switch between multiple sub-levels that contain different lighting setups. In the case of the prototype, the lighting setup includes: Skylight, Skybox, post-processing, Light-Source, Height Fog, and Atmospheric Fog. As shown in Figures 1, 2, and 3 below, changing these parameters can evoke a very different mood within the same level scene.

Next, I'll explain how it works in-game from the perspective of the player. When the player begins the prototype, they are in the morning lighting-scenario illustrated in Figure 1. Then depending upon their social interactions with the villagers at the midpoint of the narrative, time progresses and the lighting scenario is switched to either Figure 2 or Figure 3. The choice between the two I'll elaborate upon later. This switch is done within

the level blueprint. Thus the player screen fades to black, the lighting scenario loads and fades back in on load completion.

Lastly, lighting scenario choice is decided by whether or not the village likes the player by the midpoint of the prototype. This choice is made with a simple positivity counter stored in the Game Instance, positive interactions increase it, negative interactions decrease it, and neutral interactions do nothing. Notably, it's not a moral judgment of the player or their actions because some of the quests in the game are arguably prosocial and others are arguably not. For example, completing the fighter's quest in a manner in which the fighter would approve is arguably morally wrong. The point is just to reflect the mood of the village on the player.

Artistic Direction

Given the rustic fantasy setting, I went with quite exaggerated scenes. This choice is because not only do I feel it fits the assets I have available; it is also intended to encourage the player to take notice given the very short amount of time they have within the game.

To elaborate In the morning scene, I aimed to evoke a sense of beginning and discovery. This scene is, of course, where all players start their journey so emotionally, I aimed for hopeful tone (Fig. 1).

The greatest distinction is between the two competing scenes of the cloudy and sunny middays. Cloudy is drab and desaturated with heavy atmospheric fog (Fig. 2). Sunny, on the other hand, is almost painfully saturated, vibrant and utterly devoid of any of the morning scenes mist (Fig. 3).

I used Colour Lookup Tables (also known as LUT) within the post process volume to exaggerate the mood of each scene. This is most clearly shown in Figure 5 comparing two different lookup tables.

Weather System 5.3

Figure 5.3.1 Morning Fog Weather, from prototype.

Figure 5.3.2 Midday Sun Weather, from prototype.

Weather System 5.3

Figure 5.3.3 Midday Cloudy Fog Weather, from prototype., from prototype.

Figure 5.3.4 Lookup table comparison image from prototype.

User-Testing: Design Choices, Results and Discussion 6

Here I will be discussing: the design choices for the systems; the rationale for the questions related to that system; the results of those questions; and my interpretation of those results, and whether or not they informed further iterations regarding the design of the prototype. This format is to show the causal link between my design rationale, the testing of that rationale, and or if the prototype adapted in response to the testing results, and if any potentially meaningful insights can be gleaned from those results.

Art Style and Theming

Design Choices and Question Rationale

There was a design assumption at the very beginning of development that art-style was essential to support the gameplay and narrative. The alternative would have been a grey-box prototype where the majority of assets would have been abstract and the mechanics no more than functional. This approach could have been beneficial because it may have allowed for much faster iteration. However, this method seemed less effective to illustrate the trait systems potential; particularly to end-users who likely had no game design experience. I assumed this to be the wrong approach because the primary goal

of the trait system is to attach a personality to the PC. If that PC is simply an abstract shape or model, meaningfully attaching character to them is significantly more challenging, and requires a greater suspension of disbelief from the player.

Additionally, the types of personality traits and how they are implemented changes drastically with the presentation of the PC. For example, the PC from the prototype is presented as a high-fantasy hero archetype, and the traits within the prototype exist within that narrative framing. Conversely an abstract shape would need utterly different narrative framing; for example, robotic or futuristic themes may work better with such a PC. Moreover, from the designer's perspective writing engaging narrative seemed easier with clear themes and artwork. This is because the artwork, themes and mechanics all contribute to the creative writing. After all, the creative writing must be part of the cohesive whole of the game experience. Examples of this cohesion are threaded throughout the prototype, but perhaps the most straight

Art Informing Dialogue Example

This example shows how the ragdol reaction of the Pig entity becomes part of the narrative writing

Figure 6.1 Art Informing Dialogue Example, from the prototype

forward are the various narrative reactions for hitting the pigs. The pigs become ragdolls, physics objects, when they die; this then causes them to go flying when caught by one of the PC's animations, often their attack animations. Both the farmer NPC and the PC refer to this effect repeatedly in the various dialogue reactions created by killing one or more of the pigs.

Thus from this design process, I thought it essential to test these assumptions, in particular, the belief that the art would add to the experience, by posing these two statements to users in the survey:

- The artstyle supported the gameplay or narrative.
- The artstyle distracted me from the gameplay or narrative.

Art Style, User-Testing Results

When asked their opinion on the statement "The art style supported the gameplay or narrative" 71% of respondents agreed to varying levels, 24% were neutral, and 5% disagreed, shown in Figure 1.

Moreover, when asked their opinion on "The artstyle distracted me from the gameplay or narrative" 81% disagreed, 14% were neutral, and 5% somewhat disagreed, shown in Figure 2. Testing Phase 1 & 2 have been combined here because the art style remained consistent between iterations.

The art style supported the gameplay or narrative, Phase 1&2

Figure 6.2 the response graph to The artstyle supported the gameplay or narrative.

User-Testing 6

The art style distracted me from the gameplay or narrative,
Phase 1&2

Figure 6.3 the response graph to The artstyle distracted me from the gameplay or narrative.

Interpretation and Discussion

These results suggest that the majority of participants felt the art supported either, or both, the narrative and gameplay. These results further suggest that if the art style did not support the narrative and gameplay in the player's experience, it did not noticeably hinder it either. I concluded from this interpretation that I did not need to make significant adjustments to the artstyle in further iterations of the prototype.

Mechanical Competence

Question Rationale

Here I was trying to ascertain how mechanically competent the prototype was, whether or not the mechanics felt good and were usable. I was trying to establish this for multiple reasons. Firstly because the trait system derives traits from the mechanics, those mechanics must themselves be sound. Otherwise, the player may not be able to express themselves appropriately and in effect, be fighting the mechanics for control of the PC. Secondly, it was necessary so that user testers could envision how the trait system would work in a “real” game and not a grey-box prototype. Without this sense of “realness” any questions asked of respondents about how they feel about the system, would require an extra leap of logic by the respondent. To elaborate, if the action of hitting an NPC looks nothing like a violent action or is overly abstracted from a violent act, it becomes unreasonable to expect the player to view it as a violent act.

Moreover, you then have a much more challenging task when asking the player how that violent act would reflect on the PC. Thus that act becomes disconnected from the consequence. Effectively this leads to the trait feeling less readable to players, meaning the consequences of their actions are less likely to be expected.

Thus I posed these statements to users to test the mechanical competence of both the movement and attacks, as well as check for which needed potential improvements in consequent iterations:

Movement

- The Player’s movement felt awkward.
- The Player’s movement felt responsive.

Attacks

- The Player’s attacks felt awkward.
- The Player’s attacks felt satisfying.

Movement

Design Choices

When it comes to the movement system, I was attempting to create a standard 3rd person action game feel. Additionally, with a small sacrifice of character responsiveness to give a sense of acceleration and momentum. To illustrate, there’s a minor delay for the PC going from standing still to full speed as to suggest semi-realistic acceleration, and there is animation blend along with that acceleration to reinforce that semi-realistic feel. Also, as the PC turns, there is a slight lean effect increased by the speed and severity of the turn, in the hopes of creating a feeling of weight and momentum. Lastly, there are audible footsteps timed to the animations, that change based on the surface, again to reinforce that semi-realistic sense of movement by giving the player audible feedback from their movement.

User-Testing 6

Movement, User-Testing Results

In the user-testing, 81% of users disagreed to some level with the statement that “The Player’s movement felt awkward”. This response breaks down as:

- 29% Strongly Disagree
- 29% Disagree
- 24% Somewhat Disagree
- 5% Neutral
- 14% Somewhat Agree

Moreover, 95% of users agreed to some level with the statement that “The Player’s movement felt responsive”. This response breaks down as:

- 33% Strongly Agree
- 38% Agree
- 24% Somewhat Agree
- 5% Somewhat Disagree

Phase 1 and 2 figures have been combined here because movement was not changed between prototype iterations.

Figure 6.4 the response graph to The Player’s movement felt awkward.

User-Testing 6

Figure 6.5 the response graph to The Player's movement felt responsive.

Interpretation and Discussion

This response suggests users had a mostly positive experience with movement. In particular, due to the testing environment having a large amount of variance that would have heavily affected the overall feel of the movement, as described in methodology. Some of that variance includes input latency, frames per second (FPS) and control schema; some users used mouse and keyboard, whereas others had access to gamepads. Moreover, it was observed that some users experienced significant input latency delays and/or frame rate drops when playing either version on a laptop. Therefore users experiencing the game either on an insufficient machine or with control scheme they were unused to would very likely have a less responsive and more awkward experience of movement.

Thus with that variance taken into account, I have interpreted the movement as mechanically successful. This success was significant for three primary reasons. One because the movement was the main mechanical tie-in for the Clumsy trait; thus if the movement was poor, more people might feel unfairly assigned Clumsy. Though notably, of the three users who found the movement partially awkward, only one of them was assigned the Clumsy trait, according to their self-reporting. However, this could be due to Clumsy trait being overridden by the cruel trait. Secondly, movement was crucial to the competency of the combat system, which in turn was the main mechanical avenues for the Cautious and Reckless traits. Lastly movement's competency was vital because it was the primary form of interaction with the game world of the prototype; thus if the movement were labourious in some way, then the prototype as a whole would feel labourious despite the competency of any other system.

Attacks

Design Choices

The attacks are relatively straightforward. These attacks consist of three separate animations cycled through one after the other. They have large, sweeping animations, so as not to require precision from the user. Moreover they use sphere tracing for their hitboxes, area which counts towards damage. This sphere tracing means they are both accurate to the animation and forgiving in that their range is extended slightly beyond the animation itself, meaning the attacks are somewhat broader and longer than they appear. This range extension was in response to early testing where some player's felt that they should have hit something in front of them when in reality they did not. Moreover, there is a slight movement added to each attack to match the animation. Also, on hits

particle effects trigger to show the location of the hit. Additionally a particle effect trail is added to the weapon during an attack animation to clearly show the player where and how the weapon is moving.

Figure 6.6 Attack Hitbox Example from the prototype

Attacks, User-Testing Results

Testers' response to attacks was quite mixed. When posed the statement "the Player's attacks felt awkward."

- 50% Agreed to some level
- 6% Neutral
- 44% Disagreed to some level.

However, when given the statement "The Player's attacks felt satisfying."

- 61% Agreed to some level
- 22% Neutral
- 17% Disagreed to some level

Figure 6.7 the response graph to the Player's attacks felt awkward.

User-Testing 6

Figure 6.8 the response graph The Player's attacks felt satisfying.

Interpretation and Discussion

Noticeably again, the user-testing responses to the attack system suffers the same variance as described in the movement system. These results could indicate that the user testers experienced the attacks as somewhat awkward and somewhat satisfying. If this interpretation is correct, then this response is partially expected given these large, sweeping and slow animations. Additionally, these three animations do not have the same hitboxes, meaning they hit slightly different areas. Meaning they could easily feel unwieldy. Ideally, these three animations would be heavy attacks, whereas smaller, more precise animations would make up light attacks. However, the animations available for light attacks were probably too small and precise. And would have required extra animation adjustment to make work, such as the ability to aim with the upper torso. Otherwise they would have been tough for the

player to use accurately. Ultimately this is one of the issues with using existing animations, in that my ability to adjust or add animations was significantly limited, and the animations themselves were intended for a very different type of game originating from Paragon (2016).

Yet these results could also be interpreted as some users found them awkward and not satisfying, and others found them satisfying and not awkward. The first response can partially be explained by variance in testing set up. Meaning I observed some users had to play at significantly lower visual fidelity, all graphics set to low, and with significantly lower FPS, drops below twenty FPS. This setup was often true for those playing locally on laptops. Alternatively, the other option of satisfying and not awkward, could be explained by those playing locally on high-end gaming computers, where they could play with high visual fidelity, all settings set to cinematic, and a high frame rate, more than sixty FPS. This set up was also observed and was the initially intended setup for the prototype, prior to Covid-19.

Moreover, some of this variance in opinion can also be explained by taste, and the shortcomings of the prototype. To elaborate, the combat system is inspired by souls-like systems, described in the combat system section. These souls-like systems reliably have a range of weapons to choose from while playing. Yet, in the prototype, the player has only access to one weapon. This single weapon is primarily because more weapons would have required a separate PC where the weapon was not attached to the character model. However, by not allowing for multiple weapons, the prototype fails to cater for differing tastes in players.

Thus in the second iteration of the prototype I tried to mitigate this awkward and unpredictable aspect by setting a three-attack combo and the ability to use the downward strike of the last attack of the combo as a shift-click, thus adding more predictability and overall control to the attacks. Thus meaning the player at least knew before clicking which attack exactly the PC would use. However, I believed this change unlikely to fix all issues with attacks.

Gameplay

Question Rationale

Competency of the gameplay overall is essential. Firstly the trait system is mechanically dependent; if those mechanics are not somewhat fun, then players will not engage with them and thus not engage with the trait system. Secondly, because the trait system is part of a holistic approach to gameplay and narrative. If we ignore gameplay in service of a narrative system, we are creating a problem from the opposite direction. To elaborate if we undermine the gameplay in favour of the narrative, we create a game narrative that very few will want to experience as a game. Moreover, some form of gameplay is an integral part of the medium of games. If we wish to create interactive stories, we do not need to make games, and we do not require systems to make them cohesive with gameplay.

Thus to interrogate the competency overall of the gameplay, I posed these three statements to user testers:

- “The gameplay is boring.”
- “The gameplay is fun.”
- “The gameplay is engaging.”
- Gameplay, User-Testing Results

When posed the statement “The gameplay is boring.”

- 78% Disagreed to some level
- 17% Neutral
- 6% Agreed to some level

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When given the statement “The gameplay is engaging.”

- 83% Agreed to some level
- 11% Neutral
- 6% Disagreed

When given the statement “The gameplay is fun.”

- 89% Agreed to some level
- 6% Neutral
- 6% Somewhat Disagreed

Figure 6.9 the response graph The gameplay is boring

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Figure 6.10 the response graph The gameplay is engaging

Figure 6.11 the response graph The gameplay is fun

Interpretation and Discussion

This response suggested that the majority of user testers experienced the gameplay as somewhat engaging and fun. However, it's important to note that user testers may or may not divide the prototype up into "game parts" and "narrative parts". So this might not be any real vindication of the competency of the gameplay. Moreover given that one of the trait systems goals is to merge narrative and gameplay, some testers may have taken these three questions as a review of the overall prototype and not just the gameplay sections. Thus I concluded that the gameplay was not hindering player's enjoyment significantly, of the prototype overall.

Difficulty

Question Rationale and Design Choices

It was noticeable from very early playtesting that if the combat was too easy, it ultimately did not matter how complex it was because there was no reason for a player to engage with those more complex systems. Essentially if a player can clear a combat encounter just by attacking repeatedly, there is no need for them to block, or dodge, or manage their stamina. Consequently, the trait system then has very little information to go on, or more precisely the same information, because there is no differentiation of playstyles. However, if an encounter were too hard, the PC would die, requiring the participant to restart and potentially make them feel frustrated.

Thus the main design challenge is to create a sweet spot of difficulty, that's not too hard and not too easy. To do this, I introduced a difficulty slider so that users could adjust their difficulty as they saw fit. Notably, difficulty as a concept is specific to the individual, a challenge that one person finds too easy; another might find too hard. So it was vital to allow player skill variability with the system. The changes this slider made was increasing the damage the PC took and decreasing the damage they did to enemies.

The second aspect I altered prior to user-testing, for the sake of difficulty was the AI combatants. The combatants were set to be more aggressive and hit harder. However, I also wanted to give the player a variety of tools for damage avoidance and so that there would be more differentiation in playstyle possible. These tools were: the parry avoids damage and briefly stuns enemies, the block avoids damage at the cost of a small amount of stamina, and the dodge completely avoids damage at the expense of zero stamina. These changes were intended so that people who have never played a game like this before would not feel completely overwhelmed. Additionally, the variety of tools would allow

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for a variety of playstyles to be recognised by the trait system.

Thus it was essential to gauge the difficulty of the game so as not to create either a too hard or too easy experience. Thus I posed these statements to users within the survey:

- The gameplay is too difficult.
- The gameplay is too easy.

Difficulty, User-Testing Results

When posed the statement “The gameplay is too difficult” respondents:

- 78% Disagreed to some level
- 17% Neutral
- 6% Somewhat Agreed

Additionally, when given the statement “The gameplay is too easy” respondents:

- 61% Agreed to some level
- 22% Neutral
- 17% Disagreed to some level

Figure 6.12 the response graph the gameplay is too difficult

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Figure 6.13 the response graph the gameplay is too easy

Interpretation and Discussion

These figures I interpreted to mean that for the majority of players, the game felt too easy. However, there is apparent variance in the response, and some users did not feel this way; which was expected for questions concerning difficulty. The participants were made aware of the difficulty slider at the outset of the game, and I reminded them of this if they died in the game. I observed that participants sometimes chose to adjust the difficulty level to an easier level after I reminded them that this option existed upon the PCs death. It is possible that some of the user testers experience of the game as too easy or too hard could have been mitigated by a tutorial or instruction that actively encouraged participants to adjust the difficulty slider in the middle of gameplay.

Additionally, the difficulty of the prototype will have a significant effect on the traits gained by the player. This effect is

because the reckless trait and cautious trait are exclusively linked to the combat system. Cautious actions are derived from damage mitigation and Reckless actions are partially caused by taking damage. Thus if the game is too easy where players are not worried about taking too much damage, the reckless playstyle should be dominant. Conversely, if the game is too hard the cautious playstyle may be more dominant because players are taking more active steps to avoid damage.

User-Testing 6

Thus due to this interaction between combat-traits and combat difficulty, I have included the trait breakdown of the combat-related traits players believe they played. To elaborate, Players were asked: "Tick the boxes of the Player Characters you believe you played" thus they were given the eleven boxes corresponding to the eleven possible personality traits as shown here:

- No Character Trait
- Cautious
- Clumsy
- Clumsy Cautious
- Clumsy Peaceful
- Clumsy Reckless
- Cruel
- Cruel Cautious
- Cruel Reckless
- Peaceful
- Reckless

This question was to reflect the three playthroughs each user played. However, some users played four times because they wished to, and some users got the same personality at the end twice. I have included this trait breakdown because the existence of cautious, reckless and peaceful traits in the PC personality denotes how that player interacted with combat in that playthrough of the prototype. Thus we can see from which traits were acquired the most, the dominant playstyle becomes clear. This breakdown shows the results of the 55 playthroughs.

The trait breakdown is as follows:

- 18% Contains Cautious (including PC personalities: Cautious, Clumsy cautious and Cruel Cautious)
- 42% Contains Reckless (including PC personalities: Reckless, Clumsy Reckless and Cruel Reckless)
- 27% Contains Peaceful (including PC personalities: Peaceful, Clumsy Peaceful)
- 2% No trait (including PC personalities: No trait)
- 9% Just Cruel (including PC personalities: Cruel)
- 2% Just Clumsy (including PC personalities: Clumsy)

Additionally, it's important to note that this data is based on what the player believed they played as opposed to what they played. Meaning, though there were ten reports of the cautious trait, I only saw it in-game for players twice. This particular inaccuracy is likely because the clumsy personality could be construed as the cautious personality, particularly if the player does not experience both to compare them. Thus the data may not accurately reflect the playstyles present.

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Figure 6.14 the trait comparison between Cautious and Reckless

From this breakdown, we can see the dominant combat playstyle of reckless in the trait comparison figure. This playstyle dominance seems to support the perspective that many users found the combat too easy. This connection is because you gain the reckless trait by taking more damage than you mitigate by blocking or parrying. This playstyle suggests that many players went into combat encounters swinging wildly and not worrying about damage mitigation. This approach was consistent with my observations of participants' combat choices.

Notably, those who received the peaceful trait did not take part in combat at all that playthrough. Conversely, the participant that attained no trait may have achieved this by enacting an equal number of cautious and reckless actions whilst still taking part in combat - however, the manner in which they achieved this is unknown as it was not directly observed. Also this was true for some who received just the cruel trait because they avoided all combat by killing all the quest givers and completing the prototype

that way, but this was not always the case thus it has been included. Moreover, another option in the cases of both just cruel and just clumsy, is that they solved combat encounters peacefully and then chose to hit friendly NPCs later removing their peaceful trait. However, though this is possible, I did not personally observe this.

Thus I interpreted these combined results to mean: that the gameplay skewed towards too easy; that the reckless trait was too obtainable; and the cautious trait was too unobtainable. To skew the difficulty to slightly more challenging, I added two enemies to the first encounter, meaning hopefully, players who ran in swinging were more likely to be punished, and be forced to consider their playstyles more. Additionally, I rebalanced the second encounter by increasing the single enemy's health, and making him immune to damage during his opening animation so he would not die mid-animation as some more aggressive players had found.

Secondly, to mitigate this imbalance of

trait distribution in Phase Two, I changed the weights of cautious and reckless actions, and widened the No-Trait space in between them. The intention here is so that a more consistently reckless playstyle would need to be adopted to obtain reckless as opposed to it being the default. Moreover, both a cautious character and character devoid of cautious or reckless were more obtainable. Secondly, because the block and parry, the cautious actions, were less critical in terms of gameplay, I chose to increase their weight significantly. This weight increase was so that even somewhat cautious players were still more likely to obtain Cautious, meaning more player would be likely to discover it. Clearly, this shows another important aspect when weighting actions for opposing traits. By weighting actions poorly, we may inadvertently bury one of those two traits.

Replayability

Question Rationale

Two of the goals of the trait system were to encourage replayability and to encourage players to review their in-game actions. How worthwhile replayability is as a goal is outside the scope of this research. Yet, it seems fair to conclude that some developers believe it to be a worthwhile goal (Adams, 2001).

This second goal of encouraging players to consider the actions, is vital for the trait system as a whole. If players actively consider their actions, they are more likely to take part in and notice the various aspects of the trait system. Yet, this is not to say, they must consider their actions to enjoy the trait system. More, it is that by considering their play actions, they will hopefully become more actively involved in the development of their PC and by extension, the narrative as a whole. However, this is just a hypothesis I cannot know for sure this would be the case for most gamers. To interrogate the effectiveness of the prototypes replayability, I posed these statements to players:

- Replaying the game was boring.
- Replaying the game surprised me.
- Replaying the game was interesting.

Additionally, to see if the trait system encouraged players to review their actions, I asked:

- I considered my actions more when replaying the game.

User-Testing 6

Replay-ability, User-Testing Results

When posed the statement “Replaying the game was boring” respondents:

- 89% Disagreed to some level
- 11% Somewhat Agreed.

When given the statement “Replaying the game surprised me” respondents:

- 89% Agreed to some level
- 6% Neutral
- 6% Somewhat Disagreed

When given the statement “Replaying the game was interesting” respondents:

- 100% Agreed to some level Breaking down further as:
 - 61% Strongly Agreed
 - 33% Agreed
 - 6% Somewhat Agreed

When given the statement “I considered my actions more when replaying the game” respondents:

- 100% Agreed to some level Breaking down further as:
 - 72% Strongly Agreed
 - 22% Agreed
 - 6% Somewhat Agreed

Figure 6.15 the response graph replaying the game was boring

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Figure 6.16 the response graph replaying the game surprised me

Figure 6.17 the response graph replaying the game was interesting

User-Testing 6

Figure 6.18 the response graph I considered my actions more when replaying the game

Interpretation and Discussion

My interpretation of this response was that the trait system might encourage replayability. However, this response could be due only to the branching narrative structure, which is separable from the trait system. Yet it might be fair to conclude that the trait system does not hinder replayability significantly from this response.

Yet the response to the figure “I considered my actions more when replaying the game” I have interpreted as very positive. It suggests as users played more and got more used to the system, they considered how they played more. Which, as stated, was one of the goals of the system. Thus hopefully, this system can encourage narrative engagement from the player. However, these added considerations could be due solely to the repetition, or to the testing environment.

Trait System efficacy

Question Rationale

Here I was trying to ascertain how enjoyable players found the trait system. In particular, how the PC's personality changed, and that it changed based on their gameplay. This was crucial to the system overall because if the system failed in this regard, the system overall would be a failure. To elaborate, even if we could conclude that the system allowed for interesting narrative opportunities and player narrative interaction. If the main form of player interaction with the system were unfun for most players, the prior benefits would be for nought. Thus I asked users their opinion of the following statements:

- I enjoyed crafting my character's personality with my actions.
- I liked how my character's personality changed.

Moreover, to interrogate the success of the system via the success of the prototype as it was an integral aspect, I asked:

- I would play this again
- I would play more games like this
- I did not enjoy playing this game

Trait System efficacy, User-Testing Results

When given the statement "I enjoyed crafting my character's personality with my actions" respondents:

- 100% Agreed to some level Breaking down further as:
- 56% Strongly Agreed
- 39% Agreed
- 6% Somewhat Agreed

When given the statement "I liked how my character's personality changed" respondents:

- 67% Strongly Agreed
- 28% Agreed
- 6% Neutral

When given the statement "I would play this again" respondents:

- 50% Strongly Agreed
- 28% Agreed
- 11% Somewhat Agreed
- 11% Somewhat Disagreed

When given the statement "I would play more games like this" respondents:

- 100% Agreed to some level Breaking down further as:
- 78% Strongly Agreed
- 11% Agreed
- 11% Somewhat Agreed

When given the statement "I did not enjoy playing this game" respondents:

- 67% Strongly Disagreed
- 17% Disagree
- 11% neutral
- 6% Strongly Agreed

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I enjoyed crafting my character's personality with my actions,
Phase 1

Figure 6.19 the response graph I enjoyed crafting my character's personality with my actions

I liked how my character's personality changed, Phase 1

Figure 6.20 the response graph I like how my character's personality changed

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Figure 6.21 the response graph I would play this again

Figure 6.22 the response graph I would play more games like this

User-Testing 6

Figure 6.23 the response graph I did not enjoy playing this game

Interpretation and Discussion

I have interpreted the first two graphs as being a very positive response to the player side experience of the trait system. Particularly the reaction to the PC crafting via player action, because this the underpinning idea of the trait system and the primary way in which player's experience the system. Yet, it is essential to note that this response is not directly comparable to similar systems. What I mean by this in that personality crafting exists in some forms in other game systems such as branching dialogue systems and character creation systems. Thus participants may be responding more to the level of narrative agency offered by this system, which is not unique to this system. Moreover, to truly interrogate the success of this interaction, it would be necessary to have multiple prototypes with a range of competing systems separated between each.

However, when looking at the final three graphs, I believe it suggests that there is something of value to the system overall. Notably, even the participant who did not enjoy their experience of the prototype, shown in Figure NUMBER. Did however at least agree to some level that they would be interested in playing more games like this, shown in Figure NUMBER. However, this could be due to some other aspect of the prototype being to their liking. Yet, this could still suggest that even if the instance I created of my system was not to their liking, that potentially some example of this system in a game could be. This point is crucial because I expected many more people to find this style of game, not to their taste. Firstly, because our experience and enjoyment of games can be unique, people with the same overall hobby of gaming can have significantly different tastes in what games they enjoy. Given this difference, I expected many more people to feel unfavourable of the prototype.

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Secondly, I thought it would not be to some participants taste, due to how the system abstracts player narrative agency. To explain, in games using a branching dialogue system or similar, the narrative agency of the player has a visible one-to-one connection. The player picks an option, and the game reacts. Conversely, in the trait system, the player plays, and the system then interprets that play, and the game reacts. Thus the player no longer has a one-to-one view of action and reaction. I assumed many players used to other systems would take this as a loss of overall control and thus worse. Yet despite this potential fear, the majority of players both seemed to enjoy their experience of the prototype and would play more games like the prototype.

Conclusion 7

As more games embrace narrative as a fundamental aspect of their experience, new ways of telling and interacting with those stories will be developed. The trait system prototype that I have developed demonstrates a new way of creating and interacting with game narratives that encourages ludo-narrative consistency. It accomplishes this by pulling the personality of the player character from the gameplay mechanics, which reinforces the link between the ludic structures and narrative structures in the game. This creates harmony between gameplay and narrative structures. However, this system is one part of a whole, and so it cannot create ludo-narrative consistency on its own.

Through developing the prototype, it was apparent that several design requirements need to be considered to execute a ludo-narratively consistent trait system successfully. These included: planning which personality traits to include and how they interacted with each other; consideration of action weighting so that the personality change of the player character is gradual and so competing traits

are not buried; mechanical cohesion so that the connection between action and traits are clear and make sense to the player; and consideration of how the same actions may indicate different player intentions by different players. In addition to trait focused design requirements, the prototype demonstrates that other game systems are essential for supporting the trait system. In the prototype, various mechanics were used to pull the traits from for the trait system, such as the movement and combat system. Moreover, other systems were used to reflect the traits in the game narrative, such as the weather system. These systems further interact with other game design aspects, such as creative writing and art style.

The original plan when creating the prototype was to do several rounds of iterations and subsequent user testing. However, Covid-19 disrupted the ability to gather participants quickly and required additional work which slowed the development of the prototype. This disruption was unfortunate for the research because further rounds of testing

Conclusion 7

and iteration could have produced other insights. Challenges that arose during user testing produced insights into how the trait system could be further improved in future iterations. Consequently, I made alterations to the prototype. One insight was how much the mechanical difficulty of the game would affect the distribution of traits. This effect was wholly unforeseen but by the fourth or fifth tester became painfully apparent as an observer. Another insight gained from participants was how they falsely attributed certain play behaviours to specific traits. How players attributed certain actions was interesting because they attributed both actions that did nothing and the real actions to the traits they gained; which means that the trait actions I did choose were somewhat readable to the player and that the system itself felt more expansive than it was. Moreover, these false attributions also gave great insights to what actions should become trait actions. For example, one user thought rolling in the dirt made them Clumsy; thus, this was added in the second iteration. Another false attribution, was pressing the dialogue key too fast leading the player to be reckless and interrupt NPC dialogue. This addition would have been great for future iterations. Therefore, if more testing could be done, perhaps more of these great insights in how to improve the trait system could be gathered.

Within the trait system prototype, the narrative system and game mechanics are closely interconnected. Therefore, added consideration is needed to the connections between mechanics and narratives, due to how they inform each other under this system. Yet, I would argue this further encourages ludo-narrative consistency. If this trait system were to be replicated by other game developers working in a team this would require narrative designers/writers and game mechanics designers to be working in close collaboration with each other; something I overcame via solo development. Additionally, it should also be clear from design documentation that there is a great deal of added complexity overall with this system. However, given the complexity within game design already, I would argue that for some, this weakness would be worth the many strengths this system potentially offers.

The development of the trait system prototype and results of the user testing survey show multiple possible benefits of adopting this ludo-narrative consistent system. Firstly, this system encourages the player to consider their actions, to play with the consequences of their actions and adapt their play to create the character and narrative they desire. Moreover, I have shown in the user testing how this narrative creation via play is fun for many users. Secondly, this system also allows for greater replayability, in that the game experience changes with different player playstyles. Many user testers reported that they found replaying the game interesting. Thirdly, this system is novel to many players, which could be considered a strength in itself. Finally, user testers expressed interest in playing similar games in the future. This response suggests that this ludo-narratively consistent system has potential for future development.

From my development of this system, one of the clear avenues for improvement of the trait system, is the development of supporting tools. These tools could help with both the implementation and planning of traits. When writing and planning dialogue, I used systems and tools made for branching dialogue trees. However, these systems are designed with the node structure of a dialogue tree in mind and not my trait system. This incompatibility created a problem for me in development because my system allows for the character to change at any point they have access to mechanics and not just at pre-planned points. Thus, there was significantly more mental load as the developer, both accounting for and controlling these mid-quest character changes. Thus, a tool capable of tracking these differently shaped node networks required for the trait system would be incredibly useful.

Another clear avenue of improvement would be a unified way of adding, adjusting and iterating dialogue within the game. I attempted this somewhat with the creation of a tag system and adjustment system. The tag system looked for specified tags from a lookup table and replaced them with appropriate dialogue string. For example, the tag: (OL) would grab the opening line from the relevant quest. Thus, any edits for that opening line would only need to be

Conclusion 7

done in one place. The adjustment system, would look for trait-specific tags in dialogue lines and adjust them as they were required. To illustrate, “I’ll go (peaceful)”, would be written with the peaceful trait as: “I’ll go talk to them” and conversely without peaceful: “I’ll go kill them then”. However, neither of these systems fully overcame the difficulties of the data-table format, again a format taken from branching dialogue trees. Mainly because this format made it quite hard to compare writing from previous quest steps with later ones. Therefore, it would seem a new format for writing for this type of structure would also significantly improve the future development of the trait system.

In conclusion, this exploration of a ludo-narrative consistent game system has added to the overall body of knowledge of game design. This was achieved via the in-depth examination of the trait system and the creation and testing of the prototype. Other designers and academics can now recreate my system, to test the benefits and drawbacks for themselves. Moreover, they can hybridise my system with other narrative systems to create something new, such as combining the trait system with a branching dialogue system. Additionally, via hybridisation, they could potentially remove some of the challenges the system creates, such as the abstraction of player narrative agency. Lastly, and most importantly, they can improve my system, whether with the addition of deep learning, natural language processing, or any other technological or design improvements to create something novel. Thus they have the potential to make better games, better stories and create greater harmony between them.

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Assets Used

9

Here I list all the unreal store assets used or adapted to create the prototype.

Advanced Magic FX 12:

<https://www.unrealengine.com/marketplace/en-US/item/78ce22a41175480ca78f0e2373a186ab>

Advanced Magic FX 13:

<https://www.unrealengine.com/marketplace/en-US/item/aa644bc2837b4a74b3b4d238474bb348>

Amplify LUT Pack:

<https://www.unrealengine.com/marketplace/en-US/item/e44ac2b29b774233af36eb1447f2a577>

Animal Variety Pack:

<https://www.unrealengine.com/marketplace/en-US/item/c661d0a956454ea4ba6d12c09a687406>

Brushify - Environment Shaders Pack:

<https://www.unrealengine.com/marketplace/en-US/item/9af8943b537a4bc0a0cb962bccb0d3cd>

Environment Set:

<https://www.unrealengine.com/marketplace/en-US/item/c42701c10ce54f379f9345e4cc0ae87a>

Fantasy and Medieval Architecture Kit:

<https://www.unrealengine.com/marketplace/en-US/item/b7d0f33cd923485e9cb81cf40d5b0cf5>

Flowers and Plants Nature Pack:

<https://www.unrealengine.com/marketplace/en-US/item/8f1edc825c3f4c82bba8b26888c2d561>

Assets 9

Footsteps Sounds with Blueprint Setup:

<https://www.unrealengine.com/marketplace/en-US/item/12a4ba92e5f5406fa14b7e2577f428d6>

Modular Seaside Town:

<https://www.unrealengine.com/marketplace/en-US/item/a98a4a47816b4bf69fa42dd986dc4c4c>

Open World Demo Collection:

<https://www.unrealengine.com/marketplace/en-US/item/bb1785d2edc04e1e8df3c7dd3e4b0ff3>

Paragon: Agora and Monolith Environment:

<https://www.unrealengine.com/marketplace/en-US/item/63bdd76ae7604dd5a11e731c2761802a>

Paragon Aurora:

<https://www.unrealengine.com/marketplace/en-US/item/c7a69c5f04cd45e8aff08f9993c6e751>

Paragon: Feng Mao:

<https://www.unrealengine.com/marketplace/en-US/item/5d782806719e479987ed35c9ce5f1365>

Paragon: Fey:

<https://www.unrealengine.com/marketplace/en-US/item/1104498298ea445eb8ab9e11ef8e6484>

Paragon Greystone:

<https://www.unrealengine.com/marketplace/en-US/item/93227965cf4c418eb4c32263ac33afce>

Paragon Grux:

<https://www.unrealengine.com/marketplace/en-US/item/342180f6127d4996a9cf649c4609586f>

Paragon: Khaimera:

<https://www.unrealengine.com/marketplace/en-US/item/63d57109e2b7449d98ded7dac83fdb12>

Paragon: Rampage:

<https://www.unrealengine.com/marketplace/en-US/item/af77c6377c0f4646aaa6448d22a3aaef>

Paragon: Sevarog:

<https://www.unrealengine.com/marketplace/en-US/item/4865a9dfa3a0429fafc0a099a6ad30f2>

Paragon: Shinbi:

<https://www.unrealengine.com/marketplace/en-US/item/1104498298ea445eb8ab9e11ef8e6484>

Particle Text:

<https://www.unrealengine.com/marketplace/en-US/item/288d2f2125fc4cc1879db9292f32c5db>

Shield Sounds:

<https://www.unrealengine.com/marketplace/en-US/item/fbe4f56524d545aab3f7a0bfa91c4fca>

Water Materials:

<https://www.unrealengine.com/marketplace/en-US/item/2ed5823f48fe41b5ae826841fe11b023>

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Prototype Feedback - Google Forms

Prototype Feedback

Questions Responses 18

18 responses

Not accepting responses ☐

Message for respondents

This form is no longer accepting responses

Summary

Question

Individual

Sub Heading: Aesthetic Questions

The art style distracted me from the gameplay or narrative.

18 responses

0 (0%)

0 (0%)

1 (5.6%)

2 (11.1%)

3 (16.7%)

5 (27.8%)

7 (38.9%)

1

2

3

4

5

6

7

https://docs.google.com/forms/d/1W2KCFM1mLSJyLRjLm_nPjFTuq3hlxvmuGWzOTDd45n8/edit#responses

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Prototype Feedback - Google Forms

The art style supported the gameplay or narrative

18 responses

The dialogue text was easy to read

18 responses

Sub Heading: Gameplay Questions

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Prototype Feedback - Google Forms

The goals of the game were easy to understand.

18 responses

The gameplay is engaging.

18 responses

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Prototype Feedback - Google Forms

The gameplay is too difficult

18 responses

The gameplay is fun

18 responses

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07/10/2020

Prototype Feedback - Google Forms

The gameplay is too easy

18 responses

The gameplay is boring

18 responses

Index 10

07/10/2020

Prototype Feedback - Google Forms

The Player's movement felt awkward

18 responses

The Player's attacks felt awkward

18 responses

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07/10/2020

Prototype Feedback - Google Forms

The Player's movement felt responsive

18 responses

The Player's attacks felt satisfying

18 responses

Sub Heading: Narrative Questions

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Prototype Feedback - Google Forms

My character spoke as I expected

18 responses

I considered how my actions would affect the narrative

18 responses

Index 10

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Prototype Feedback - Google Forms

The character reflected my actions

18 responses

I was surprised by my character's words

18 responses

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07/10/2020

Prototype Feedback - Google Forms

The narrative was boring

18 responses

The game reacted to my actions in-game

18 responses

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Prototype Feedback - Google Forms

Replaying the game was interesting

18 responses

I considered my actions more when replaying the game

18 responses

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Prototype Feedback - Google Forms

Replaying the game surprised me

18 responses

Replaying the game was boring

18 responses

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Prototype Feedback - Google Forms

I liked how my character's personality changed

18 responses

I enjoyed crafting my character's personality with my actions

18 responses

Non-Player Characters (NPCs) and Events Section

Index 10

07/10/2020

Prototype Feedback - Google Forms

I was surprised by NPC Fairy Farmer

18 responses

NPC Fairy Farmer was boring

18 responses

Index 10

07/10/2020

Prototype Feedback - Google Forms

NPC Fairy Farmer was cliché

18 responses

I was surprised by NPC Fighter

18 responses

Index 10

07/10/2020

Prototype Feedback - Google Forms

NPC Fighter was boring

18 responses

NPC Fighter was cliché

18 responses

Index 10

07/10/2020

Prototype Feedback - Google Forms

I was surprised by NPC Guide

18 responses

NPC Guide was boring

18 responses

Index 10

07/10/2020

Prototype Feedback - Google Forms

NPC Guide was cliché

18 responses

I was surprised by NPC Damsel

18 responses

Index 10

07/10/2020

Prototype Feedback - Google Forms

NPC Damsel was boring

18 responses

NPC Damsel was cliché

18 responses

Index 10

07/10/2020

Prototype Feedback - Google Forms

I was surprised by NPC Monster

18 responses

NPC Monster was boring

18 responses

Index 10

07/10/2020

Prototype Feedback - Google Forms

NPC Monster was cliché

18 responses

The Bandit Event was cliché

18 responses

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Prototype Feedback - Google Forms

I did not know what to do in the Bandit Event

18 responses

The Pig herding Event was cliché

18 responses

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Prototype Feedback - Google Forms

I did not know what to do in the Pig herding Event

18 responses

Sub Heading: Player Characters

Tick the boxes of the Player Characters you believe you played

18 responses

General Questions Section

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Prototype Feedback - Google Forms

I would play this again

18 responses

I would play more games like this

18 responses

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Prototype Feedback - Google Forms

I did not enjoy playing this game

18 responses

I did not understand the point of the game

18 responses

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Prototype Feedback - Google Forms

I did not know what to do next in the game

18 responses

Sub Heading: Background questions

https://docs.google.com/forms/d/1W2KCFM1mLSJyLRjLm_nPjFTuq3hlxvmuGWzOTDd45n8/edit#responses

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Prototype Feedback - Google Forms

I consider Gaming a hobby of mine

18 responses

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Prototype Feedback - Google Forms

Tick the boxes next to the game genres you feel familiar with

18 responses

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Prototype Phase Two Questionnaire - Google Forms

Prototype Phase Two Questionnaire

Questions Responses 3

3 responses

Accepting responses

Summary

Question

Individual

Sub Heading: Phase Two Questions

Have you tested a version of this prototype before?

3 responses

● Yes
● No

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Prototype Phase Two Questionnaire - Google Forms

Did you stream the prototype via google chrome or play locally?

3 responses

What frame rate roughly did you play at? (Small green number on the right of the screen)

3 responses

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Prototype Phase Two Questionnaire - Google Forms

Did you notice any visual changes to the character while playing?

3 responses

Did you notice any weather changes while playing?

3 responses

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Prototype Phase Two Questionnaire - Google Forms

What do you believe caused the weather changes?

3 responses

Sub Heading: Aesthetic Questions

The art style distracted me from the gameplay or narrative.

3 responses

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Prototype Phase Two Questionnaire - Google Forms

The art style supported the gameplay or narrative

3 responses

The dialogue text was easy to read

3 responses

Sub Heading: Gameplay Questions

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Prototype Phase Two Questionnaire - Google Forms

The goals of the game were easy to understand.

3 responses

The gameplay is engaging.

3 responses

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Prototype Phase Two Questionnaire - Google Forms

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3 responses

The gameplay is fun

3 responses

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Prototype Phase Two Questionnaire - Google Forms

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3 responses

The gameplay is boring

3 responses

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Prototype Phase Two Questionnaire - Google Forms

The Player's movement felt awkward

3 responses

The Player's attacks felt awkward

3 responses

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Prototype Phase Two Questionnaire - Google Forms

The Player's movement felt responsive

3 responses

The Player's attacks felt satisfying

3 responses

Sub Heading: Narrative Questions

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Prototype Phase Two Questionnaire - Google Forms

My character spoke as I expected

3 responses

I considered how my actions would affect the narrative

3 responses

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Prototype Phase Two Questionnaire - Google Forms

The character reflected my actions

3 responses

I was surprised by my character's words

3 responses

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Prototype Phase Two Questionnaire - Google Forms

The narrative was boring

3 responses

The game reacted to my actions in-game

3 responses

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Prototype Phase Two Questionnaire - Google Forms

Replaying the game was interesting

3 responses

I considered my actions more when replaying the game

3 responses

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Prototype Phase Two Questionnaire - Google Forms

Replaying the game surprised me

3 responses

Replaying the game was boring

3 responses

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Prototype Phase Two Questionnaire - Google Forms

I liked how my character's personality changed

3 responses

I enjoyed crafting my character's personality with my actions

3 responses

Non-Player Characters (NPCs) and Events Section

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3 responses

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3 responses

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3 responses

I was surprised by NPC Fighter

3 responses

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Prototype Phase Two Questionnaire - Google Forms

NPC Fighter was boring

3 responses

NPC Fighter was cliché

3 responses

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Prototype Phase Two Questionnaire - Google Forms

I was surprised by NPC Guide

3 responses

NPC Guide was boring

3 responses

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Prototype Phase Two Questionnaire - Google Forms

NPC Guide was cliché

3 responses

I was surprised by NPC Damsel

3 responses

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Prototype Phase Two Questionnaire - Google Forms

NPC Damsel was boring

3 responses

NPC Damsel was cliché

3 responses

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3 responses

NPC Monster was boring

3 responses

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07/10/2020

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NPC Monster was cliché

3 responses

The Bandit Event was cliché

3 responses

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Prototype Phase Two Questionnaire - Google Forms

I did not know what to do in the Bandit Event

3 responses

The Pig herding Event was cliché

3 responses

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Prototype Phase Two Questionnaire - Google Forms

I did not know what to do in the Pig herding Event

3 responses

Sub Heading: Player Characters

Tick the boxes of the Player Characters you believe you played

3 responses

General Questions Section

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Prototype Phase Two Questionnaire - Google Forms

I would play this again

3 responses

I would play more games like this

3 responses

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Prototype Phase Two Questionnaire - Google Forms

I did not enjoy playing this game

3 responses

I did not understand the point of the game

3 responses

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Prototype Phase Two Questionnaire - Google Forms

I did not know what to do next in the game

3 responses

Sub Heading: Background questions

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Prototype Phase Two Questionnaire - Google Forms

I consider Gaming a hobby of mine

3 responses

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07/10/2020

Prototype Phase Two Questionnaire - Google Forms

Tick the boxes next to the game genres you feel familiar with

3 responses

An Exploration of Ludo-Narrative Consistent Game Systems

CONSENT TO PARTICIPATE IN USER TESTING

This consent form will be held for five years.

Researcher: Rick Dodds, School of Design, Victoria University of Wellington.

- I have read the Information Sheet and the project has been explained to me. My questions have been answered to my satisfaction. I understand that I can ask further questions at any time.
- I agree to take part in this user test and questionnaire.

I understand that:

- I may withdraw from this study at any point within two weeks of participating, and any information that I have provided will be returned to me or destroyed.
- The identifiable information I have provided will be destroyed on 1/12/2020.
- Any information I provide will be included in a final report.
- I understand that the results will be used for a Masters Research Portfolio and academic publications and presented to conferences.
- My name will not be used in reports and utmost care will be taken not to disclose any information that would identify me.
- I would like to receive a copy of the final report and have added my email address below. Yes No

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Signature of participant: _____

Name of participant: _____

Date: _____

Contact details: _____

An Exploration of Ludo-Narrative Consistent Game Systems

INFORMATION SHEET FOR PARTICIPANTS FOR INDIVIDUAL USER TESTS

You are invited to take part in this research. Please read this information before deciding whether or not to take part. If you decide to participate, thank you. If you decide not to participate, thank you for considering this request.

Who am I?

My name is Rick Dodds and I am a Masters student in Master of Design Innovation at Victoria University of Wellington. This research project is work towards my Research Portfolio.

What is the aim of the project?

This project is to explore the possibilities of creating greater harmony between game systems and game narrative, specifically by testing a new type of Narrative System. Both the prototype and narrative systems have been developed by myself. Your participation will support this research by hopefully showing the some of the strengths and weaknesses with these narrative systems. The project is intended to show a possible new way of constructing and interacting with narrative within videogames as a medium.

This research has been approved by the Victoria University of Wellington Human Ethics Committee Reference ID: 0000028114

How can you help?

You have been invited to participate because you have expressed interest in the research or in potential games made using such narrative systems. If you agree to take part you will be asked to play through a short ten minute Game section three separate times, the prototype will be streamed to you on your own Computer via your browser.

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The researcher will be available via a zoom call for any questions during the testing process. You will be asked to complete an online questionnaire, via google forms, after your experience with the game. The research will take up to 40 minutes. You can stop the user testing at any time by letting us know without giving a reason. You can withdraw from the study by contacting me at any time before two weeks from testing. If you withdraw, the information you provided will be destroyed or returned to you. You must be 18 years or older to take part in this study.

What will happen to the information you give?

This research is confidential. This means that the researcher^s named below will be aware of your identity but the research data will be combined and your identity will not be revealed in any reports, presentations, or public documentation.

Only my supervisors and I will access the completed questionnaires. The material I collect will be kept securely and destroyed on 1/12/2020.

What will the project produce?

The information from my research will be used in my Masters' Research Portfolio and results may be shared at academic/professional conferences and published in academic/professional journals.

If you accept this invitation, what are your rights as a research participant?

You do not have to accept this invitation if you don't want to. If you do decide to participate, you have the right to:

- choose not to answer any question;
- stop the questionnaire or test at any time;
- withdraw from the study within two weeks of participating;
- ask any questions about the study at any time;
- be able to read the final thesis of this research by emailing the researcher to request a link

If you have any questions or problems, who can you contact?

If you have any questions, either now or in the future, please feel free to contact either:

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Student:

Name: Rick Dodds

University email address:

[REDACTED]

Supervisor:

Name: Byron Mallet

Role: Lecturer MD

School: Victoria University

Email:

[REDACTED]

Human Ethics Committee information

If you have any concerns about the ethical conduct of the research you may contact the Victoria University of Wellington HEC Convenor: Associate Professor Judith Loveridge.
Email hec@vuw.ac.nz or telephone +64-4-463 6028.

Recruitment Poster

A recruitment poster for a game. The background is a scenic landscape with a golden knight in full plate armor standing on a grassy hill, looking out over a valley with mountains in the distance. The sky is a mix of purple and blue, suggesting dusk or dawn. The text is overlaid on the image.

**ARE YOU READY
FOR SOMETHING
NEW?**

*How you play changes who you are,
and the story you tell.*

*Masters Design Innovation Portfolio: An Exploration of Ludo-narrative Consistent Systems
by Rick Dodds*

Sign up for user testing now to play our Prototype and give us feedback!

Sign up here: <http://bit.ly/Ludonarrative> HEC approval number:0000028114