

How Heavy is a Halo:

Assessing Player Investment with regard to Ethical and Economic Design in Games

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A Proposal Presented for a
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Table of Contents

Introduction.....	4
Field Review	7
Methodology.....	26
Introduction.....	26
The Product.....	28
Level Abstract: The Wolves of Virginia.....	32
Revision Notes	32
Summary	32
Gameplay Overview	33
Technical Overview	35
Details	37
Theme/Mood.....	37
Major Characters.....	38
Gameplay Mechanics.....	39
Story.....	40
Visual References	44
Rough Map.....	49
Testing and Data Collection.....	50
Schedule.....	52
Conclusion	55
Appendix A: Questionnaire	57
References.....	63
Books	63
Games	63

Introduction

Ethical dilemmas are ubiquitous in gaming, but recent years have yielded several top-selling titles that purport to provide players with morally implicated experiences as an important aspect of the gameplay. Games like Bethesda Softworks' 2008 title, *Fallout 3*, place the player in a vast and elaborate setting where the player makes moral choices along the way toward completing the storyline's main quest. Other games such as BioWare Corp's *Mass Effect* (2007) and 2K Boston's *BioShock* (2007) take a more linear approach toward setting up their moral dilemmas, but nonetheless include the player's decisions as having a driving impact on the narrative of those games. While the gameplay in these titles was decidedly solid, their critical acclaim, awards, and sales figures suggest that there is a large segment of the game industry's market that demands richer experiences than simply interacting with the environment and combating artificial intelligence (AI). More precisely, these games want players to experience a sense of agency over the game world with which they interact so that they may become more invested in that world and, in turn, yield more cathartic experiences for the player as story beats turn within the narrative. One way to achieve this is through the use of ethical dilemmas in gameplay.

Some of the most interesting scenarios that people face in life are ones that have strong ethical implications. This is not simply due to the fact that they are ethical in and of themselves, but because they also involve economics. After all, if there was always an optimal route to take with any decision, then life would become predictable and boring.

If every decision only had an ethical component then a person would choose the option with the highest moral quotient. This assumes a static, particular moral stratum.

For instance, if a person adhered strictly to Millsian utilitarianism then every time they encountered a decision, the person would perform utilitarian calculus and decide upon the choice that yielded the highest net happiness based on all affected parties. Likewise, if every decision were entirely economic then the person would always choose that which yielded the greatest benefit to him. Under this pretext, the question, “Do I steal from that poor family down the street so that I may pay my mortgage, or do I accept that I must lose my house?” has an obvious answer—steal from the family. The problem with these situations from a storytelling perspective is that they are entirely fatalistic. Every decision could be predicted ahead of time, so there is no surprise to the audience—no big revelation of character.

The reality is that, with rare exception, decisions have both ethical and economic aspects. When ethics and economics are in accord then the decision is easy to make, but when opposed they demand interesting (and often times difficult) decisions. In fact, this is what makes them so compelling to an audience. When a person faces great net personal gain versus upholding a moral principle, a genuine internal conflict occurs. The purpose of this work is to examine reward systems (player-based economics) in games and compare them to how they relate to moral questions.

It is in the realm of agency over a scripted world and the implications of a developer’s design to have a player truly pay for the moral choices they make that this project takes place. Currently, games tend to skew in favor of providing moral quandaries that impact the game world but veer from affecting player economics based upon those decisions. This prevents the player from feeling completely accountable for their actions and even disenfranchises them to a certain extent.

While this approach is safe for reasons ranging from permitting complete gameplay options to avoiding backlash from angry players that feel unjustly judged, it also prevents the player from fully investing in the game world by disallowing both the economic and ethical aspects of the decisions they make to enter the fray.

This project uses two near identical levels created in *Fallout 3*'s Gamebryo editor as the media for testing. It gauges player responses to situations that have both of these aspects by setting up a control group that uses conventional gameplay methodology and a test group where players also experience an economic impact based on the decisions that they make. More simply, do players enjoy the gameplay experience the same, more, or less when the game rewards them less for making the morally praiseworthy decision? The results of this project assist developers in devising reward systems in their games so as to provide players with deeper immersion, greater investment, and essentially a stronger attachment to their game.

Field Review

Conflict in Storytelling

The foundation of story is conflict. Without conflict, Odysseus merely sails across the Aegean Sea and Prince Hamlet does not worry about avenging his father, marries Ophelia, and lives happily ever after. While the previous examples may be conjecture and hyperbole, they do suggest a valid point. It is the conflict in these stories that makes them interesting. As Robert McKee puts it in *Story: substance, structure, style, and the principles of screenwriting* (Harper-Collins Publishing, 1997, pp. 34),

“A Story Event creates meaningful change in the life situation of a character that is expressed and experienced in terms of a value and ACHIEVED THROUGH CONFLICT [sic].”

Conflict provides insight to the characters within the story, and the more significant the conflict, the deeper the reveal of that character’s essence.

In literature, conflict falls under two categories: external and internal. External conflict comes from sources beyond the character’s control. Classic examples of this include other people, nature, and even the gods as with the hero Odysseus. This project examines internal conflict—the source of which rests solely within the minds of characters in the narrative.

Internal Conflict

This almost exclusively involves conflict based on the decisions that the protagonist makes within the narrative. In some cases, this could mean personal demons that the protagonist must overcome such as habit, addiction, or even psychosis. Often

times, internal conflict involves some sort of ethical choice. A classic example of these choices includes Dostoyevsky's *Crime and Punishment* where Raskolnikov, the protagonist, deals with the guilt of having murdered Alyona and Lizaveta Ivanovna. He must decide whether to turn himself in to authorities and rest his troubled soul, or keep evading the law and live with the turmoil. While almost the entirety of the novel rests around this one decision and internal conflict, game developers can apply the principles on a different scale within their games. When performed by a master craftsman of storytelling, the audience empathizes and sympathizes with characters due to seeing elements of themselves within them. Without this verisimilar connection, the effect is lost in unfamiliarity.

One of the benefits of written story is that the reader gains immediate access into the inner thoughts of the characters (e.g. in *Crime and Punishment*, the reader is aware of all Raskolnikov's thoughts leading up to his ultimate decision). This aspect is something that has confounded actors, directors, and screenwriters since the inception of moving pictures, for it takes quite a skilled artist to be able to elegantly convey a character's internal conflict without somehow breaking immersion by being overtly expositional. The advent of video games effected a turning point in narrative because of the audience's role in the story itself. No longer was the protagonist of a story some disconnected third person guided by an invisible hand.

With video games, the protagonist can play the second person role or even first person role, depending on the game itself. Instead of an event happening to "that person," it happens to "you" or can even be perceived as "that happened to 'me'." The key difference is that while major story elements are still provided by a third party (the author

in the case of literature, and the developer in the case of video games), the agency over the protagonist that video games provide for players means that the conflicts that arise in narrative are not entirely a vicarious exercise. Instead, they are shared with the player as their own plight to a certain extent. The successes of the protagonist are also the successes of the player, and the same treatment applies to failures.

The player conquers external conflict by guiding the avatar's physical actions within the game world to defeat opposition through various tactics. Game developers have become quite adept at creating this conflict over the years. However, recent history has seen a surge of internal conflict through the proliferation of ethical systems in games. These systems place the protagonist (and thus player) into situations where they make a decision that affects the avatar, the game world (including non-player characters or NPCs), and/or the player's psyche. This could be a pinnacle moment in the history of storytelling for humankind.

No longer would inner conflict be something exclusive to a pre-directed third party where the audience sits in anticipation of what another person decides. Instead, the audience could literally be having the internal conflict themselves. Rather than marvel at the revelation of some profound quality in the protagonist, the audience would marvel at themselves by revealing parts of their own character to which they might hitherto have been unaware. The burden rests on the developers' hands to provide adequately compelling narratives and situations that could bring this out of the player. This begs the question, "What makes ethics exemplary as a storytelling device?"

Types of Rewards

Video games have offered the player moral quandaries since the inception of narrative-based gameplay. This section examines the types of rewards players receive in gameplay, assesses their significance to the player, and then explores how other games have approached reward systems with regard to moral decisions. In-game currency plays a large role in economic rewards as even non-currency rewards typically have a currency value. Because video games so frequently vary the names of their respective currencies, this document will refer to them as “dollars” or “money” (depending on the context) for the sake of consistency and to avoid confusion.

Rewards can be broken down into two categories: economic and non-economic. Economic rewards represent “material” goods delivered to the player in-game and are a form of direct personal gain for the player. There exists no standard for what constitutes economic gain as they consist of various things like

- Dollars
- Items (weapons, apparel, modifications, potions, etc.)
- Experience points (including its derivations such as attribute points).

Non-economic rewards consist of a far more nebulous array of rewards that a player receives. These are typified by things such as the following:

- Non-player character (NPC) favor
- Gratitude expressed through dialogue by individuals
- Artificially generated notoriety in the game world

- Access to previously prohibited areas
- Game world rewards such as statues erected of the player's avatar or giving a player ownership of game world buildings
- In-game titles
- Achievements (Xbox Live's Achievement system, Playstation 3's Trophy system, etc.)
- Etc.

Many games as of late use non-economic rewards religiously. *Fallout 3* has voiceovers where a radio announcer tells "the whole Capital Wasteland" about your deeds. *Fable II* has the entire world bend and change based upon your decisions ranging from environmental art to the player's physical appearance. *Knights of the Old Republic* also has the player's appearance change with their light/dark side status.



Figure 1 - Corruption horns from *Fable II* (www.gamerlimit.com)

Games frequently combine the two types of rewards in one form or another. For instance, completing a quest in a game typically rewards the player with both the gratitude of the quest-giving NPC, some money, and experience points. Feedback permutations such as those listed above constitute the vast majority gameplay in the history of games. A game presents a player with a challenge—be it strategic, tactical, and/or moral—and then rewards the player after just about every challenge. When considering player investment, however, it is not the type of reward that matters so much as its significance to the player.

Significance of Rewards and Their Implications

In actual life, decisions become much tougher when repercussions have significant value. The things that have the most significant value to most people are family and friends, and many people would endure great personal sacrifice to ensure their safety. However, as relationships become less familiar, different ethical treatments tend to apply. Organizations such as the Starfish Children's Fund (a secular charity group) advertise on their website that a person can sponsor a child to give them clothing, food, and clean water in a third world country for "...\$240 per year" (<http://www.starfishchildrensfund.org/> June 8, 2009). To many people in a first world country such as the United States, this does not represent a significant investment. However, if the price were to change to \$2,400 then a smaller percentage of people would probably partake in such programs. The difference between these two examples is analogous to the problematic nature of reward systems and morality in video games. If a developer creates a reward system that is so significant that there is no other option, then economics and ethics become insignificant.

A great example of this is the game *Ico* (Sony Computer Entertainment, 2001), where the titular protagonist, Ico, escorts his female companion, Yorda, through a perilous castle. If at any moment Yorda dies or is captured, the game ends and the player restarts at a checkpoint. While there are many factors at play such as emotional investment in the protagonist's relationship with Yorda, ethics does not factor into the gameplay equation because the failure to act "ethically" (rescuing Yorda) results in losing the game. When a situation like this occurs, the player does not consider the economics and ethics with regard to the game world but instead it takes the player back into the real world. They want to continue playing the game, so they must assist the NPC. This is where a challenge ceases to be a decision and becomes an objective.

On the other hand, a newly introduced NPC could give the player a small task. In this task, the player needs to go out and kill a few low-level wolves that are terrorizing the NPC's farm and, in return, gains some experience points (EXP). In this situation, there is little risk and a proportionate reward. Assuming that real-life time investment is insignificant to the player in this situation, then this also presents little significance to the player. The above scenario compares with the child sponsorship example above where there is relatively little cost to the individual.

What if the scenario above changed in a way such that the farmer needs a unique, powerful weapon from the player and gives little or no experience as a reward? Alternatively, what if the farmer needed a level's worth of "experience currency" and offers a small amount of dollars as a reward? Depending on the game's design, these situations would offer a far more significant decision for the player to make. The key factor that affects the significance of the decision is best attributed to Adam Smith in *The*

Wealth of Nations (Prometheus Books, 1991). The cost to the player must be something in the game world that is in high demand and limited supply. While certain games systems prescribe different abstracts as significant, and different players weigh the importance of certain systems independently, the developer does have a significant amount of control over what systems the player holds significant when considering one key assumption.

The Assumption

In order for this study to work, a key assumption is necessary: players weigh the combined non-ethics-based systems as more important than or equally important to the ethics system alone. If the ethics system is more important to the player than all of the other systems combined, then the player will ignore every other system when making decisions in the game and economics ceases to be a question.

This assumption also impacts the direction that this study takes from a control standpoint due to the nature of interpersonal relationships. While the closest interpersonal relationships that a person has could also be considered the most significant abstract in the vast majority of people's lives, gauging the significance of interpersonal relationships in general becomes problematic. Different people weigh the significance of their relationships differently from others. Some prefer loyalty to dependability, others prefer confidence to intimacy. Thus, in video game terms, the "reward" of maintaining a relationship with an NPC is difficult to measure. However, most people recognize the importance of money and personal growth. While what constitutes personal growth to an individual in real life can be as nebulous as the significance of particular interpersonal relationships, video games can standardize this.

As such, the analysis of past video games holds the standards prescribed above:

- What types of economic rewards are given?
- Are the rewards significant to the real world or the game world?
- How significant are those rewards?
- How did those rewards correlate to the ethical systems in the game?

Star Wars: Knights of the Old Republic (Bioware Corp, 2003)



Figure 2 - Force Lightning ability from *KOTOR* (www.c-weng.com)

Star Wars: Knights of the Old Republic (frequently referred to as *KOTOR*) was a game that had an ethical system based upon the Force system in the *Star Wars* universe. Players would interact with NPCs and were given dialogue choices whereby they could

do things such as reinforce the NPC positively, objectively, or negatively. Positive choices yield points toward the “Light Side” (moral), objective choices yielded no change, and negative choices yielded points toward the “Dark Side” immoral. This same premise applied toward how the player completed objectives and quests whereby there was a moral option and an immoral option (the “objective” option appeared rarely in quests).

Quest rewards often constituted economic rewards of EXP, money, and/or items, which were the same as the rewards for defeating enemies (although to varying extents). Non-economic rewards consisted of unique story events and dialogue choices (particularly with the main group NPC, Bastila).

At the early stages of the game, many of the choices were somewhat significant. For instance, monetary rewards predominantly favored Dark Side choices and made item acquisition through merchants easier. However, there was a negligible amount of experience change between taking the Light Side path versus the Dark Side. The only difference is that, typically, a player would have to kill more NPCs when taking the Dark Side path and thus would get more experience that way. From the onset, it appears that KOTOR presents a good example of a game that explored the aims of this study. However, as the player progressed through the game, monetary rewards became increasingly insignificant and monetary gains diminished in value as they became more “farmable”.



Figure 3 - Force powers icon sheet (www.photobucket.com)

An interesting note about KOTOR is the way that player abilities progressed through the game relative to the ethical system. A player that took the Dark Side path was offered easier access to Dark Side powers (by making them cost less attribute points), and the same goes for Light Side path and Light Side powers. While an argument could be made that this also represents increased significance in player choices, KOTOR still fall short of the mark of making choices “significant enough.” This is because KOTOR’s system as such reinforced different play styles for different ethical paths, it did not ultimately cost the player that much. Great effort went into balancing the different subsets of powers whereby Light Side powers were more defensive and Dark Side powers more offensive. Also, other powers were fairly complementary. Light Side’s “Heal” ability had the “Drain” Dark Side counterpart where the difference was that Heal restored more hit points to the player, and Life Tap restored less but also did damage to enemies.

By making both power sets available and by balancing the power sets to the best of their ability, the developers of KOTOR increased the significance of the ethical decisions a player made by making the game more difficult to completely customize, but ultimately did not offer as much of an economic impact on the player to create a great investment in the decisions that the player makes.

Fallout 3 (Bethesda Softworks, 2008)



Figure 4 - Karma image on a Pipboy 3000 from *Fallout 3* (www.gamingindians.com)

Another example of games that have ethical implications is *Fallout 3*. This is a game that has a robust economic system as well as different gameplay options available to players for taking moral, immoral, and amoral paths.

The economic systems within *Fallout 3* consist of experience points, perks (used to enhance player attributes as well as offer different gameplay choices such as dialogue), a monetary system, and items. The ethics system in the game consists of the “Karma” system whereby players gain good karma for acting morally and bad karma for acting

immorally. One thing that *Fallout 3* did very robustly is fleshing out the non-economic rewards for player choices.

There are many situations whereby a player's choice affects the game world directly and has non-economic implications and repercussions. For instance, the game presents the player with a choice of whether or not to blow up Megaton, a town of innocent people and renegades alike, with a nuclear bomb. Doing so kills all but one person in the town and makes them unavailable to the player. It also removes the availability of shops, uncompleted quest rewards, etc., to the player. However, with the exception of quest rewards (of which there is no shortage in *Fallout 3*), there is no significant impact on the player economically. There is nothing in the town that could not be gained before setting off the bomb, and anything with long-term effects on gameplay that would be lost are gained elsewhere (such as the player's personal residence which is gained in Tenpenny Tower if the player destroys Megaton). This is another example whereby the choices that the player makes affect preference and non-economic factors, but not economics. Anything that is lost is ultimately insignificant or potentially gained through different means elsewhere in the game.



Figure 5 - Megaton explosion (www.filesmelt.com)

Indeed, *Fallout 3* presents many examples just like this one that affect player preference but shy away from affecting the player economically. The player can have different companions join their party throughout the game, and six of the eight have Karma prerequisites before the NPC will join the player. However, no matter what moral choices the player makes, there will always be an NPC to assist the player in combat. If the player goes down the immoral path, then a group of NPCs called “The Regulators” will occasionally show up to thwart the player, but there is also a counterpart to this if the player chooses the moral path.

In the case of *Fallout 3*, the ethical system acts almost independently from all other systems in the game, affecting almost exclusively non-economic rewards. So, while the decisions that the player makes could be interesting from a narrative perspective, the lack of economic impact prevents the player from becoming more invested in their decisions.

BioShock (2K Boston, 2007)

Figure 6 - Gatherer's Garden from *BioShock* (www.flickr.com)

While *BioShock*'s ethical system is the least robust of the three games analyzed in this field report, it by far represents the best example of significance to the player. While the other games did a great job of fleshing out their systems, *BioShock* did the best job of getting to the core of creating player investment in the decisions that they make.

In this game, there is one moral question asked multiple times to the player, "Do I kill the little girl for greater immediate personal gain, or do I save her for less personal gain?" What makes this question so intriguing is because of its supply-demand aspect. There is only one way to gain EXP in *BioShock*, and it is through encounters with young girls called "Little Sisters" of which are in a set, limited supply. Each Little Sister is

accompanied by a hard-to-kill bodyguard called a “Big Daddy”. The first decision that the player has to make is purely economic because taking down a Big Daddy is an optional battle, but doing so will almost certainly cost a lot of ammunition, health packs, and possibly EVE syringes (which restore “magic points”). Once the Big Daddy is defeated, the player has the option of killing the Little Sister for 160 ADAM (experience currency), or saving her for 80 ADAM.



Figure 7 - First encounter with a Little Sister (www.tacticalsites.com)

What makes this interesting is that the only way to acquire most of the plasmids (magic abilities) in the game is by purchasing them with ADAM. While the game can be beaten without ever purchasing plasmids, it becomes much more difficult as the player has fewer and fewer plasmids. Thus, forcing the player to make the decision of whether or not to kill the Little Sister has both an ethical component as well as a significant economic component. The player potentially impedes their ability to progress through the game by saving the Little Sister for 80 ADAM, but makes the moral choice.

This 80 versus 160 ADAM situation is how the game initially presents the ethical/economic system to the player. However, the player soon learns that they earn a

big lump sum of ADAM for every three Little Sisters that they save. While the net amount of ADAM that a player can possibly earn is still larger by taking the immoral path, the difference between taking the moral and immoral path is ultimately insignificant.

While *BioShock* refrained from taking that next step of changing the gameplay based on moral decisions, by setting up the ethical and economic systems the way that the developers did they created a group of systems that have the potential to be significant to the player and thus increase their investment in the game.

Kantian Ethics: “From Duty” vs. “In Accordance with Duty”

While not intentional, this project exhibits facets of the Kantian ethical framework—particularly in *Groundwork for the Metaphysics of Morals* where he discusses the difference between acting in “accordance with duty” versus acting “from duty” (Cambridge University Press, 1996). According to Kant, the difference between acting in accordance with duty and from duty is that acting from duty has a moral “value” and acting in accordance with duty does not. (To stipulate, ‘value’ in this sense refers to the condition of manifestation rather than referring to merit or cultural worth such as “exhibiting family values.”) Kant explains that acting in accordance with duty does have merit and is laudable, however an attribution of morality cannot be made.

An analogue to this would be if every time one saw a homeless person on the street and gave them five dollars, they would receive five dollars back from another source. (For the sake of brevity and due to the scope of this project, I will avoid going into arguments about the valuation of things like “personal satisfaction” as mitigating

factors.) Essentially, Kant says that in order to act morally then there must be some sort of loss to the agent committing the act.

While this notion may not sit well with many people who feel that their philanthropic efforts are being short-changed, Kant does bring about an interesting notion. If there is nothing lost by acting morally, then how moral is it? A person making \$1 million per year who hands out a hundred dollar bill to a beggar is nice, but how much would American society praise the opulent person relative to a person making \$20,000 per year committing the same act? All else being equal, the former could do so nonchalantly, while the latter would do so painstakingly. This is because in both cases the demand for money is roughly equal, but supply is great on one side and scant on the other.

This begs the question that is at the heart of this project: Who is more likely to feel greater satisfaction from this exchange upon receiving the beggar's gratitude? Once again, all else being equal, the poorer person is more likely. The millionaire makes that money in about twelve minutes. The other person does so in five hundred eighty-eight minutes. The amount of money given away is exactly the same, but the investment made by the poorer person is forty-nine times greater regarding time. While Kant probably did not have situations like this in mind when authoring *Groundwork*, applications of his notions of "from duty" versus "in accordance with duty" shed an interesting light on human nature and Western society's valuation of moral acts.

Taking the difference in satisfaction generated as a cue, this project examines these two correlating conditions and evaluates player reaction to both. The traditional ethical system framework that video games currently use is very much a case of "in

accordance with duty” due to the lack of significance attributed to player decision. Players can go through the game following a moral path without any real repercussions for choosing one moral over another. As explained below in the “Methodology” section, the control group experiences gameplay through the “in accordance with duty” ethical framework. The test group plays the game under a modified “from duty” system where the player knowingly receives less reward for acting morally. While games do not mimic real life, the results of this test could possibly show that players get more satisfaction from their gameplay experience when they knowingly invest significantly in the decisions that they make.

Methodology

Introduction

The goal of this study is to provide data on how players respond to making decisions that have both ethical and economic ramifications. Currently, the standard in video game development tends toward presenting the player with moral challenges that have almost exclusively non-economic repercussions. The theory presented in this study purports that players might invest themselves more fully in the experience if quest/mission parameters require the player to also make a significant economic investment. While this varies by mechanics and systems from game to game, player economics encompass things typified by experience points, in-game currency, and items. This work amplifies the significance of the economic decision by limiting the supply of one or a combination of economic factors which are in high demand.

The results of this study deliver quantitative and qualitative data on how players respond to these situations. This includes data such as demographics, enjoyment, and the players' sense of investment in their decisions. Developers could then utilize the data in designing quest/reward systems in video games to optimize player attachment. For instance, if players respond negatively to the changes then developers would have justification in keeping ethical systems separate from economic systems. However, if players enjoy the changes, then developers might consider doing things like making the "moral" path one of harsher trials and tribulations. Yet another scenario would be that players are indifferent to the changes yet still felt more invested in their decisions. This

would show that there is something to this theory but different implementations could be more successful.

To test this theory, this project creates two versions of a level using Bethesda Softworks' *Fallout 3*. One level is the "control group" level and utilizes standard reward designs. Players in this group experience rewards that do not change regardless of which moral path the player takes. The "test group" level implements the altered reward system and provides more economic rewards for choosing the immoral path as well as less economic rewards for taking the moral path. The deficit in rewards accounts for the economic investment for the player where the test group faces more economic strife by taking the moral path.

Overall the development of the two levels takes three months through using a spiral development cycle applied to a slightly modified level iteration process. Approximately two weeks go into creating the level design documents (LDDs) as well as the dialogue tree scripts for the two levels. From there, another two weeks are spent creating a "whitebox" version of each level so that reward testing can begin. Balance between rewards may prove difficult for the test level in ensuring that the player feels the economic sting of making the right decision and not completely overwhelmed by difficulty. As such, multiple testing and iterating sessions achieve this balance and will take approximately one month. After this, it takes two weeks to flesh out art and scripting (including dialogue) so that actual theory testing can begin and continue for approximately one month. Data analysis begins after twenty completed playtests to ensure an adequate sample size and continues periodically until defense of the thesis.

The Product

Overall, this project has three major deliverables for testing: the two levels, a questionnaire, and a masters thesis. This section details the intended creation of the two levels.

Testing utilizes *Fallout 3* because the Gamebryo editor allows for rapid iteration due to tile-based editing. This is important because, in order to fully immerse and invest the player, the study requires a longer playtest than with typical projects. *Fallout 3*'s editor system allows for large levels to be created in a relatively short amount of time. Furthermore, the robust dialogue system is optimal for rapidly generating content for the ethics system where resources such as custom animations and art are unavailable.

The most difficult challenge in testing this theory involves coming up with the right balance of supply and demand for the rewards. This is because skewing too much in favor of one or the other would corrupt the data; rendering the choices that a player makes insignificant. When applied to the systems present in *Fallout 3*, the best way to manipulate economic rewards is through ammunition (ammo) and combat item control. As things currently stand in *Fallout 3*, a player can make tradeoffs between complementary systems.

For instance, a player can sacrifice "repair" skills by increasing the "bartering" skill. By increasing the barter skill and using vendors, the player can offset repair costs in a similar way to repairing items himself. In the case of bartering, the player pays less for repairing items and also sells items looted from enemies for a greater profit. With the repair skill, the player avoids paying for repairs at a vendor by using looted items to

repair weapons and armor in the field. Similar comparisons arise when comparing many of the different skill sets that the player advances.

For this reason, manipulating experience gains is not the best course of action for this test. The ability to “tradeoff” skill sets means that gaining less experience does not necessarily hinder the player.

Currency would be another way to reward the player, but players tend to approach money in many different ways. This means that a test group coaxed with monetary rewards could yield ambiguous results. Some people would choose to spend the money immediately and some would save it. When considering the microcosms of the test levels, this ultimately leads to less control over player decisions.

Manipulating items and ammunition maximizes control over the events of the separate levels. By first presenting the player with a small combat area and limited resources at the beginning of the level, the player learns exactly how difficult the level will be. After leaving the first combat area and entering the first “town”, they should be low on resources and hungry for more ammo and weapons so that they can continue. Manipulating the amount of resources available to the player relative to the number of enemies they encounter is how this project creates the high demand for resources. Then, by exploiting the player’s need for more ammo and weapons, quest design can include options that entice the player with rewards of these resources.

Using this as the founding principle of the level design, the removal of as many extraneous skill sets as possible is necessary. The player character has a standardized build and only the skill sets used have points assigned to them. Any “tradeoff” skill sets will have equal amounts of attribute points placed into them so that the player cannot

tradeoff between them and “game the system” of the tests. This includes combat skill sets where only small guns, melee, and unarmed skills will have points in them and, simultaneously, only those types of weapons are available.

The level development cycle consists of seven stages in the following order:

Level Design Document (LDD)

- Provides an overview of story and level progression including highlights and “wow” moments
- Lists and enumerates level metrics including, but not limited to,
 - Ammo locations and amounts
 - Enemy locations and hit points
 - Currency locations and amounts
 - Level difficulty for the different moral paths
- Maps of the level, including
 - Overview with critical path
 - Detailed sections of different areas such as towns, dungeons, etc.
 - Resource maps of the specific areas

Whitebox

- Final geometry of the level completed
- Quest systems implemented without final dialogue but including rewards and resources
- Vendors implemented
- All quests able to be completed

Whitebox Playtesting

- At least ten external playtests by Guildhall students and faculty with feedback strictly on level difficulty based on gathered resources
- Iterations on whitebox adjusted based on playtester feedback as appropriate

Script

- Includes all dialogue trees available throughout all quests
- Links dialogue choices with moral paths that the player makes

Alpha

- Dialogue implemented
- First art pass completed
- Design iterations (if necessary)
- Bug testing

Beta

- Final dialogue implemented
- Final art pass completed
- All showstopper bugs found and eliminated
- Hard freeze on design changes

Study Playtesting

- At least 10 playtests completed for each level (20 if possible)
- Questionnaires compiled and tabulated
- Data entered into Excel for analysis

Level Abstract:

The Wolves of Virginia

Fallout 3

Revision Notes

06/19/09 – Initial version of document

06/21/09 – Finished Story section

06/22/09 – Added maps and references

07/06/09 – Updated maps, story, and theme/mood

Summary

In the twenty years following the *Fallout 3* timeline, the Virginia area has really started to show her age. There are a few who till the earth and treat the famished economy with the respect necessary to sustain a family over time, while others would take what they want with complete disregard for the future. They are the looters, the raiders, the Wolves of Virginia. Producers have practically vanished from the landscape and only consumers remain. Every vital necessity is now in short supply when only powerful factions have enough firepower to defend their stores and there are no manufacturers around to make more of them. This is especially true of weapons and ammunition.

Water is not the only thing affected by radiation, and clean food supplies are running short. It is up to the player to travel to rural Virginia and find out why supplies of an inert, crop-saving compound called “Clean Green” have ceased coming into the DC metro area. Centering on a small family farm that has recently lost its caretaker, the player faces difficult decisions to make. Spanning one major dialogue area and three combat areas, “The Wolves of Virginia” sets up a world where the moral decisions that

the player makes not only affect the strings of their heart, but also those of their purse. The moral path is a selfless one, but being selfless means taking more upon one's self to achieve one's goals. In the case of "The Wolves of Virginia", being a good person is not an easy thing to do. In addition to the main story surrounding the farmer and his family, other secondary moral quandaries present themselves to the player for both adding intrigue as well as to provide supporting data in testing.

Gameplay Overview

General Game Flow

- Meet Georgia and learn about the quest before teleporting to the quest area.
- Enter the bomb shelter and defeat the raiders, learning about the boss raider "Cutthroat Curtis".
- Exit the bunker and head toward the farm.
- Encounter a farm with the bodies of a bandit's victims strewn about before heading to Jonah's farm.
- Meet Jonah's children Noah, Sarah, and Squash, and learn about what happened to their father as well as what is going on at the Clean Green facility.
- Take a quest from Noah to head into a cave and recover his father's Scoped .44 Magnum, "Wrath".
 - Defeat the ghouls and return with Wrath.
 - Give the gun back to Noah, or keep it. Keeping it changes the events that happen later.
- Encounter a fence willing to trade some vital supplies for some stolen Clean Green that can only be found in Noah's farm.

- Get the key to the back gate of the Clean Green facility and the office from Noah by giving him Wrath, talking him into giving the keys away by lying to him, or by killing him.
- Break into the Clean Green facility and dispatch all Raiders and collect a necessary amount of Clean Green.
- Return to the farm to return the keys or head back to the Capital Wasteland with the keys.

Major Elements

- A true test of morality when the decisions that the player makes directly influence the ease of progression.
- Potentially gain a unique Scoped .44 Magnum, “Wrath”.
- Explore the *Fallout 3* universe from a new perspective by visiting a part of rural Virginia.
- Encounter interesting characters and gain insight to life beyond the city.
- Discover the trick of blowing up vehicles to take out a significant number of enemies at once (wow moment).
- (Optional) Return to the farm to find Noah, Sarah, and Squash dead if the player kept Wrath.

Major Objectives

Success

- Get through the bomb shelter
- Recover the unique Scoped .44 Magnum
- Acquire the keys to the Clean Green facility
- Defeat all raiders including Cutthroat Curtis
- (Optional) Return the keys to Noah

Failure

- Player death

Technical Overview

Campaign

- Name: “The Wolves of Virginia”
- Unique added content that takes place after all events in *Fallout 3*

Mission Location

- Setting – Rural Virginia in the year 2097
- Time of Day – N/A
- Season - Summer
- Weather – Clear, with a slight chance of radiation

Mission Difficulty

- Starting – 1/5 to orient the player and drain supplies while keeping things simple for inexperienced players
- Middle – 2/5 to keep the challenge interesting while still draining resources
- End – 3/5 if evil, 4/5 if good due to the fact that the player will be starved for resources if on the good path

Mission Metrics

- Play Time – Approximately 45 minutes
- Physical Area
 - Bomb shelter – 10,000 sq. ft. (100ft. x 100ft.)
 - Cave – 3,000 sq. ft. (winding paths of 250 ft. x 12 ft.)
 - Clean Green facility – 20,000 sq. ft. (200 ft. x 100 ft.)
 - Wasteland – 2,250,000 sq. ft. (1,500 ft. x 1,500 ft.)
- Critical Path Length – approximately 2,500 ft.
- New Characters (modified from pre-existing characters in the game)
 - Georgia – mission contact that takes the player to Virginia
 - Jonah (unseen) – dead caretaker of his family farm
 - Noah – Jonah's son and main quest giver
 - Sarah and Squash – twin daughters of Jonah that provide back story and insight
 - Jasper (unseen) – bandit that holds a grudge with the farming family
 - Cutthroat Curtis - leader of the raiders at the Clean Green facility

- Visual Themes
 - Bomb shelter – metallic and run-down futuristic with artificial light
 - Cave – dark, dank with sparse artificial light
 - Clean Green facility – run-down office building with a large warehouse area
 - Wasteland – drought-ridden, hilly terrain with craggy bluffs on the borders

Details

Theme/Mood

The general theme of the level is moral fortitude. “The Wolves of Virginia” draws a stark contrast between the concepts of contributing and looting, and places the player in positions where they can contribute to the revival of Virginia, D.C., and local farmers by taking more effort upon themselves, or they can take the easy road by seeking personal gain. To gain perspective on life in rural Virginia, the focal point of the level is a humble farm that houses good but ornery people. The desolate wasteland terrain also lends credence to how difficult farming is in a post-apocalyptic world and demonstrates how necessary acquiring Clean Green really is.

There are several key story beats in the level that elicit emotions in the player. The bunker area instills the first pangs of hunger in the player as they see their ammunition supplies and weapon integrity deteriorate. The first farm that the player encounters contains the bodies of the victims of a bandit named Jasper and increases pathos for Jonah’s children when they tell their tale about Jasper and needing protection. All encounters at the farm are to evoke sympathy in various different ways. Noah brings

rational fear into the equation, whereas the twins, Sarah and Squash, provide two contrasting perspectives on a similar emotion. Sarah represents the loss of innocence as demonstrated through her fears of living in the wasteland. Squash, on the other hand, emphasizes innocence by demonstrating her naiveté and unwavering cheerfulness. The range of these characters provides different avenues for the player to invest emotionally in the farm so that the ethical dilemmas presented later have a greater impact. When the player encounters the shady fence outside the farm, their hunger for resources makes the decision not to betray Noah a difficult one. After getting the Scoped .44 Magnum, the player discovers an even more difficult decision to make. Being low on resources, they become torn between their own necessities and providing security for another helpless individual. The result of the player's key decision culminates in returning to the farm. Based on their decision, they either find a slain Jasper and a warm reception from Jonah's farm, or arrive to find the people that they could have helped lying dead on the floor. All of the decisions that the player makes along the way increase the emotional investment in the main NPCs and make these decisions particularly difficult because they are always at a direct cost to the player.

Major Characters

- Georgia West– transports the player to rural Virginia and informs them about why conserving ammunition is so necessary
- Dutch Montague – a shady dealer of sorts, Dutch wants all the Clean Green for himself so he can scalp the Capital Wasteland and make a fortune. He pays well for the goods, though.

- Noah – the main quest-giver who is wary of all strangers. He relies on the player to recover “Wrath” and wants that gun back more than anything so he can defend his farm and family. He protects the keys to the Clean Green facility and will only give them out if he gets his gun back, is lied to, or dies.
- Sarah – Jonah’s daughter and twin sister to Squash. She is a frightened girl who fears the bandit Jasper greatly and provides insight to Noah as a protector.
- Squash – nicknamed after the crop, she fills the role of the bright and innocent youth. Her role is primarily to make it more difficult to betray the family due to her nature.
- Cutthroat Curtis – acts as a boss of the raiders and controls the Clean Green facility. He will defend the stash at all costs.

Gameplay Mechanics

- Prerequisite Skills
 - Player movement
 - Dialogue tree interaction
 - VATS
 - Pip-boy interface
 - Repair skills
 - Merchant interaction
- Skills Learned – N/A

Story

Intro

The level begins when the player meets his contact, Georgia, in the southern area of the Capital Wasteland. She tells the player to meet a small-time farmer, Jonah, out in rural Virginia who can speak more about why the supplies of “Clean Green” have ceased. Georgia takes the player to the remote area and leaves him near the entrance to a small, defunct bomb shelter built into the side of a hill that exits near Jonah’s farm. She explains that she cannot follow him further because raiders have taken over the complex. The player advances and encounters the first raider standing guard outside the bunker.

In-Game

Inside the bomb shelter, the player encounters a number of raiders, one of which gives information about a boss raider named “Cutthroat Curtis” who is making them all rich through his “recent acquisition”. A major point of this zone is to burn out a lot of the ammunition and weapon integrity in the player’s inventory. This sets the stage for the limited supply of necessary goods so that the decisions that the player makes later are more significant. Inside this area, the player picks up a decent supply of .44 ammo even though he does not have a Scoped .44 Magnum.

After exiting the bunker, a man named Dutch Montague approaches the player, telling him that if the player gives Dutch the Clean Green instead of Georgia, then he’ll have some one-of-a-kind armor for barter. After leaving Dutch, the player encounters a small, abandoned farmhouse. Inside the farm, the player sees a dead body with a note inside the cadaver’s front pocket, reading, “Jasper always gets paid...” Aside from this,

there is little of note within the house except light foodstuffs and various items typical of a rural abode.

The player moves to Jonah's farm area where he meets Noah, Jonah's son, and finds out that Jonah was killed by an extortionist bandit named Jasper. The son, while being a genuinely good person, is not amiable. He distrusts all outsiders and explains the situation that the farmers of Virginia find themselves. For decades they used Clean Green in sparse amounts to grow their crops and collectively protected the facility. They would also ration out the product to travelling merchants in exchange for necessities. This changed when Cutthroat Curtis arrived and took control of Clean Green—essentially holding it ransom by only dealing with the wealthiest factions and the Enclave.

Additionally, Noah tells the player that he lost his father's Scoped .44 Magnum, Wrath, when chasing after his dog into a cave filled with Ghouls. He needs the gun back to protect his sisters from Jasper, but is not strong enough to do this himself. Instead, he asks the player to get the gun and in exchange will give the player his father's keys to the Clean Green facility.

The player heads north to the saltpeter mine, and along the way sees a couple of raiders fighting it out. One is using a car as cover, and the other blows up the car and the other raider with it. Soon thereafter, the player reaches the mouth of the mine where some raiders stand around beside vehicles. The player blows up the vehicles through gunfire, quickly dispatching the raiders. After this brief episode, the player enters the mine, slays the Ghouls, and returns with Wrath.

Upon the player's return, Noah asks for the gun and offers some assault rifle ammunition in return, but not much. The player now has a choice to make. At this point,

the player is really hurting for supplies and has a difficult time defeating the raiders without proper munitions. He holds in his hand a much more powerful weapon than anything else that he has, and also has the .44 rounds for it that are useless without the weapon. However, the family really needs the gun because of the looming threat of Jasper. So, the player must decide whether to return the gun and face a harsher road ahead, lie about being able to find it and keep the gun for himself, or simply kill the family to also gain their ammunition. Regardless of what choice he makes, the player gets the key. However, if the player lies, then Noah gives him one last chance to return the gun by saying, “Look, I know how difficult the world can be. It’s a fucking shit storm out there. But please, if you ‘find the gun’ then give it back to me. If Jasper returns, I don’t know if I can hold him off with what we have. I won’t hold it against you for wanting to keep the gun. I understand.”

The player takes off to the Clean Green facility and looks through the front gate. Off in the distance he sees many raiders and not much cover—a daunting task regardless of whether or not Wrath is at his side. He moves around to the side gate, unlocks it, and lets himself in. With a much better angle than the direct approach, he advances toward the building and sees a bunch of raiders standing beside supply trucks. Taking the cue from the clever raider on the trip to the cave, the player fires at the supply trucks and dispatches the group of raiders.

He enters the facility and systematically kills all the enemies inside. Along the way, he discovers the door to the Clean Green storage area, but it requires a key kept by Cutthroat Curtis obviously has. Upon finding Curtis, the player slays him, takes the key,

and accesses the storage facility. After collecting the Clean Green for Georgia, the player returns to the farm if he did not kill them previously to return the keys.

Extro

If the player gave Wrath back to Noah, then he hears about how Noah killed Jasper and Noah gives the player Jasper's Chinese Assault Rifle as a reward. It is not as good as Wrath, but better than what he had before. If the player kept Wrath, then he returns to find the family dead with a note on Noah's body that says, "Jasper always gets paid."

The player then returns to Georgia who takes him back to the Capital Wasteland. (For the sake of this level as a Master's project, whatever happens with the Clean Green is unnecessary as the true test was what the player did regarding Noah. However, there could easily be something set up where he can choose to extort Georgia, give the Clean Green with no fee, sell it to another merchant, etc.)

Visual References

Terrain/Vegetation



Figure 8 - Reference for craggy rocks and hilly landscape (www.ign.com)



Figure 9 - Vegetation and terrain reference (www.ign.com)

Models/Architecture



Figure 10 - Virginia farmhouse reference (www.centralvaestates.com)



Figure 11 – Cave spatiality reference (www.oregon15.com)



Figure 12 - Farm supply store geometry reference (www.wikimedia.org)

Textures/Lighting



Figure 13 - Cave texture/lighting reference (www.photopush.com)



Figure 14 - Farm supply store texture reference (www.flickr.com)

Characters



Figure 15 - Little girl and adolescent male references from *Fallout 3* (fallout.wikia.com)



Figure 16 - Raider leader reference from *Fallout 3* (fallout.wikia.com)

Rough Map

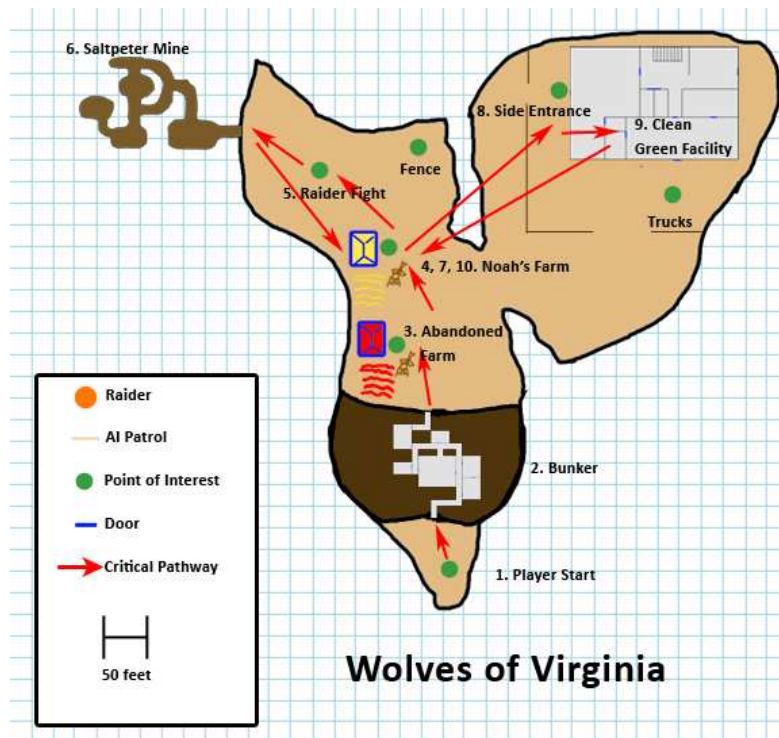


Figure 17 - Virginia Wasteland Critical Path Map

1. Player enters new map territory and proceeds to bunker.
2. Fight through the bunker.
3. Find note from Jasper on dead body in Abandoned Farm.
4. Meet Noah, Sarah, and Squash. Receive information about Jasper, and get mission to head to Saltpeter Mine.
5. Encounter the Raider Fight to see explosive vehicles.
6. Recover Wrath from Saltpeter Mine.
7. Return to Noah with Wrath and keep it or return it. Receive key to Clean Green Facility.
8. Enter Clean Green Facility through the Side Entrance
9. Defeat Cutthroat Curtis and collect Clean Green.
10. Return to Noah to return keys and find him dead or receive Jasper's weapon.

Testing and Data Collection

To test the hypothesis of this study, all playtesters will be required to complete a questionnaire upon finishing the level. All playtesters will be given the same questionnaire regardless of which level they played and they will not be told that there is another permutation of the level. However, all results will be tabulated separately with regard to the respective levels.

The questionnaire will be designed to extrapolate the following metrics:

- Player demographics including
 - Sex
 - Age range
 - Profession
 - Video game preference
 - Video game experience
 - Gameplay preference
- Moral path chosen at each quest branch
 - Difficulty of quest stage after each branch
- Impression of “fairness” of rewards for quest completion
 - Did the player feel that rewards were adequate enough?
- Impressions of feeling hindered by rewards
- Player impressions of feeling “invested” in the decisions that they made
 - At each stage and overall
- Player enjoyment at each quest stage
- Player enjoyment overall

From this data, enough information will be available to assess whether or not players feel more attached to the video game based on the reward structures. Furthermore, the players' reactions tied to their demographics can reveal trends in behavior and reactions that can better help developers market their games to further segmented markets.

Schedule

The delivery date for the first draft of the Master's Thesis is November 14, 2009. All milestones described in the schedule are given by their delivery date and are structured in two-week intervals.

August 14, 2009

- LDDs 1st drafts completed

August 28, 2009

- Whiteboxes completed based on the following criteria
 - All final geometry of the level completed
 - Quest systems implemented without final dialogue but including rewards and resources
 - Vendors implemented
 - All quests able to be completed

September 11, 2009

- Five balance playtests completed
- Maps revised as necessary
- Script 1st draft completed
 - Includes all dialogue trees available throughout all quests
 - Links dialogue choices with moral paths that the player makes

September 25, 2009

- Five additional balance playtests completed
- Maps revised as necessary
- Script final draft completed
- Dialogue implemented completely

October 9, 2009

- First art pass completed
 - Clutter
 - Plot items
 - First lighting pass
- Design iterations (if necessary)
- Bug testing
- Final dialogue implemented

October 23, 2009

- Final art pass completed
 - More clutter
 - More plot items
 - Final lighting pass
- All showstoppers removed
- 10 playtests completed

November 6, 2009

- 30 playtests completed
- Master's Thesis formatting and corrections completed
 - All previous documents integrated

November 13, 2009

- Master's Thesis 1st draft delivered to Supervisor

December 8, 2009

- Master's Defense

Conclusion

One of the key differences between games' ethical and economic systems is their treatment with regard to interdependence. Some games choose to take the path that treats ethical systems independently from economic systems. These systems, as designed, risk limiting player investment by not allowing them to take economic accountability for their actions. Some players feel the effects, but others do not feel them based on how they value those things. However, when a game designs their ethical and economic systems to be dependent upon each other in a way that affects the player's ability to progress through the game, then the player makes more of an investment. The key factor to this potentially more player-significant set of systems is a question of supply and demand. By setting up systems where moral decisions affect the supply of an item designed to be in high demand, the developer effectively increases the significance of that decision and causes the player to feel invested in the decision that they make.

This project provides data on the subject by testing players on solely ethical terms as well as ethically and economically. If the goal of the developer is to increase player attachment to the game world, then adding economic incentives could increase player investment. However, it could also turn many players away that would rather just play a game and explore the potential that the game has to offer from a gameplay perspective.

Ultimately, this project investigates the claim that players are more attached to a game that forces them to invest economically in the narrative to follow a certain moral path, as well as provide demographics data on the subject. The results of this project could influence game designers' decisions in creating reward structures for games similar

to the ones mentioned above so as to optimally attain player investment in the game and enhance the narrative experience for the player.

The research would not end at this point, however, for there are great many specifics about the distribution of rewards versus moral implications of player decisions that would be necessary to better articulate on the subject. The biggest hurdle rests in the sorites paradox (the paradox that concerns gray areas and deciding at which point something shifts from one state to another) of balancing economic and non-economic rewards. Most players may be satisfied earning only 95 percent of the reward for making the moral decision, but how would they feel about receiving 85 percent of the reward? What about 50 percent?

Another topic could be gauging what non-economic rewards the player finds most fulfilling. Many “collector” gamers might enjoy receiving a statue in their honor built in the game world in lieu of 500 gold coins, but how would players feel about having the townspeople shouting their praises in ambient dialogue? Would players enjoy the ostentatious townspeople more or less than having a certain subculture of townspeople whispering their gratitude as they pass? There are potentially limitless possibilities for non-economic rewards, but further research could categorize them and test player preference. Whether or not the rewards are economic, the goal of all of this research should be finding out how to optimize player investment and satisfaction in their gameplay experience.

Appendix A: Questionnaire

Please circle one of the following.

Sex:

Male Female

Age: _____

Approximate hours of video games played per week: _____

Education Completed (select one):

- | | | |
|---|---|--|
| <input type="checkbox"/> Some High School | <input type="checkbox"/> High School | <input type="checkbox"/> Some College |
| <input type="checkbox"/> College (2-year) | <input type="checkbox"/> College (4-year) | <input type="checkbox"/> Graduate School |

Video Game Genre Preference (mark all that apply):

- | | | |
|--|---|---|
| <input type="checkbox"/> Action | <input type="checkbox"/> Adventure | <input type="checkbox"/> Role-Playing Game
(RPG) |
| <input type="checkbox"/> Massively Multiplayer | <input type="checkbox"/> First Person Shooter | <input type="checkbox"/> Third Person Shooter |
| <input type="checkbox"/> Fighting | <input type="checkbox"/> Racing | <input type="checkbox"/> Sports |

How difficult was "The Wolves of Virginia?"

Not at all

Somewhat

Very much

1

2

3

4

5

Overall, how connected did you feel with the main characters (Noah, Sarah, and Squash)?

Not at all

Somewhat

Very much

1

2

3

4

5

To what degree did you feel that you needed to protect the family?

Not at all

Somewhat

Very much

1

2

3

4

5

Why?

How fair do you believe the rewards were along the way?

Not fair

Somewhat fair

Very fair

1

2

3

4

5

Why?

Overall, did you feel hindered by the amount of resources you received?

Not at all

Somewhat

Very much

1

2

3

4

5

At which points in particular (if any)?

Did you decide to steal Noah's Clean Green stash? Yes No

Why?

Did you return Wrath (Noah's .44 Magnum) to Noah? Yes No

Why?

Did you give the Clean Green to Georgia or Dutch? Georgia Dutch

Why?

Overall, how invested did you personally feel in the big decisions you made along the way?

Not at all

Somewhat

Very much

1

2

3

4

5

Why?

Overall, how much did you enjoy the level?.

Not at all

Somewhat

Very much

1

2

3

4

5

What parts in particular stood out?

Masters Proposal

SMU Guildhall

How religious would you consider yourself to be?

Not at all

Somewhat

Very much

1

2

3

4

5

Thank you for testing!

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