#### **CORE CORRUPTION**

# A Major Qualifying Project Report

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by

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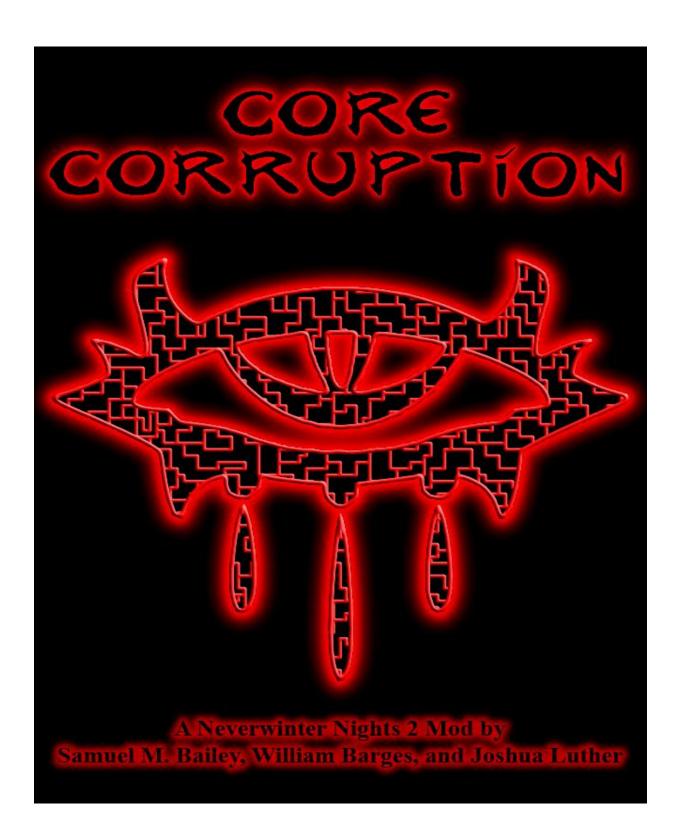
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# **Abstract**

This project was a joint Interactive Media and Game Development and Professional Writing project. It involved the creation of a complete adventure game module using the Electron engine and the Aurora toolset. In addition to new textures, models, music, sound effects, and an enhanced morality system, the project included the creation of an original narrative and original dialogue as well as a research project conducted on the expository burden of video game writing.

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### **Introduction**

Discover the illusion, face reality, and save the system in this stand alone *Neverwinter Nights 2* adventure module!

# **Game Description**

Core Corruption is a game that tells the tale of the world's first Artificial Intelligence and how that AI is tested to see whether or not it (and in a broader sense all of humanity) is inherently moral. The player will fight monsters and enemies in a fantasy science fiction hybrid world, which utilizes turn-based RPG as its base system for combat and exploration. The game is largely story-focused with an emphasis on the philosophical and spiritual implications of moral choice. The player will be confronted with questions such as *Are people inherently moral?* What is free choice? Is morality natural? These questions, along with the game's setting inside a computer network, serve as the main selling points for the game.

# **Project Description**

Core Corruption is a game module using the Electron engine and the Aurora toolset that features a completely original story which takes the Electron engine from the realm of fantasy into that of science fiction. In order to accomplish our blend of settings we used assets already included in the toolset in addition to new assets created to emphasize the genre split. The Aurora toolset provides the framework for a game to be created using the game's original engine and game mechanics, and we utilized that system to create a heavily story-driven game that focuses on the aspects of human morality. The project implements an enhanced morality system that features a new graphic user interface (GUI) element used to track the player's moral progression throughout the storytelling experience, as well as alignment specific benefits.

#### **Vision Statement**

Core Corruption attempts to make the player think about the philosophical and moral issues of good and evil, as well as free will and human nature. The choices made throughout the course of the game allow the player to explore different paths and interpretations of their character, letting them come up with their own interpretations of what is right and wrong. The main goal we have with our story is to raise questions without answering them, allowing the player to be involved in what they're doing and giving them a reason to continue playing.

We want this game to be something that pushes players to think about things they usually don't consider, and we want this to be a game that keeps the player engaged from start to finish.

Our game raises familiar questions about free will and morality but comes at them from the perspective of an artificial intelligence, raising even more questions in the process. The AI is almost entirely human in nature which allows the player to connect and identify with it. At the same time, the character has to come to terms with the fact that it is not human, giving the player a new perspective on the issues presented and allowing them to wonder about what it is that makes something moral.

Our sci-fi setting is distinctly different from the typical Aurora toolset created fantasy setting and we are hoping it will stand out and gain a good deal of interest because of this. Because *Core Corruption* is a *NWN2* mod, we first researched how many other modders had made sci-fi games in the past. There are several locations to find games made with the Aurora toolset, nwvault.ign.com being first and foremost among them. At nwvault.ign.com, out of over 350 quest mods for *NWN2*, there was only one other advertising itself as a sci-fi adventure. This lack of other sci-fi mods made it clear that in creating *Core Corruption* we have accomplished a rare feat. *Core Corruption* relies on fantasy staples so that *NWN2* fans will be drawn in but it also offers a science fiction twist to make things interesting.

The player is allowed to make choices throughout the game and these choices lead to different endings. One of *Core Corruption*'s main draws is that everyone who plays will have a slightly different experience and will take a different meaning out of the game and have a different answer to the questions raised. The game doesn't push the player towards what is right or wrong too much, although inevitably there is some cultural bias.

## **New Story**

Our game tells a completely new tale that takes place in our own fantasy/sci-fi setting rather than the Forgotten Realms universe. Our main focus while working on the game was the story so we did everything we could to make the best story we could. Our story has an original twist on what usually goes into making a *NWN* 2 mod. We expect players will be very interested playing our game since it tells a story outside the bounds of the original campaign's tale. The section entitled "Narrative" goes into much greater detail about exactly what went in to making our story.

#### Research

Before we implemented most of the narrative a research project was conducted in order to study some of the techniques utilized by successful mainstream games to create a compelling video game narrative. A genre analysis was conducted on video game narratives with a special emphasis on how RPGs dealt with the expository burden of the video game medium. The observations made during this study were incorporated into our module where we thought they

were applicable. However, some of the techniques we identified could not be used due to the structure of how we built our module to begin with.

#### **Art Vision**

While the toolkit provided us with a lot of assets to work with, they were all focused on the stereotypical fantasy setting. But our game takes place in a science-fiction setting as well so the basic fantasy elements weren't always appropriate. To help separate the science-fiction setting from the fantasy setting we had to create new assets including new models, textures, music, and sound sets. Interior locations looked run down and dirty as if the inhabitants were not able to keep up with cleaning or maintenance, and lighting was dark and mysterious in nature.

The fantasy world that the player inhabited in our mod was supposed to be run down from the effects of the corruption-spawned plague, and so the design reflected that. This meant a constant feeling of dread from the landscape, murky water and an all-together dirty and depressing feel. The grass was yellowed and dying and the trees were devoid of leaves. The sky was overcast at all times and dark as if night was constantly right around the corner. Ballybeg was designed to have a feel very much like that in figure 1 below.



Figure 1: Dejected, Plagued Crowd

Fantasy areas that hadn't yet been touched by the corruption were bright and sunny, filled with the vibrant colors of thriving flora and fauna much like in figure 2 below. These thriving areas existed as a contrast to the dark, murky look of corrupted areas. When these areas became corrupted later on the contrast further helped to drive home the idea that the corruption was spreading through the system.



Figure 2: Untouched Fantasy Realm

The classic sci-fi film *Tron* served as a heavy inspiration for the sci-fi sections of our game. The glowing lines and patterns that the movie used were applied to our core levels. We hoped that players who have seen *Tron* or any of the games it spawned would ease into the style and recognize that the area they were in exists within a computer system.

We decided that the corruption should have a distinct look so that players would be able to instantly recognize its presence in an area. This effect could have been achieved by changing the textures in corrupted areas to look as though the actual texture files had been corrupted but then players may have mistaken the corruption effect for a glitch in the engine. So instead we created the "corruption pattern," a series of red lines against a black background. The red lines crisscross each other in a pattern reminiscent of a circuit board, thereby driving home the idea that the character is inside a computer system. The red-on-black pattern was inspired by the antagonists in *Tron*, again keying into a style that players might immediately recognize. The bright color of the zigzagging lines against the completely black background is similar to the core's design but different enough that there is a distinction between corrupted and uncorrupted areas.

#### **New Art Assets**

Because our game is a distinct blend of fantasy and science fiction art styles, and because the Aurora toolset contains only strict fantasy assets, we needed to create new art assets to fully realize our style. This included new models for creatures and non-player characters (NPCs), new terrain and level textures, new monster sound effects, and new level and battle music. The section titled "Art Design" goes into much greater detail of each new asset and how they were created.

#### **New Setting**

Because our game features a heavy sci-fi theme it could not be set in the toolset's heavy fantasy setting. As a result we created a new world with new characters and a new mythos for the player to inhabit. The section titled "Art Design" goes into much greater detail of each new area and how they were created.

#### **Sound Effects**

Because of their futuristic and sci-fi nature, the new monsters in the game (corrupted goblins, malignant programs, the Corruption) needed their own sound effects. These were created in both Reason and Audacity and attached to each creature's blueprint in the form of a "soundset," which contains the different sound effects each creature will make in different situations.

#### **Overall Tech Vision**

Our tech vision was to incorporate the theme of morality and narrative into the game's technological features. This vision resulted in what we dubbed the Enhanced Alignment System where we added in features that were all dependant on how the player acted throughout the game. In addition, we sought for our tech to create a working, stable, and bug-free game in which the story could be told. This required us to dedicate large amounts of time to scripting and coding in-game scenes and events as well as keeping track of quests and other variables. In essence, the tech was designed to supplement the narrative by integrating it fully with the gameplay.

#### **Neverwinter Script and Functionality**

The game engine came with its own proprietary script that, while bearing some similarity to C++, was a complete language for us to use. Despite the similarities, the NWN2 script came with its own compiler and provided a number of nice features such as many basic programming functions in addition to automated memory control. In addition, the language had a large number of functions built in that were keyed to the engine itself and allowed us to do most of the basic actions that we needed to do to make our adventure. These built in functions also saved us a great deal of time by keeping us from having to program all of the basic actions ourselves. Figure 3 below shows the basic equip item function, one of many scripts that we had available to us. More complex and specialized scripts needed to be made ourselves but having these simples ones at our disposal saved hours of time.

```
Compile Results Notes

// Equip oItem into nInventorySlot.

// - nInventorySlot: INVENTORY_SLOT_*

// * No return value, but if an error occurs the log file will contain

// "ActionEquipItem failed."

void ActionEquipItem(object oItem, int nInventorySlot);
```

Figure 3: The Equip Item function included in the engine.

#### **Default Scripts**

Because the Aurora engine came with its own campaign in addition to the full editor, the developers were kind enough to provide to modders the full library of scripts that the developers used when they were creating the campaign. This gave us a large collection of basic scripts for us to use in our engine. Many of these scripts were used for basic monster and NPC interaction but in a few cases we were able to extract some of the special event scripts the developers wrote for the campaign and modify them for our purposes. This was another timesaver that could be used to quickly generate simplistic content for the game.

#### **Use in Game**

When it came to mass-generation of NPCs and monsters for our game, unless there were special circumstances surrounding the monster (i.e. plot or quest monster) we used the default scripts that were already attached to it as they handled basic AI, tactics, and detection for us. We were able to create monsters that would fight back with specific tactics, aid other monsters, and spot the player without having to do any of the programming ourselves. This made populating the levels with monsters much faster and easier. The same is true for NPCs as they came with default scripts that we left on for the most part. For NPCs, the only things we really needed to spend time with on each one were the appearance and conversation they would have.

## **Game Design Process**

Our game design process consisted of spending the first term of our project creating design documents for various aspects of the game. In addition to a complete design document that captured an overview of the game, we created an art design document and a level design document. We also spent a great deal of time designing the storyline and the quest chains in the game. Finally, a portion of our time was also spent researching our settings, themes, and features so that they could be incorporated into the game.

## **Testing Process**

Our testing process was influenced by our own ideals and the limitations of our resources. For development we only had one laptop, and compared to the two desktops used during the development process it could not run the engine very well. For testing we attempted to get the engine installed on the IMGD lab computers. However, in the end only three computers had the engine installed, limiting us to a max of three testers. In preparation, we drafted a bug report form and a methodology, both of which can be found in Appendix A and Appendix B.

We dedicated a Saturday to the first playtesting session to determine the total playtime of our game. We arranged for three testers to play by offering them free pizza after the session. The first session took around three hours for each player to finish the game and a good number of bugs, feature errors, and gameplay problems that were discovered.

After that we had two more playtesting sessions of three people for three hours. The second one was also focused on detecting bugs and balancing gameplay, while the third was focused exclusively on the narrative and player engagement. Naturally, if we had more time, we would have integrated more playtest sessions into our development cycle.

#### Mod Website and Download Location

Our game can be downloaded at our game website, found at <a href="http://corecorruption2010.wordpress.com/">http://corecorruption2010.wordpress.com/</a>.

# **Narrative Research Study**

Video game narratives face difficulty as traditional narratives deal in static mediums that are inherently different than a video game's dynamic nature. For RPG (Role Playing Games) in particular, the narrative is incredibly important to the success of the game. However, video game narratives bear the burden of giving the player exposition in ways that do not wrest control away from the player. This study is a genre analysis of the video game narrative that seeks to answer the question of *how is the narrative burden of exposition handled in RPG games?* The study is broken up six sections: the introduction; a literature review of the topic of video game narratives; a methodology; analysis; and conclusions. The study will be focused through the lens of the following research questions: *How does exposition serve as a burden? What does exposition provide for the narrative? How are characters used to ease the burden? How are game mechanics used to ease the burden?* 

Video games are still looking for methods to legitimize themselves as an artistic medium. There is a need to tell stories through games to prove the artistic merit of the field. The industry is still too new to have succeeded at earning respect as an art form and strong narratives is one of the best ways for video games to prove their worth. Many developers and video game commentators are interested in improving video game narratives so that the field may be legitimized. It is also important to learn how ways to improve them so that game developers may be able to apply this knowledge towards improving their game. Understanding ways to overcome the narrative burden of exposition in games will result in better video game narratives thus raising the quality of video games, helping to bring in more money for the developers, and bring more respect to the field.

Due to the time and length constraints that bind this study, I will be limiting the examination pool to one modern RPG game. In order to keep the subject from becoming too broad, I will be focusing specifically on how the exposition is handled through the dialogue and characters in the game. These lines had to be drawn to keep the study from becoming too large in scope.

My method was a standard genre analysis that will drew its data from notes taken on a specified play session of the game *Dragon Age: Origins*. The session consisted of ten minutes of exposition heavy gameplay selected in advance after having played through the game once fully already. The notes will specifically focus on answering the research questions, identifying the game's classic elements of a narrative, and examining characters.

#### **Video Game Narratives**

Before analysis of video game narrative can begin, one must establish an understanding of what narrative in video games constitutes. In order to be able to make proper analysis one must first define narrative, identify the characteristics of a good narrative, establish narrative's role in video games, and differentiate the characteristics of a good video game narrative. Once these have been established, we can move on to examining the genre through examples.

Narrative is the summation of all the story elements present in a book, video game, or any other storytelling medium and have been structured over many different models. In *Basics of Narrative*, Steven Jacobs lays out narrative based on Aristotle's *Poetics* and defines it as consisting of six basic elements: plot; character; thought; diction; pattern; and spectacle (Bateman). Jacobs also points out some of the classic models of narrative structure including the Freytag Pyramid, Joseph Campbell's Hero's Journey model, and Syd Field's Screenplay model. Each of the models that Jacobs outlines map out narrative differently based on the medium involved. Jeff Howard in his book Quests, also refers to Campbell's model in his description of narrative but additionally recommends the theories of narrative that Northrop Frye, W.H. Auden, and Vladimir Propp (Howard). In essence, narrative consists of the story incorporated into any medium that, depending on the medium, takes on a general structure with certain, vital, elements.

Traditionally, a narrative's quality was measured by its adherence to one of the basic narrative models. Howard places emphasis on putting meaning in narrative in order to create purpose in the gameplay and establish it in a greater context. Jacobs describes an excellent narrative in terms of its adherence to addressing and understanding the traditional elements of narrative. David Freeman in his book <u>Creating Emotion in Games</u>, argues that instead of focusing on writing, the narrative designers of a game should focus on creating emotion to connect with the consumers. In each case, the author measures the narrative in terms of how the narrative engages the audience, whether through traditional elements, greater meaning, or identifiable emotions, to draw them in.

Narrative took backseat to gameplay during the early days of game development when games were much simpler. Now many games use narrative to drive the action forward or to tell a story for the purpose interesting the player enough to buy a sequel. In the chapter *Narrative Design* of Professional Techniques for Writing for Video Games, Jay Posey defines narrative as "the story our game tells." Posey states that the narrative's role depends on the importance the specific narrative has to the game. He points out that narrative in the games consist both of the story and the mechanics in which the story is told through. In the book Creating Games, the authors argue that games experience takes place inside a fictional space and most modern day games have a story that drives their game. For games with stories, they say, the fictional space is the narrative. The narrative in games essentially drives the action of the game and influences the overall structure and setting.

Even with the wealth of knowledge currently devoted to defining and exploring narrative in video games, there are still very few attempts at defining what constitutes a good video game narrative. Jacobs implies that a good narrative draws on all of the elements of traditional narrative but contends that video game narratives are by nature dynamic unlike traditional medium. Because of this, he argues that traditional models, while excellent for inspiration, cannot be applied to the interactive video game narrative. Howard believes a good narrative that provides meaning with which to entice the player and motivates the action is what makes a game engaging and synchronous with the medium. Freeman argues that games should not be written for in the traditional sense, but rather be designed through narrative and gameplay structure to imbue the action with emotion and identify with the player. While all of the authors place different emphasis on what they feel makes a good game narrative, they are in agreement that the narrative structure should be adapted to fit the unique characteristic of the video game medium.

They each suggest their own interpretation of the unique narrative needs a game has but they all have different ideas of what that is.

## **The Art of Genre Analysis**

In order to investigate the role of narrative in video games I will be conducting a genre analysis. My research will focus primarily on the writing and dialogue of a recent video game (*Dragon Age: Origins*) with an emphasis placed on the narrative burden of exposition that video games bear. I will then use the results of my examination of the game to draw generalizations for all video game narratives. This will help lead to a better understanding of the construction of an engaging video game narrative.

Genre analysis is the method of analyzing the social and cultural context a text is written in to identify the literary and rhetorical styles and tropes that serve to characterize the piece within its given genre. By its nature, genre analysis is limited to analyzing only a small subject pool in depth before drawing large generalizations from that pool. This inherently carries blind spots as the generalizations I will be drawing are drawn from such a small pool. However, genre analysis serves as an important tool in identifying characteristics of a genre that one wishes to participate in. By conducting this study I will be able to develop a better understanding of the composition of video game narratives and practices so that I myself might be able to replicate them at a later date.

Genre analysis is a tool to be used to find greater understanding about a genre in order to either make a statement about it or replicate the practice yourself. William Benoit used genre analysis to create critiques about various forms of rhetoric while Susan Herring, Lois Scheidt, Sabrina Bonus, and Elijah Wright used it to analyze the emerging field of weblogs. Originally, genre analysis was primarily applied to rhetoric but Herring, Scheidt, Bonus, Wright, assert that genre analysis had also been applied to electronic mediums with great success. This provides security in using this method for another relatively new electronic medium.

The genre analysis consists of four main parts that are analyzed. They are the rhetorical purpose and audience, content, structure, and linguistic features. In each of the studies I looked at, the researchers took the time to identify each of these components to form the basis of their conclusions. In my genre analysis I will be taking notes on aspects of each category that I notice throughout my gameplay as well as breaking down the characters alongside some common guidelines for determining good characters.

According to Benoit, there are two approaches to genre analysis. There is the inductive approach where one examines instances of the genre in order to identify defining characteristics to base their generalizations on and there is the deductive approach where one takes the already established description of a genre and contrasts it with identified artifacts of that genre. I will be using the deductive approach with one game as my main focus and a collection of research into video game narratives to support my analysis.

#### **Method**

The guiding philosophy behind this methodology is that video game narratives carry a burden of exposition that creates difficulty in conveying a story without simultaneously taking control away from the player. This methodology was designed in order to examine the strength of the narrative through the lens of character and how they are used to accomplish exposition. This study should shed some light into how video games can accomplish exposition well and help for myself and others to write better video game narratives in the future.

The method itself consists of five steps: select a game; play the game through once; select a section of the game for analysis; play the section taking notes; and finally, analyze your findings.

The first step is to select a game. It is important to choose a game (or games if you have time to spread the range of your analysis) that contains qualities that are conducive to helping you figure out the answer to your research questions. In my case, I chose the recently released game *Dragon Age: Origins* by the developer Bioware. Since my questions were concerning the handling of exposition and narrative in video games, *Dragon Age* was a logical choice. Firstly, *Dragon Age* is quite new having only just been released in the fourth quarter of 2009. Secondly, *Dragon Age* is an RPG game, a genre that relies heavily on the strength of its narrative. Third, Bioware has an excellent reputation in the video game industry and are specifically noted for their emphasis on engaging stories and placing the writers of the development team as their first priorities. Lastly, the game was released to almost universally excellent reviews making it an excellent example for analysis. These factors all led me to conclude that *Dragon Age* was the perfect subject to base my study on.

Dragon Age: Origins is a western-style Role-Playing Game developed by Bioware and published by Electronic Arts. The game is a self-described "dark, fantasy epic" that involves players creating their own main character and having him or her essentially save the world. The game is an action-RPG lending itself more towards the RPG side with action elements. The player's main character and companions gain levels in different classes and then specialize in what talents and spells they learn. Playing through the game, the player defeats enemies and completes quests for experience points and equipment that makes their characters stronger. The game itself is intentionally open ended, with the player given many options in how they wish to proceed to complete the game's objectives. The player has full control over how their character looks, acts, grows, and affects the world. The game features branching dialogue and has player decisions impact the game world as they play. It is designed in the traditional Bioware philosophy so those familiar with other Bioware works (Baldur's Gate, Knights of the Old Republic, Mass Effect) will recognize the influences.

The second step of the method is to play through the game in its entirety. This step is important for the researcher to get a feel for the game as whole, especially in terms of the characters and narrative structure as understanding that will aid in later steps. It is also helpful for the researcher to keep in mind the traditional Aristotelian elements of narrative as he or she plays so that they can take detailed notes on them during the later steps. In the case of *Dragon Age*, the

game branches at many points and the player's decisions can have lasting impacts on the game world so not all of the game can be viewed in one play-through. However, to see it all would require a number of play-throughs that time did not allow. One play-through was deemed sufficient for the purposes of my study.

The third step of the method is to select a segment of the game of a specific length to analyze in depth by playing it through again and taking detailed notes. By employing the knowledge gleaned from the first play-through of the entire game, the researcher should be able to identify a section that best captures what he or she is looking for. Depending on the purpose of the study, the length of the segment should be appropriate to what the researcher is looking for. For my purpose of examining exposition, I chose a segment of the game that I felt had the largest amount of exposition and set up the narrative of the game. I chose the conversation with Morrigan and Flemeth following being rescued from the battle of Ostagar in *Dragon Age*. This seemed to me to be one of the most narrative and exposition heavy points of the game with plenty of dialogue and character interaction to analyze for my purposes. The segment itself was only about ten minutes long but as I would found out later, data-collection would take much longer with the work I would do taking notes while I played it.

The fourth step is to play through the selected section of the game while taking notes on the relevant areas of interest to the researcher. In my case, my notes were organized by narrative, character, and genre analysis. For narrative, I listed and detailed everything about the game that came to mind while I was playing that related to the Aristotelian elements of narrative: plot, character, thought, diction, pattern, and spectacle. For character I took wrote down all of the details of the characters I interacted with in that section, specifically focusing on identifying the character's classic archetype, the emotions they conveyed at points during the conversation, and their relationships to the main character of the game. In genre analysis, I wrote down all information that seemed relevant to analyzing the genre of video game narratives. This information was organized by the main focuses of genre analysis: purpose and audience; content; structure; and linguistic features. Finally, for easier analysis after the fact, I took the time to transcribe all of the dialogue and text that was displayed during my play-through. A frame capture movie or video of the play session would serve the same purpose but the means were not available to me when I conducted the study.

The fifth and final step of the method was to proceed all of the notes and data I had collected throughout my play-through of the game and to try and answer my main goal (*How is the burden of exposition handled in video game narratives?*) by first answering my research questions (*How does exposition serve as a burden? What does exposition provide for the narrative? How are characters used to ease the burden? How are game mechanics used to ease the burden?*). As I conducted my analysis, I went through each question by taking my time to reread all of my notes and then trying to answer the question based on what I had seen through the two play-throughs.

# **Data and Analysis**

A holistic view of the data gleaned from the play-through indicates that the game places much emphasis on character interaction and NPC dialogue. It appears that the data is in accordance with my assumption that the characters of the game serve as the driving force of the exposition of the narrative. A closer look reveals more specific details and I will describe what the data seems to indicate based on the research questions I outlined in the introduction.

As previously mentioned, exposition can serve as a large burden in the narrative of games. RPGs historically rely more on the quality of their narrative than other genres to sell copies. However, the loss of control due to exposition can become even more jarring depending on the mechanics of the game. In the case of this particular study, Dragon Age tries to be as much an action-RPG as possible by forcing the player to make quick decisions in real time. Since most of the game is spent exploring and interacting, the cut-scenes (few though they are) are explicit in the loss of control. The strength of *Dragon Age*'s narrative seems to lay in the fact that almost all of the game's exposition lies in character dialogue than static cut-scenes. If one looks at the transcript of the dialogue recorded during my play-through, a great deal of story information is presented. Not only that, the conversation provides back story, context, and the driving motivation for the main character. In that short series of conversation, the context of the situation is given (the betrayal of the king and Teyrn Loghain's possible motivations), the player is informed of the overall goal of the game (defeat the Archdemon), the player is given their objectives (gather all the races of Ferelden into an army), and the player is given their motivation (for the common good or to avoid destruction at the hands of the darkspawn). Through a short dialogue, the game accomplishes conveying a great deal of information through a short, interactive story mechanic rather than a lengthy, static movie.

The main point of the exposition in *Dragon Age* appears to be twofold. Firstly, as an RPG, narrative is one of *Dragon Age*'s selling points. The genre itself generally sells its games almost solely on their narrative and Bioware took this to mind with *Dragon Age*. Not only has Bioware gone to great lengths to advertise the "dark and gritty" nature of *Dragon Age*, but Bioware has also placed a great deal of importance on selling *Dragon Age*'s narrative by releasing a novel (<u>Dragon Age</u>: <u>Rising</u>) before the game that chronicles the events that lead up to the main story.

Secondly, and more importantly, exposition serves to set up the main character's motivation to complete the objectives and tasks the game sets before them so that they can give their created characters reasons to do things than simply to do them for experience points or loot. It is essential in a game such as *Dragon Age* that the player is given sufficient motivation to complete the goals ahead of them. *Dragon Age*, like most games since what one might call the "GTA revolution" of sandbox style games, tries to be open world as much as possible. It's not free enough to be completely designated sandbox at this point, but *Dragon Age* is obviously designed with the explicit intent of being non-linear which is a standard for all of Bioware's games. The developers of the game leave the personality of the main character up to the player making it important that the exposition of the narrative provides some reason, driving force, or motivation that propels the character, good or evil, towards completing the main quest and storyline. Otherwise the player may become bored with the game and just spend time fooling around in the open world without exploring any of the actual content. As Howard said, the narrative is

important in all games for driving the player to complete quests but it is arguably more so in a non-linear game such as *Dragon Age*.

Character appears to be the driving force of exposition and narrative in *Dragon Age*. By creating characters of certain archetypes, Bioware allowed itself to speak through the characters in order to reveal motivations, back story, and objectives. Take, for example, Flemeth the witch. She is a potential villain later in the game, yes, but at this early point in the game, out of her own self-interest, she saves the player and points him or her towards their overall goal of defeating the Blight in a very mentor style role. Alistair exists to explain to the main character all of the information he or she would need to know about the Gray Wardens and serves as one of the voices for goodness and compassion when in the party (in addition to comic relief). Morrigan serves as a source of knowledge herself over the course of the journey in addition to being the voice of the cutthroat survivalist. Each character serves a purpose of eliminating part of the gameplay or narrative through interactions with them rather than blatantly telling you. Instead of simply spelling out on the screen that you can steal from the old woman or kill the bandits robbing them, Alistair pleads to help her and Morrigan comments on how her gold would be put to much better use by the player. Rather than telling or showing so much, the characters handle exposition by interacting.

While the fact that most of the exposition in the game is handled through dialogue, I believe the most important concept to notice is the interactivity the dialogue provides. *Dragon Age* employs a game mechanic known as branching dialogues in which the main character can choose from a list of responses different things to say to an NPC. Different choices can have a mild to large impact on how the game is played and also causes characters to respond to you differently. If the dialogue in the game was static and fixed like in more traditional RPG games then it would be little better than a cut-scene as either way the player is no longer in control. The interactive element of the dialogue in *Dragon Age* allows the player to essentially keep playing the game and exerting control over the outcome while being given the exposition necessary to drive the character's motivations and the plot. This seems to me to be the greatest strength in *Dragon Age*'s narrative as the player is never forced to sit and watch a movie; control is never lost. Perhaps one day we will discover a way for games to be cinematic while conveying exposition without wresting control away from the player but mechanics like these help to keep the player engaged with the interactivity that is inherent to the video game medium.

Thus it appears to me that the integration of the narrative elements of the game with the interactive elements served as the backbone of Bioware's narrative strategy. Specifically, the use of branching dialogue options to keep the player engaged and interacting while exposition and narrative information are being given to the player. While this is how Bioware accomplishes getting the exposition it needs out to the player, it is but one of many different techniques to do so and possess its own strengths and weaknesses. For example, branching dialogue options help to keep the player focused on narrative elements so that the player does not accidentally miss what is going on. If a player wants to, Bioware smartly made the conversations easy to skip straight to the branching points with a push of a button. Still, branching dialogues mostly just create the illusion of choice and control in a conversation rather than simply giving it to the player. Most of the choices made in branching dialogue systems are meaningless in the long run (save for a few) while some don't even make a difference in what response you hear next. If the

player truly desires more control and prefers a gameplay focus over narrative then branching dialogue is not necessarily the best option. That is also not to say that branching dialogue does not have an effect on gameplay. As previously stated, some vital decisions in the dialogue trees can have lasting effects on the game world. In addition, Bioware smartly designed in an influence system in which much of what your main character says affects how much the characters traveling with you think of you. In cases of extreme like, your main character has the ability to make his or her allies stronger depending on how much they trust you. In cases of extreme dislike, your allies may leave your party or even outright attack you if you make the wrong choices. Bioware made a number of design decisions that help make up for the weaknesses of branching dialogue, but that does not mean that the weaknesses aren't there.

Other techniques that have been used to keep a game interactive while telling its story exist but also have noticeable flaws. Two examples include what are called "in-game cut-scenes" and "quick time events." In-game cut-scenes are when what would normally be accomplished in a cut-scene happens around the player without taking control away from them. This has its strengths in not taking control away but causes the narrative to lose most of its cinematic appeal and emotion as the player might not get the best angle to see the action or might miss it altogether. Quick time events are cut-scene sequences that call will flash buttons on the screen that the player must hit for their character to succeed in beating up bad guys or not falling off a cliff. These keep the cinematic and interactive elements but don't give the player very much control. Many players refer to them as frustrating and annoying at times. Branching dialogue as a mode of exposition also has its flaws but stands out as another successful method for delivering a story to the player without taking control away.

To summarize, *Dragon Age* conveys the exposition necessary to drive the narrative through character dialogue rather than static cut-scenes. This serves as *Dragon Age*'s greatest narrative strengths as Bioware uses character archetypes and personality to drive the direction of the narrative and employs branching dialogue trees to keep the player interacting with the game throughout. The exposition is then masterfully woven into the fabric of the game by having the player's interactions with the NPCs reveal the narrative without breaking the illusion of control. While branching dialogue trees have their strengths and weaknesses, Bioware skillfully designed the entirety of the game to supplement these concerns.

### **Conclusions**

A video game's job is to entertain and RPG's, more so than others, rely heavily on a strong narrative to accomplish that. To overcome the burden of exposition that plagues many games, the best answer to telling a story well is to take advantage of the interactive nature of video games. Bioware does this in *Dragon Age* through its branching dialogue system. While the system has its strengths and weaknesses, Bioware's design philosophy helps to shore up against these. The other techniques that video games may employ to give exposition are useful as well, but Bioware smartly designed their game specifically around the branching dialogue system.

The facts of the matter are that video game narratives have a complex role. There is an inherent tension between the narrative of a game and the gameplay largely due to issues of control. Unfortunately, narrative is not just necessary for telling a story through a game but for giving the player's character the motivation and the interest to make their way through the gameplay of the game. This means video game narratives have more obstacles than traditional narratives as well as additional responsibilities besides simply telling a compelling story. It is obvious then that many of the traditional strategies for narrative design cannot necessarily be applied to the digital and interactive medium of video games.

In conclusion, the best method for overcoming the burden of exposition in video games is to compromise with the interactivity of the medium. There are a growing number of techniques emerging that can help developers accomplish this. We are not yet at the point where games can be fully interactive at all times, and in some ways that might not be the best road for games to go in. However, the branching dialogue paths used in *Dragon Age* allow for the player to engage the story and still receive all of the necessary information. The strength of the narrative and, arguably, the overall quality of the game are greatly improved by these design choices. Developers need to look to games like these if they want to create an excellent video game narrative.

# **Implementation**

The main point of the research study was to identify techniques that might be applied to our game to improve the narrative as the narrative was very important to our vision of the game. The three main ideas that were derived from the study were exposition as gameplay, characters as exposition, and meaningful consequences.

One of the major conclusions of the study was that in order for exposition to not rob too much from the gameplay, the exposition itself should be part of the gameplay. Many games have done this already in the form of in-game cut-scenes where player's still have control while the story develops. What *Dragon Age* did that was different and applied to our game better was the use of exposition as a part of gameplay. The branching conversations in *Dragon Age* determined lasting consequences, changing what the player faced, and allowed the player to earn the trust of certain NPCs. We applied this to our game as best we could. With our game's focus on morality we tried to create many opportunities where the player could determine their character's alignment during conversation. Since this resulted in in-game benefits, navigating the conversation itself was a sort of game. This allowed players to remain engaged while the story unfolded. There were instance where players could kill NPCs, rob from the dead, heal a sick man, or threaten a guard. These actions and more had ramifications on the player's alignment, making the navigation of conversations a full gameplay mechanic.

Another conclusion of the study was that it is possible to convey narrative information to the player through the interaction of other NPCs. By having NPCs (usually allies of the player) talk to the player and each other, the player is able to learn information while either passively or actively interacting with their teammates. While not necessarily as effective as the exposition as

gameplay concept, it was still another idea we could apply to our game. However, we ended up unable to use this idea to a great extent. A design decision made early on in our game was that the player would have no teammates to help them in the game. This was both a narrative decision and a resource decision. The story of the game seemed more appropriate to be experienced alone and we saved time and effort by not attempting to create customizable NPC allies with personalities and back-stories. Without allies for the player though, we were unable to use allies as a source of exposition. We did utilize NPCs as a source of exposition for the player, as most of our story is told through the dialogue with NPCs. The Guardian, being one of the mentor characters, ends up revealing most of the situation to the player himself. However, this is not nearly as interactive or immersive as it might have been with allies revealing information through their thoughts.

The final conclusion made during the study was that it is helpful to integrate meaningful consequences into the game's story. By allowing the player to guide the story through their actions, not only does the player have a personal stake in how the story turned out but their interaction with the exposition becomes meaningful. The exposition becomes important because they control it and how they interact makes a difference. We integrated this into our game in the form of multiple endings determined by the player's actions at the end. The player also has story changing opportunities such as killing two major NPC's and getting another one arrested. The player engages with the story when he makes decisions that change the outcome which reflects the importance we placed on the narrative in our vision.

As we said, the point at which the study was completed meant that some design decisions interfered with the implementation of the ideas of the study. Still, we were able to integrate most of the ideas. Almost every conversation in the game has multiple branches, alignment shifts, items, or scripting that the player can interact with to keep the storytelling from being a passive experience. We also took the idea of lasting consequences into our game in the form of multiple endings, and there were even a few conversations that resulted in changes in gameplay. Though were unable to use allied NPCs as part of the narrative, our playtesting indicated that throughout the entire game, the players were never bored nor lost as to what they were supposed to do and why. This caused us to deem our narrative a success.

# **Alignment**

## **Alignment System**

Right from the very beginning, alignment is a major focus of our game. The Electron engine's character creation system allows players to choose their alignment, which is made of two choices: Evil, Good, or Neutral; and Chaotic, Lawful, or Neutral. However, our game only takes advantage of the good, neutral or evil choice. By choice our game only deals with morality and never with laws or justice; this is mostly because as an artificial intelligence the player is not bound by any government or society and so laws are irrelevant to the character's actions.

During the course of the adventure the player can choose to continue playing based on their original choice or act completely differently and have their set alignment change in response. Good and evil are two sides of a spectrum in our game, and good actions or dialogue choices will shift the player towards the good end just as evil actions or dialogue choices will shift them towards the evil end.

## **Morality Bar**

As we have said, the game has a heavy focus on the alignment of the player's character that we decided to include from the beginning. Thus, when we wanted to add customizable features we decided to include a Morality Bar element in the user interface. In the original engine by default the player's alignment is not shown on an obvious element in the UI. It was entirely possible for a player to complete an adventure without ever knowing their alignment had changed. We felt that our module's emphasis on the player's alignment warranted the inclusion of a dynamically updating element to keep them informed. We expected the player's alignment to be shifting constantly from the many choices they would have to make during our game, and we felt that the player would need a constantly updating guide.

In the process of informing the player we wanted to show them how their choices were affecting their character's alignment at all times. If the player came across a plague victim, they could attempt to heal them or kill them for their meager belongings. The Morality Bar changes in real time, and in order to demonstrate its extreme importance in the game it cannot be closed during gameplay. The only time when the Morality Bar isn't visible is during dialogue since all UI elements disappear to keep up with the dialogue system's cinematic feel. In addition, in order to give the player a chance to customize their playing experience the Bar can be moved around the screen by the player so that each person playing the game can decide where it would be best placed to complement their play style.

#### **Morality Bar Images**

It was decided early on that, as an embodiment of the player's choices, the Morality Bar would better drive home the player's ethical decisions if it changed shape as the player's alignment shifted across the spectrum. While the center of the Morality Bar and the indicator arrows remain the same so that the player will always know it is the Morality Bar, it required a different skin for each of the three morality categories: good, neutral, and evil.

Because angels are considered to be the personification of "good" in the typical fantasy world the good Morality Bar skin was based on fantasy artwork depicting angels. The final result can be seen in figure 4. Because demons and hell are generally considered to be the epitome of "evil" in the fantasy world and corruption represented "evil" within our game, the evil Morality Bar skin was designed to look like burning rock being gripped by tentacles bearing the corruption pattern. The final result can be seen in figure 5. The neutral Morality Bar skin, which could be neither good nor evil, was designed to look like emotionless grey metal. The final result can be seen in figure 6.



Figure 4: The good morality bar.



Figure 5: The evil morality bar.



Figure 6: The neutral morality bar.

All three skins and the common elements between the three were created in Adobe Photoshop, and the finished images were exported as .TGA files. The figures below show the finished result of the good, evil, and neutral Morality Bar images that appear in the game.

#### **Benefits**

As we've said before, alignment and morality were major focuses in our game. To put even further emphasis on how the player behaved, we created in-game benefits for the player's character when they behaved consistently. Characters that are consistently good, evil, or neutral receive bonus feats, opportunities for extra items, and ability bonuses. Good characters receive the ability to create light at will and gain the "Celestial Resistance" feat, granting them resistances to acid, cold, and electricity. Neutral characters receive the "Lucky" and "Durability" feats, both granting bonuses to the character's saving throws. And Evil characters receive the ability to create darkness at will and gain the "Infernal Resistance" feat, granting them resistances to fire, cold, and electricity. The reasoning for this inclusion is to incentivize players to give alignment consideration and to give the character's alignment a larger role in the basic gameplay. This extension created pure gameplay repercussions to the player's actions and choices.

#### **Implementation**

The Morality Bar consists of two portions. First, an XML script was coded to dictate how the bar would interact and be placed as a UI element. After that it was the program functionality that was created through a NWN2 script. This script is what kept track of the player's alignment and dynamically updated the bar to reflect that. This code was used in addition to all of the original images we created in order to make the Morality Bar.

Though initially planned to be separate scripts, the way the Electron engine behaved in attaching scripts to areas forced us to integrate all of the scripts we wanted constantly running into one large script. Thus, the code that kept track of the player's alignment for the Morality Bar was integrated with the alignment benefits to handle both the distribution of benefits and the updating of the Morality Bar.

# **Shifting Appearances**

The final main feature we included in our game was changing appearances for the player's main character based on their alignment. As said before, alignment was a heavy focus in the game and we felt that the addition of such a feature would further help players to identify with their characters. Depending on the player's alignment, different particle effects were added to the player's avatar to create a visual element to the player's alignment. Figure 7 shows examples of some of the different visual effects that we used, with a running theme of blue for the good effects and red for the evil effects. When combined with the changing Morality Bar images, our game goes to great lengths to ensure that the player will constantly be reminded of their alignment and see the repercussions of their actions.

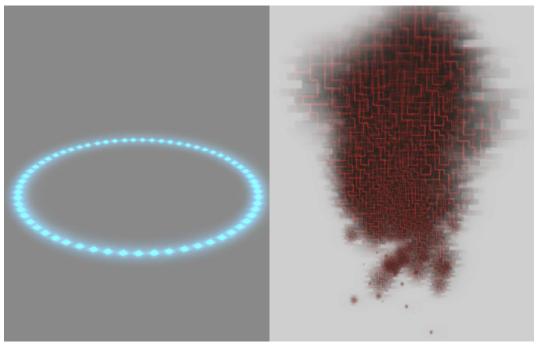


Figure 7: The good visual effect was a halo while the evil aura was a cloud of corruption.

## **Implementation**

As previously mentioned, it was necessary because of how the engine worked that we needed to integrate all of our continuously running code into one script. Thus the visual effects were added to the script that also handled the Morality Bar and the alignment benefits. This actually required relatively small amounts of additional code to the script as it already was programmed to keep track of the player's alignment. Thus one large script was created to keep track of everything alignment based that we wanted to include in our game's features keeping track of updating the alignment bar, applying feats, and changing the character's appearance.

# **Dialogue**

The dialog of our game was key to telling the story. Our game vision centered on a strong narrative which would require interesting dialog to keep the player engaged through the exposition. We spent a great deal of time writing and structuring the dialog in addition to adding code and scripts.

## **Dialogue Vision**

The dialogue was meant to give the player choice. By offering the player multiple responses to many things NPCs say, we allow the player to express their vision for their character. In addition, offering multiple options gives us the ability to have different choices create different outcomes and affect the player's alignment. This is the core of the exposition as gameplay idea that we focused on to create a meaningful narrative. We also strove to make each of our characters distinct with their own personalities and quirks. The dialog had to engage the player either with character or choice.

## **Dialogue**

We wrote all of the dialogue in the game ourselves. Most of the game's narrative was conveyed through dialog with other characters and the player's journal. We created a number of characters for the player to interact with during the game and our goal was to make each of these characters interesting to the player. These characters included the enigmatic guardian who served as the player's guide and the gruff and corrupt mayor who sends the player on his quest. For Westernstyle RPGs the NPC interaction is a key component of the gameplay and helps to ease the narrative burden that so many video games suffer from. Thusly, creating interesting dialogue was a top priority that we later investigated during one of our playtesting sessions. As you can see in figure 8, even the minor and nameless characters in our game were given at least a few lines of dialog for the player to hear.

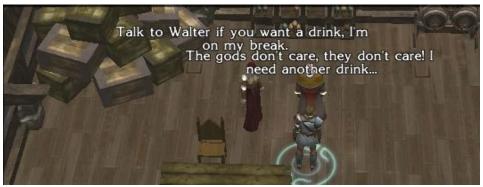


Figure 8: Minor NPC conversations in Fezziwig's Tavern

# **Branching Dialogue System**

The Aurora toolkit came with a specially made dialogue editor designed to facilitate the construction of branching dialogues for player interaction. The system was designed based on a concept of dialog nodes that branch to other nodes through responses the player chooses in a conversation. This allows the player to exert control over what is normally a purely expositional experience and ends up turning exposition into a main part of the game. The dialog editor allowed us to create dialog hubs, conditional responses, and multiple endings to our conversations giving us flexibility.

# **Branching Conversations**

Since the Electron engine uses branching dialog trees for NPC interaction, not only did we have to write the dialog but we also had to plot out and structure it for player interaction. This involved designing multiple paths for the dialog to take as well as a wide variety of responses for the player to choose from in a conversation. It was partly a balancing act as the more branching paths we gave the player the more responses the player had to choose from for expressing their character but the more work we had to do. Some conversations we kept to only a few dialog hubs while others involved some very extensive branching. For very minor characters for whom we only wanted to create a few interesting options for the player, the conversations consisted only of one single hub of responses such as in Figure 9 below. Examples of these smaller conversations include the plague victim in Ballybeg, Father Nemric, and the ruins observer. The Guardian and the Mayor dialogues were quite long and expository, resulting in multiple hubs with different responses and transitions between each. For the final expository dialogues of Dr. Nix and Dr. Elpus that explained most of the game's back-story to the player, we used a long chaining structure where individual responses would temporarily branch off from the main conversation only to be reintegrated shortly after. The conversations we created varied wildly in design as we experimented in different structures and tried to assign them accordingly.

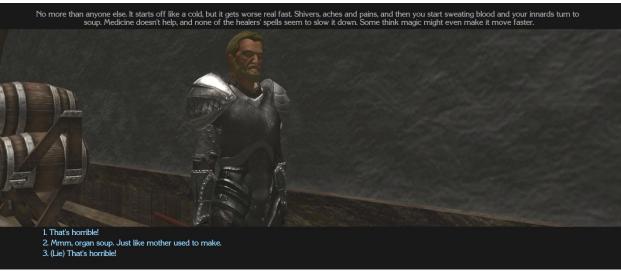


Figure 9: A small conversation with three responses that affect alignment.

## **Branching Dialogue Paths**

The campaign that came with the Electron engine is somewhat non-linear, with the player choosing from a list of responses during most dialogues. Each response changes how the other characters will react and how the story will pan out. We utilized this system to allow our game to include different choices based on morality, so that a good character will see more pleasant responses than an evil character who would receive harsh or cowardly responses. It also allowed us to implement our alignment options as well as our meaningful consequences.

⊪ Root
🖨 Greetings at last to the wayward son. Hmmm. I had always hoped that our project would have been completed before I had the p
😑 I have looked forward to this meeting as well.
[CONTINUE]
😑 Gosh, I sure hope I live up to your expectations.
- Ooh, what sarcasm! That must be Dr. Nix's work coming out. He has quite the wit you know.
😑 It's nice to know that you planned on talking to me at some point down the line.
□ Ooh, what sarcasm! That must be Dr. Nix's work coming out. He has quite the wit you know.
□ [CONTINUE]
🖹 I'm sure you have many questions. You must be all kinds of angry and confused. Unfortunately, our current situation lir
🖨 Where do you wish to begin?
후 Tell me who I am.
😑 Well, not to give you a cryptic answer but that is something Dr. Nix and I have been trying to figure out as well.
🖹 That sounds pretty cryptic doc.
- Heh. All right. I'll be blunt. You are a prototype artificial intelligence program codenamed AESIR. The fir
P Oh good! Then we have something in common.
Heh. All right. I'll be blunt. You are a prototype artificial intelligence program codenamed AESIR. The fir
□ I thought our time was too limited for vague responses.
Heh. All right. I'll be blunt. You are a prototype artificial intelligence program codenamed AESIR. The fir
□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □

Figure 10: Dr. Nix's dialog in the editor. Note the links between hubs.

# **Characters Reflecting the Game's Theme**

We endeavored to make each character in our game distinct. This meant incorporating not only personality but the recurring themes of our game. Certain characters were created to highlight the differing extremes of the moral scale. The player's wife was a compassionate victim while the mayor was a self-serving bureaucrat. Dr. Elpus felt that all life was equal while Dr. Nix was willing to destroy everything to get people to recognize his genius. Another example of the character's embodying the game's themes was how the Guardian's dialect changed to reflect the nature of the system. The more the guardian was bound by the trappings of the fantasy world simulation, the more archaic his speech pattern was. The characters even reflected the color schemes to some degree. Elymas' blue skin reflected his actually good intentions while the mayor's red wardrobe embodies his self-centeredness.

# **Custom Dialogue Scripting**

The Aurora toolset was also robust in the sense that the dialogues were structured so that custom scripts we created ourselves could be called from dialog nodes. The toolkit provided a number of default coding functions that could be called in a conversation (such as modifying a player's alignment, which was a vital aspect of our game) or we had the option to simply create our own functions to be used. A great deal of the coding that contributed to narrative events went into the dialogs, implemented either through the built in scripts or our own custom scripts. An example of one of our new scripts, namely the script that manages the Morality Bar, is shown in Figure 11 below.

```
* GUI Update Alignment Bar
2
3
4
5
      ^st Updates the Alignment Bar and the character's appearance after an alignment shift.
6
7
      * Joshua Luther
     void main() {
10
     //Set constants
11
     object oPC = GetFirstPC();
     effect good = EffectNWN2ParticleEffectFile("mod fx good");
     effect evil = EffectNWN2ParticleEffectFile("mod_fx_evil");
14
15
     // Check Alignment to determine bar
16
17
          if(GetGoodEvilValue(oPC) < 5){</pre>
              SetGUITexture(oPC, "SCREEN ALIGNMENTBAR", "imgAlignmentBar", "O evil bar.tga");
18
19
20
         else if(GetGoodEvilValue(oPC) < 10){</pre>
              SetGUITexture(oPC, "SCREEN_ALIGNMENTBAR", "imgAlignmentBar", "5_evil_bar.tga");
21
22
23
              else if(GetGoodEvilValue(oPC) < 15){</pre>
24
                  SetGUITexture(oPC, "SCREEN ALIGNMENTBAR", "imgAlignmentBar", "10 evil bar.tga");
25
26
                  else if(GetGoodEvilValue(oPC) < 20){</pre>
27
                      SetGUITexture (oPC, "SCREEN ALIGNMENTBAR", "imgAlignmentBar", "15 evil bar.tga");
29
                      else if(GetGoodEvilValue(oPC) < 25){</pre>
                          SetGUITexture(oPC, "SCREEN ALIGNMENTBAR", "imgAlignmentBar", "20 evil bar.tga");
30
31
32
                           else if(GetGoodEvilValue(oPC) < 30){</pre>
                               SetGUITexture(oPC, "SCREEN ALIGNMENTBAR", "imgAlignmentBar", "25 evil bar.tga");
                                  Figure 11: A script we wrote ourselves for the game.
```

# **Scripted Events**

In order to make the story interesting, we had to have more than just simple dialog, so we scripted events to occur as part of the story. This involved taking advantage of the built-in functions of the engine as well as writing our own scripts. In one instance we had a malignant program spawn and kill the wizard Elymas right in front of the player immediately after a conversation. These events helped to keep the storyline from becoming too static through conversations only and allowed for a cinematic feel by creating dynamic action outside of conversations.

### **Environment & Creatures**

# **Ballybeg Village**

To draw players into our game we begin in a setting that is familiar to our target player base: a typical backwater fantasy town. This town, called Ballybeg Village, is haphazardly built around a strange ruin in the center, having grown over time nearby the easily recognized landmark. But Ballybeg is hardly an ideal hometown: Ballybeg has been infected by a plague that is killing the populace. The dead have begun to outnumber the living. When designing the area we wanted the player to get a feel for how little hope the people have of finding an end to this terrible plague. The end result was a barren village with a low population, decorated with the corpses of those who have died and the abandoned buildings they once lived in.

With people and animals constantly dying we needed to have lots corpses in the area. The ground is littered with dead animals that the people have not bothered burying. Next to the town's chapel is a makeshift graveyard with dozens of graves. Unable to keep up with the deluge of dying and running out of room to place the bodies, the gravedigger has constructed a bonfire to instead burn the bodies of the infected.

With so many dead citizens most of the houses in the village are empty. The inhabited houses have an NPC outside that can talk to the player, but their attitudes are generally dismal and depressed. To make sure the player is aware of the abandoned houses we surrounded them with overgrown grass and broken tools.

In painting the terrain and grass of the village we decided to keep everything brown and yellow to show that the village is dying. However, grass still grows in patches and at least half of the trees still have some leaves. We wanted the entire village to be in the state of transition from fall to winter – things are dying but they aren't entirely dead yet. The state of the environment matches the state of the town. The finished result can be seen in figure 12 below.



Figure 12: Ballybeg Village

# **Ballybeg Village Music**

As was said before, the plague that has infected the populace has created a deathly atmosphere over the village. The background music needed to reflect this. It is slow with an orchestra setting the harmony and a violin creating the thoughtful melody. As the player moves through the village the music was created to set the depressing mood that the people all share.

# **Ballybeg Village Interior Music**

The interior music of Ballybeg needed to match the feel of the outside almost exactly, but in order to convey the difference between the exterior and interior the music needed to be simpler. The slow, building nature of the orchestra conveys the feeling of death and danger while still maintaining the relative peace of the indoors.

# **Ballybeg Testing**

Ballybeg improved substantially thanks to the playtesting process. The original Ballybeg was bare, lacked character, and had the clear air and bright sky of a crisp autumn day. Early playtests revealed that it didn't give off the desired vibe at all, some of the trees in the area were floating in mid-air, and it wasn't possible to reach the bartender and speak with him. All of these problems were quickly corrected and now Ballybeg is the game's home of doom and gloom.

One playtester also thought that it was a problem that none of the non-essential NPCs had anything to say. Thanks to his suggestion we can now boast new dialogue for each and every non-hostile NPC in the game.

## The Outskirts

The player leaves the dying Ballybeg and enters the bright and lively outskirts. The grass is green, the trees are flourishing, and the sky is blue with a shining sun beating down on the player's back. The entire area was created with green grass textures and leafy "summer" and "spring" trees to show that it is an area that has not been touched by the plague yet.

The entrance to the outskirts has a number of dying trees, which slowly change into more and more living trees to illustrate the player's transition from a dying world into a living world. The goblins and orcs in the area were taken from the toolkit to serve as part of the fantasy setting.

Goblins and orcs were chosen for reasons outlined in the "The Outskirts Revisited" section below.

In the center of the area is a rectangular goblin camp. There is a series of tents and goblins that won't attack the player and in this area the player can pick up a quest to kill the orcs living in the mountains. The orc camp is also decorated with tents and cooking fires. A rockslide prevents the player from going directly to Elymas' lair and rocks were placed at various points along the slide so that they would look as if they had tumbled from the mountain above. The finished result can be seen in figure 13 below.



Figure 13: The Outskirts

## **Outskirts Music**

The Outskirts is where the player enters a less dismal area, the first signs of life in the mod. The open environment and lively foliage lend themselves to a background music that is a little more upbeat than before. However, there is still a sense of loss that is ever present. For these reasons, the music includes an opening of horns and strings that has a very regal feel with a less upbeat guitar part in the middle. The end parts of the music are reminiscent of epic fantasy or even western movie film scores, with an orchestral lead and a guitar setting the background harmony.

# **Outskirts Testing**

Early playtests of the outskirts didn't find any bugs, but playtesters did find the area to be too open. With a large, roughly flat area to run around, there didn't seem to be enough stuff going on for the size of it. Adding bushes not only closed off some of this area but also made the outskirts look even livelier and more polished.

# **Elymas' Lair**

Elymas' Lair ended up only having one room in our final version. It was created with one of the toolset's tilesets so that it would look like an area a wizard might reside in. There is a large glowing symbol on the floor which Elymas is standing in, an array that augments the wizard's divination attempts as he seeks the source of the plague. It is a small room to reflect the relatively short amount of time that the player will spend here as well as Elymas focused and thrifty lifestyle. The finished result can be seen in figure 14 below.



Figure 14: Elymas' Lair

# **Malignant Programs**

It was decided that the core levels should have larger, more powerful foes that would serve as the Corruption's servants. These malignant programs were conceived as large spiders, playing off the idea of bugs in the code. The malignant program first appears in Elymas' Lair, accidentally summoned by Elymas' attempts to divine the source of the plague. The malignant program could have been made as a new model but because there were already five different spider enemy types in the toolset we decided to retexture one of them to save time, not to mention that even if we did make a new model we would be confined to one of the skeletons from the five mentioned spiders anyway. The phase spider body shape was the closest to the concept art for the malignant program so the phase spider was chosen as the base for the malignant program. The skin texture for the phase spider enemy was exported from the Aurora toolset's materials.zip file and imported into Adobe Photoshop to use as a template. The new texture was built over the original and exported as a .DDS file periodically to the toolset to be observed in-game. Once the

new texture was satisfactory it was run through Crazybump to create a new normal map. Figure 15 below show how the final Malignant Program model appeared in-game.



Figure 15: The Malignant Program model with the textures added

# **Malignant Program Soundset**

The Malignant Programs were based on the phase spider model but they were not designed to be a corrupted version of a previously existing monster. Therefore, the sound effects for them were created entirely from scratch in Reason. They appear as spiders, so the sound effects were created to sound like a "digital spider," a spider which sounds more like a corrupted sound than an actual arachnid.

## **New Battle Music**

As soon as the true nature of the system begins to reveal itself in the form of the malignant program attacking Elymas the battle music needed to be more futuristic and techno-themed.

However, the tempo needed to be kept relatively slow to match the nature of the engine's battle system. There is a synthesizer playing the lead and a drum section playing in the background.

# **Elymas' Lair Testing**

Originally, the Malignant Program wasn't supposed to make its first appearance until the Network Bridge. Three corrupted goblins were supposed to spawn and attack Elymas instead. However, the engine kept spawning them with a large box covered in question marks on their left arms as if a model was missing. Since there was no model on their left arms that could go missing we couldn't figure out how to fix the problem and eventually decided that Elymas' Lair might be a more suitable environment for the Malignant Program than corrupted goblins.

# **The Outskirts Revisited**

The second visit to the outskirts is almost identical to the first visit, excluding the addition of the new enemies. However, the environment has been twisted to visually reflect the fact that the corruption has spread into the outskirts. The level has been given the same poisonous, greenish-yellow haze and lighting as Ballybeg village, all of the "spring" and "summer" tree models were replaced with "winter" tree models, and the area has been overrun by corrupted monsters. There was no "winter" version of the bushes used in the uncorrupted outskirts, or of any bushes for that matter, so the corrupted bushes were instead created by taking the corrupted trees from the Network Bridge, removing their leaves, and scaling them down to roughly the same size as the bushes that were in the uncorrupted outskirts. All of these changes were made so that the area would look as if it was changing – much like the dying area of Ballybeg Village, the Outskirts have become corrupted by something malignant in the system. The finished result can be seen in figure 16 below.



Figure 16: The Outskirts Revisited

# **Corrupted Goblins**

We decided that whatever corrupted enemy was to inhabit the revisited outskirts needed to also be shown as a non-corrupted version before hand to help drive home the idea that the corruption was spreading. The toolset doesn't allow the import of new creature textures, however, only the overwriting of old ones. As a result the corrupted enemy had to be one that had multiple different skin textures: one that could be overwritten as a corrupted version and one that could be used as the non-corrupt version. This limited the choice to goblins, orcs, and ogres. Ogres were discarded because they were stronger than the preferred difficulty rating for our game, leaving us with goblins and orcs. We decided that orcs were too cliché and overused by other fantasy games, so goblins were chosen to be more prevalent and therefore the enemy type that should become corrupted. The textures and normal maps that we intended to overwrite were exported from the toolset's materials.zip file and imported into Adobe Photoshop. The textures were modified with the corruption pattern and then run through Crazybump to create normal map versions of the corruption pattern to be added to the original normal maps. After the new textures were assigned to the corrupted goblins they were scaled up in the editor to be a more obvious threat than their non-corrupted brethren. Figure 17 below shows how the Corrupted Goblins appeared in game.



Figure 17: The Goblin Model with the Corrupted Goblin textures applied to it

# **Malignant Program Soundset**

Because the corrupted goblins were just altered versions of the original goblins the soundset for the goblins was altered to make the new sound effects. Using Audacity, the soundest was edited and changed in order to make it sound like the sound files were corrupted, giving them a more sci-fi feel while still conveying the idea that something about the goblins had become twisted away from the norm.

# The Network Bridge

The Network Bridge was designed as a point in the game where the player began passing from the fantasy world into the system itself. As such, half of the level was created to look like the earlier fantasy areas while the next half was created to look like the later core levels. The entrance to the area contains green grass with a mountain that looks like it was taken straight out of the Outskirts but the trees have already begun to look corrupted. There are rocks on either side of the mountain pass and a dirt trail leading down a series of hills into a valley.

The descent into the lower regions of the Network Bridge is supposed to represent the player's transition from the simulation to the visual representation of the system. Therefore, it was created to look as if it were crafted by a computer program. The terrain is very rectangular in nature since this is the first part of the game that was never designed to be part of the fantasy simulation. As the player gets closer to the core, the terrain ceases to have a natural feel to it and becomes very flat and smooth. The finished result can be seen in figure 19 below.

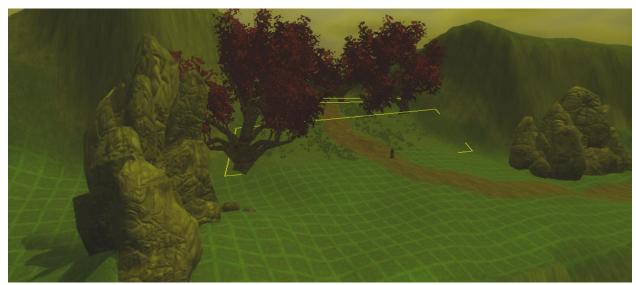


Figure 18: The Network Bridge

# **Network Bridge Terrain Texture**

Due to the shifting nature of the level, the texture that was created to represent the system was painted onto the terrain in a gradually increasing amount, starting with 10% and moving up by 10% every once in awhile. In keeping with the *Tron* influences, the texture was created in Photoshop using a tutorial to create a *Tron*-like grid. The color was set to green to blend in with the grass texture that was used to represent the fantasy side of the level. Figure 19 below shows the texture as it appeared after it was created before it was placed in the game.

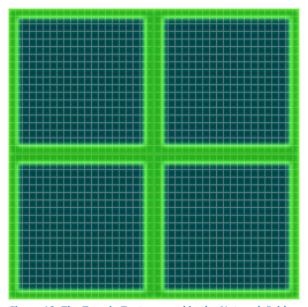


Figure 19: The Terrain Texture used in the Network Bridge

The texture was also changed to a red tint and applied to the leaves of the trees in the area to show that they had become corrupted as well. The tree trunks were also painted with the corruption pattern. Figure 20 below shows the trees as they appeared in-game.



Figure 20: Live Oak with Corruption Pattern and Corrupted Leaves

# **Network Bridge Music**

As the player enters the Network Bridge they are hurrying towards the core to save the system or destroy it. To emphasize the urgency the music in the background needed to be fast paced and it also needed a techno feel to match the science fiction setting. For this, a fast tempo with drums was needed. For the harmony and melody a string section with an electronic feel was used in addition to a horn sound which sounded distinctly sci-fi when played in the upper octaves.

# **Network Bridge Testing**

During a playtest session one playtester did what no one had previously thought to try: he went through the portal from the Network Bridge back into the outskirts. Much to our surprise he didn't find himself in the corrupted outskirts he'd just left, but in the outskirts prior to his visit to Elymas. A waypoint in both the normal and the corrupted outskirts had accidentally been given the same name, and so the Network Bridge had become a passageway back in time for the player. This was quickly rectified.

## **The Outer Core**

When the player enters the Outer Core they will notice that the placeables in the area seem to have been placed at random. Bushes and rocks are clumped into a corner, there is a giant rug in the middle of the room, one remote room is filled by a sailing ship, and another is mostly taken up by a barn that can't be entered. This was a design choice – as the core has been corrupted different objects that were used in simulations have become disorganized and are being scattered to other parts of the system. We wanted the core levels to reflect the dangerous and unorganized nature of the corrupted system. The finished result can be seen in figure 21 below.

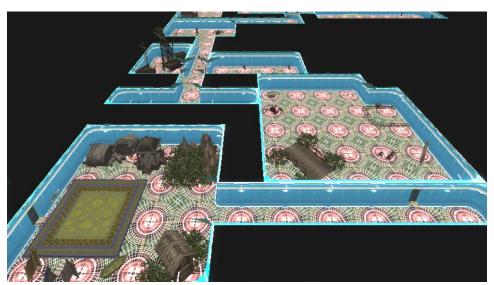
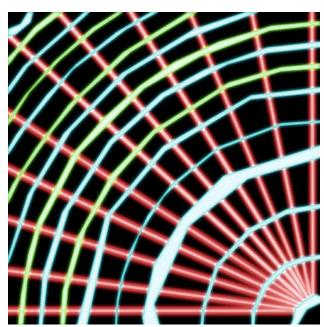


Figure 21: The Outer Core

## **Outer Core Tileset**

The level was designed as an interior level with the toolkit's tile system. In order to make sure that it didn't look like a fantasy dungeon rather than the inside of a computer system, we had to redesign the tileset. Since creating an entirely new tileset for the Core would have been very time consuming and difficult, one of the tilesets in the original toolset was just altered to fit what we needed the area to look like.

The tileset for this area was divided into three parts: floor, wall, and ceiling. In order to retexture the tileset, the original .DDS files of the textures needed to be overwritten by using the hakpak. For this area the ground texture was created in Photoshop with glowing lines reminiscent of *Tron*, similar to that in the Network Bridge. To match the model for the floor that was already being used the texture had a circular pattern similar to the original texture. Figure 22 below shows how the ground texture looked after it was created.



**Figure 22: Core Ground Texture** 

The walls and ceiling of the area were heavily altered versions of the Network Bridge texture with more glowing lines made in the same fashion as the glowing circular pattern on the floor. The wall texture can be seen in figure 23 below and the wall texture in figure 24 below.

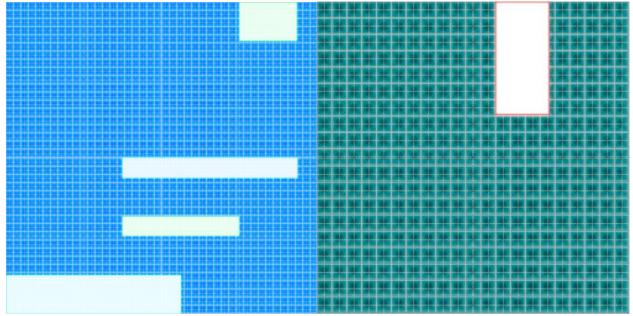


Figure 23: Core Wall Texture

Figure 24: Core Ceiling Texture

#### **Outer Core Music**

The Outer Core is the first part of the game where the music needed to fit the computer-like setting completely. It also needed to reflect the fact that the system was infected. Because of this, a sound effect that was very reminiscent of a bug in a computer's audio system was played throughout. In addition, the melody and harmony were played with an instrument that sounded very much like music that could have been straight from the era of 8 bit or 16 bit games.

# **Outer Core Testing**

Early testing of the Outer Core found one large bug that was easily fixed: when the Outer Core had been built, the artist building the level hadn't known that if two tiles were connected by a doorway then there had to be a doorway in both of those tiles. As a result there were numerous instances where a doorway in one tile lead to a solid wall in the next, and so it was impossible to move through the level.

## **The Inner Core**

The Inner Core was designed to look exactly like the Outer Core but be more open so that there'd be more room for the final battle to take place. The only decoration is the entrance door and the core itself, which is a floating object that can be interacted with after the player has defeated the Corruption. Because the core is the heart of the system we chose to represent it with a model from the toolset that was vaguely heart-shaped, but was hard and crystalline to imply that it was not biological in nature. The finished result can be seen in figure 25 below.

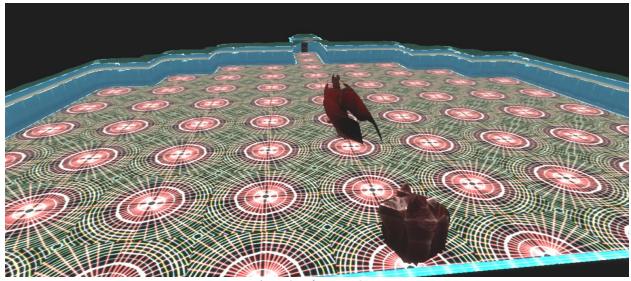


Figure 25: The Inner Core

#### **Inner Core Music**

The Inner Core doesn't technically have any actual music but there is an audio file playing continuously before the final battle, which consists of an electronic humming to indicate the player's proximity to the core.

# **The Corruption Model**

Because our game featured a new science-fiction setting, we decided that it should have an original final boss monster to further distinguish it from those available. The Corruption was originally conceived as an amorphous, tentacled blob monster but a custom content creation guide by Ivan Leben made it clear that the toolset doesn't allow modders to import custom skeletons or custom creatures. They can only overwrite those already in the toolset. As a result the original idea for the Corruption could not be implemented if we wanted it to have animations. Because a stationary final boss would be less intimidating than one that moved the original idea was scrapped.

The Corruption was redesigned as a dragon because dragons are the stereotypical final challenge for a hero in fantasy settings, embodying the collision between fantasy and sci-fi. The Electron Engine uses a model format that is not inherently supported by major modeling programs such as Autodesk Maya, 3ds Max, or Blender. As a result, before work on the Corruption could be begun it was necessary to download and install a model importer/exporter plug-in for 3ds Max created by the modder tazpn. Because the models in the Aurora toolset were originally built with 3ds Max there was more support in the form of plug-ins and tutorials for 3ds Max. This meant the Corruption couldn't be created in any other modeling program without unnecessary difficulty.

The model importer/exporter was used to import the red dragon models from the toolset and then the models themselves were deleted, leaving just the skeleton upon which to build the Corruption. Due to the manner in which the toolset handles models, the Corruption was built in four pieces: head, body, tail, and wings. The four models were then bound to the skeleton, their vertices weighted and the UVs saved as an image file to act as a template in creating the skin textures. Using the exporter plug-in, the Corruption was then exported as a .MDB to the toolset. Figure 26 below show the finished Corruption model.

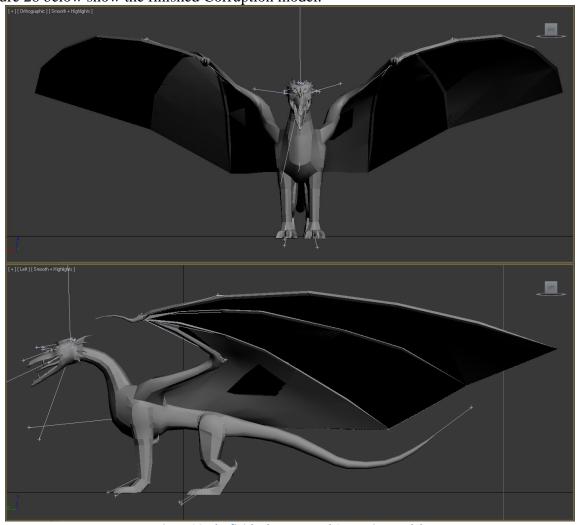


Figure 26: The finished, untextured Corruption model





Figure 27: Original Red Dragon Model

# **The Corruption Textures**

The Corruption's UV images from the modeling process were imported into Adobe Photoshop and the skin textures were drawn over them. As the skin textures progressed they were periodically exported as .DDS files to the engine so they could be observed in-game. Once the Corruption's skin textures were finished, Crazybump was used to make an initial normal map for each one and Adobe Photoshop was used to combine the best aspects of the newly created normal maps with those from the original red dragon. Figure 28 below shows how the Corruption looked when it was fully textured.



Figure 28: The final Corruption model as it appears in the Inner Core

# **The Corruption Soundset**

Like the corrupted goblins, the Corruption's soundset was an altered version of the Red Dragon's original soundset. It was edited in Audacity to sound as if the file had been corrupted or damaged and the sound effects were played in reverse to further emphasize this thought.

# **Inner Core Testing**

Testing of the Inner Core found several issues, all centered on the Corruption. The first was that the Corruption was too easily defeated; it was immediately given more health and new abilities to compensate.

Second, if the Corruption performed a specific one of its death animations then its tongue would drop down through its lower jaw. The tongue's vertices were re-weighted and the problem went away.

Finally, roughly half of the time that the player went up against the Corruption it would flicker back and forth between visible and invisible and, consequently, wasn't targetable so players couldn't fight back against it. After some tinkering around it was discovered that all toolset creature models have collision spheres. The collision spheres for the original red dragon model's tail had had the same name as some of those for the red dragon's body, and so hadn't been imported. As a result, the Corruption was missing the necessary collision spheres from its tail. The red dragon's tail was re-imported into the Corruption 3ds Max file and the Corruption's tail was re-exported with the collision spheres intact. The flickering bug went away immediately.

# **Post Mortem**

# What went right

In the end, everything that successfully made it into the game was an accomplishment. We successfully made a complete, three hour long adventure with an original setting, new enemies, an original story, and a new boss monster. We wrote a large amount of dialogue and programmed additional features into the engine and even a new UI element. In addition to that, our game has original music and sound effects to top it all off. Even though there was so much cut, we still accomplished a lot.

#### The Game

Of what went right, first and foremost was the game itself. Despite numerous cut ideas and time-crunches, we've created a one-to-three-hours long, fully realized story-telling game module that is playable from start to finish without incident. There is an original story, new enemies, and a complete adventure for players to explore. This in and of itself is a major accomplishment.

# **The Art Pipeline**

From previous game projects we'd come to expect that getting new art assets into a game and getting them to work would be a difficult, tedious process that wastes tremendous amounts of time. This was not the case with Core Corruption. Thanks to Ivan Leben's meticulous tutorial, getting assets from their respective creation programs into the engine was simple, concise, and took no more than five minutes for even the most complex assets. After months of work it was an enormous relief to see the Corruption functioning in-game on the very first try.

# The story

Finally, our playtesting showed that the story was a success. Though we were aware it would not be winning any awards because of the lack of polish to it due to time constraints, our playtesting showed that players liked the new setting and remained engaged for the entire playthrough. Not once was a player bored or confused and this was an accomplishment.

# What Went Wrong

Despite the many accomplishments we made during this project there were several things that didn't go quite as planned.

#### The Toolset

When we started on the project NWN2 had been around for over three years, three expansion packs had been released, and the developers had stopped making official updates. We assumed that the toolset would be completely stable. We quickly learned that this wasn't the case: the toolset enjoyed crashing at the most inopportune times possible. It wouldn't crash while we were working on a level, conversation, script, or any other such game facet, it would crash when we tried to save the game after having worked on something. The major problem here was that if the toolset crashed while saving it would corrupt the save file, rendering the file unusable and utterly destroying anything and everything that had been created.

After roughly the fifth time this had happened in one day we began to view it as a common bug rather than something that would rarely ever happen and started taking measures to prevent loss of data. While working we began saving back and forth between two files: core\_corruption.mod and core\_corruption\_backup.mod. By saving back and forth we negated the debilitating effects of a toolset crash: if the toolset should crash while saving to core\_corruption.mod the data could be restored from core\_corruption\_backup.mod. Sure, we'd lose whatever we'd worked on since the last time we saved, but that was better than losing everything.

# **Planning**

We feel like we lost a term to the design documents during A-term. We did a lot of talking and writing up plans and not a lot of anything else. While those were important, we don't feel like we really started making progress on the game until B-term. The planning phase could have taken half the number of weeks that it did. we knew what we wanted to do and what we wanted the game to look like by the second or third week and rather than get to work spent another four weeks writing up design documents that no one looked at again once A-term ended because they became obsolete as ideas were cut. This was even before we started getting close to deadlines. It bears repeating that a great deal of any game idea will need to be scaled back to accommodate time and resources.

#### **Time**

Time was undeniably our enemy on this project, which was a bit of a surprise because we didn't remember working on any previous game projects that had anywhere near as major a time

crunch. Projects always turn out too big to start. Perhaps it has something to do with the nature of the game industry, how much we fall in love with our ideas, or maybe we simply can never imagine all of the work involved. When we began, all of our ideas looked plausible. We cut ideas at our advisors' suggestion but even then we didn't think time would be a problem. We were quickly proven wrong as it took far more time than anticipated to create pretty much everything.

One example was the Corruption. Originally we were certain that it would be finished by the end of B-term. Then when the end of B-term rolled around we were certain it'd be done by the end of winter break. It wasn't until the second week of C-term that it was finished and a couple times after that it had to be tweaked to deal with bugs.

Part of the time issue was holidays. When we planned out what we would be working on for each given week we invariably failed to take holidays into account. One of our playtests had to be canceled because we scheduled it for the Saturday before Easter but all our playtesters had gone home for the holiday. Winter break seemed like four free weeks to work on the project but winter holidays cut that time in half.

We knew we were going to cut content from the game. We were warned and we understood that. What we didn't get was just how much we would have to cut. We were fortunate to create a complete game considering how much ended up on the cutting room floor. As previously stated, large amounts of design documentation were discarded right away once implementation started. Even then, features and ideas were cut later as time ran short and problems came up. One could reasonably say that somewhere between a third and half of the content that we planned for our game was cut by the time we finished. Perhaps more time could be saved if teams understood this better going in but it is hard to think of a way to communicate this truth that would be easier for new teams to wrap their heads around.

## Sound

It's reasonable to assume the biggest things that people notice while playing a game are how it looks and how it plays. People want a game that runs smoothly, is fun to play, and something that looks great to them as they play it. We would be the last people to say that the music and the sound are not important; a game with good music and great sound is certainly way ahead of a game with poor music, and if a game were to have no music or sound whatsoever the complaints would be loud and numerous. That having been said, we feel as if in most games it is usually seen as polish; if a game has passable sound effects and music then most people wouldn't even notice the difference.

This is something that the project really emphasized for us. One of our team members had specialized in sound design and music composition so we thought he'd spend most of his time working on related tasks. We quickly learned, however, that level design and texture creation were more important, and while these weren't among his greatest strengths they were still tasks that he could perform. More and more the music creation was pushed back; at first all the way until C-term but in the end it was saved until D-term.

#### **Mismatched Timelines**

In terms of the professional writing aspect of the project itself, the time it took to comprehend the requirements and determine the subject of research did not end up meshing well with the IMGD timeline. By the time the requirements of the project were understood and the central topic was chosen, production of the game itself had already started and the design phase was largely over. Once the study had been conducted, a good portion of the conclusions were inapplicable to the game due to specific aspects of the design. Had the topic been decided and the study conducted sooner, there would have been more opportunity to alter the game's design to apply the conclusions of the study.

# **Group Roles**

Our project could have benefited from clearly defined roles for group members. Having a single person in charge of meetings, schedules, and agendas would have been very useful to us. We also had a great deal of overlap in the areas that different developers worked on. Explicitly defining the areas that each person would focus on would probably have resulted in better coordination and generation of content on the team. Having two art team members who are meant to do everything sounds good on paper, but in the future team members should decide on their strengths and weaknesses early on and better divide the work to complement those strengths. If the team members are clear on what aspects they should be working on then things would probably end up with a lot more polish and quality in the end game.

Contrary to this point, however, one of the artists personally enjoyed not having a defined role. One week he'd be building levels and writing side-quest dialogue, the next he'd be making NPCs and designing the look of our new GUI element, and the week after that he'd be creating new enemy textures and models. He found it exciting to always have something different to work on. Since he didn't have a defined role, if his current task were to become tedious there were half a dozen other things that needed doing that he could pick up for a little while before going back to the previous task. And because there were no defined roles it was possible for us to pass tasks back and forth if we hit a wall or were busy with something else that had become a higher priority.

# **Larger Team**

After having finished the project we feel that we would have benefited from having a larger team. With only one tech student and neither of the art students being particularly proficient in programming, if the programmer hit a wall in his coding there was no one to turn to for help except for the modding community. While the modding community could do a great deal of good, it also didn't provide feedback in a particularly timely manner. A second programmer

would have come to a set of code with a different perspective and so could have picked up on glitches that our programmer had overlooked far faster than the modding community.

Another artist would have also been helpful. Our sound specialist didn't get to spend much time working on sound design because the level design, texturing, and modeling work needed two artists to get finished on time. If there had been a third artist then the sound specialist could have spent more time doing what he was best at and our mod could have featured more polished music, sound effects, and voiceover. Even if the voiceover had turned out poorly voiceover of any sort is regarded very highly by the modding community.

## **Conclusions**

Overall, the project was a success. We accomplished a great deal, made a complete game, created our own assets, did research, and addressed every known bug. In the end, a great deal was cut either due to time or circumstance. That being said, there is a great deal to take away from this project.

The design phase is important and absolutely necessary. Still, there is a general feeling of lost time when reflecting back on A-term. A great deal of the work conducted during the design phase turned out either unnecessary or was cut almost immediately. It also would have been useful to have had an introductory period to study the game engine. Our main implementation phase actually consisted of a combination of learning the engine and trying to implement parts of the game which kept a great deal of the project from being finished until C-term when we were also conducting playtesting. In the end, a great deal of the planned work ran together and overlapped. If something could be done with the design phase of the project to ensure that the time was better utilized it would probably take a great deal of stress off of the project.

The game design process is a rough and deadline driven process. When it comes to any MQP there are questions of what ifs and what was learned. Hopefully, some of the ideas suggested in this section might be applied to future MQPs in the hopes of streamlining the process for future students. Still, despite everything that was talked about here, the project was a success and we have a great deal to show for all our work.

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# **Appendices**

# **Appendix 1: Playtesting Methodology**

- 1. Three computers set up with a playtester on each.
- 2. Developers in the room with testers taking notes.
- 3. Developers do not interact with testers unless they have a question.
- 4. Developer tries to answer question as simply as possible without leading the tester
- 5. Testers play for three hours or until finished.
- 6. Testers fill out a bug report form every time they encounter a bug.
- 7. Testers fill out a form with their experience and suggestions.

# **Appendix 2: Bug Report Form** Tester Name: Type of Bug: [] Typo [] Scripting [] Graphic [] Other Severity: [] Typo [] Abnormality [] Not Working Properly [] Cannot Finish The Game [] Crashed Game [] Computer On Fire Is It Repeatable?: [] Yes [] No What Were You Doing When You Caught The Bug: Describe The Bug: Comments:

Date:\_\_\_\_\_\_ Developer: \_\_\_\_\_\_

# **Appendix 3: Narrative Analysis**

#### **Notes on Genre**

#### Purpose and Audience

To create a grim, dark, fantasy adventure with engagingly emotional content for a mature audience. To entertain. To tell an interactive story.

#### Content

High fantasy action-roleplaying game with tactical elements and a multi-branching, multi-ending narrative. Leveling and character customization. Branching dialogue options. Downloadable content. Nine characters. Six origin stories.

#### Structure

Multi-branching RPG designed in the western philosophy. Multiple Origin stories, races, classes results in a dynamic and multi-variable narrative that results in many differences between conversations and events.

## Linguistic Features

Antiquated language associated with the high fantasy medieval setting are implemented. Fantasy tropes and created terms are used. French terms are used as well especially in relation to the nation of Orlais. Arl, Ser, chevalier...

## **Notes on Aristotelian Elements**

#### Plot

Archdemon, Blight, Two Grey Wardens left, must unite the races of Ferelden and defeat the archdemon. Origin -> Open Adventure to the four races -> Culmination -> Final Battle -> Falling Action

#### Character

Nine characters, varying archetypes. Main character is whoever the player envisions him or her to be. The main character can be as like or unlike the player themselves as desired.

#### Theme

Moral Grayness, Desperation in dark times, betrayal, adult themes. For the character, to be the savior, to have power, or simply to survive.

#### Diction and Pattern

Technically the medium is the video game. A multi-branching narrative utilizing terms from standard high fantasy settings as well as certain old English phrases. Certain French and British accents as well as one that I cannot place (Antiva)

#### *Spectacle*

A grim, high fantasy world of Bioware's own designed, heavily influenced by Tolkien. Magic, spirits, and gods add supernatural effects to the setting and the rampant evil and corruption underscores the absolute evil of the darkspawn threat. Dungeons & Dragons also appear to be a heavy influence.

#### **Notes on Characters**

## Archetype

Morrigan, Flemeth, Allistair, Main Character Alistair: Companion/Comic Relief/Moralist Morrigan: Romantic Interest/Trickster/Scoundrel Flemeth: Mentor/Trickster/Guardian/Oracle

#### Emotion

Alistair: Friendship, Loyalty, Honor, Compassion, Worry, Sarcasm Morrigan: Amusement, Intrigue, Anger, Surprise, Sadness, Sarcasm

Flemeth: Amusement, Contempt, Intrigue, Interest, Sarcasm

#### Connection

Alistair: Brotherhood, Ally, Survivors

Morrigan: Romantic Interest, Guide, Companion

Flemeth: Rescuer, Oracle, Elder

#### General

Alistair is a good oriented character. Witty and sarcastic. Compassionate and caring. Doesn't like to lead but wants to protect others. Fear of failure.

Morrigan is a potential love interest. Never had any friends. Grew up rough, alone. Taught to survive. Cynical, manipulative, and not afraid to use people to further her goals. Does not trust others.

Flemeth is a mentor character. Ancient and powerful. She is evil as it is revealed in the game that she extends her life by possessing the bodies of her daughters. She helps out the wardens to protect herself.

# **Gameplay Transcript**

#### Key

> = Choice made in conversation

() = Approximate Dialogue

MC = Main Character

M= Morrigan

F= Flemeth

A= Alistair

## **Begin Transcription**

M: Ah, your eyes are finally open. Mother will be pleased.

MC: What happened to the darkspawn?

> I remember you; the girl from the Wilds.

Err...yes. Where am I?

M: I am Morrigan, lest you have forgotten, and we are in the wilds where I am bandaging your wounds. You are welcome, by the way. How does your memory fare? Do you remember Mother's rescue?

MC: Wait... what happened to the army? To the king?

I remember being overwhelmed by darkspawn...

>She rescued me? You mean from the tower?

M: Mother managed to save you and your friend though it was a close call. ..... The man who was supposed to respond to the signal abandoned the field. Those he abandoned were massacred. Your friend... he is not taking it well.

MC: >My friend? You mean Alistair?

What happened to the Grey Wardens? And the king?

Neither am I! This is horrible!

I need to get out of here.

M: The suspicious dimwitted one who was here before, yes. He is outside by the fire. Mother asked to see you when you awoke.

MC: I will go then.

Why does your mother want to see me?

Were my injuries severe?

I have some questions if you don't mind.

>Thank you for helping me, Morrigan.

M: I...You're welcome, though mother did most of the work. I am no healer.

MC: I will go then.
Why does your mother want to see me?
Were my injuries severe?
>I have some questions if you don't mind.

M: I do not mind. Take your time.

MC: I think I've asked enough questions. Are we safe here? Where are the darkspawn? >Why did your mother save us? How did she manage to rescue us, exactly? Are there any survivors besides us?

M: I wonder at that myself. But she tells me nothing, perhaps you were the only ones she could reach. I would have rescued your king. A king would be worth a much higher ransom than you.

MC: Thanks a lot.
I happen to be of royal blood you know. (Dwarf Noble)
Much, much higher.
>Coin is important to you? Out here?

M: Who says I would ransom for coin? Gold has its uses I suppose but power buys far more.

MC: >I think I've asked enough questions. Are we safe here? Where are the darkspawn? How did she manage to rescue us exactly? Are there any survivors besides us?

M: I agree. 'Tis time you speak with mother, then be on your way.

<End Dialog. Head outside to speak with Flemeth and Alistair>

F: See? Here is your fellow grey warden you worry too much.

A: You... you're alive! I thought you were dead for sure.

MC: I'm not, thanks to Morrigan's mother. Afraid you were going to be left alone? I'm fine. I appreciate your concern. >It takes more than a few darkspawn to kill me.

A: Duncans dead...and the grey wardens, even the king. It's all so real. If it weren't for Morrigan's mother, we would be dead too.

. . . . .

F: (I have no use for names. You may call me Flemeth.)

A: (The Flemeth? Of legend? Jori was right, you are the Witch of the Wilds)

F: And what does that mean? I know a bit of magic, and it has served you both well, has it not?

MC: Who cares what she is? We need to do something now.

>So why did you save us?

If you're Flemeth, you must be very old and powerful.

We can't be safe here. Where are all the darkspawn?

I suppose we should thank you.

F: Well, we cannot have all of the grey wardens dying at once can we? Someone must fight the darkspawn. It has always been the Grey Warden's duty to unite the lands against the Blight or did that change when I wasn't looking?

MC: Of course not!

It changed when most of them were slaughtered.

>The Grey Wardens are no more. Let someone else do it.

The land is hardly united, thanks to Loghain.

F: Of course, someone else will realize it needs to be done and act in time and with sufficient sense will come along and fix it.

A: (But we were fighting the Blight! The King had almost won it. What could have motivated Loghain to do such a thing?)

F: (Who knows what evil lurks in the heart of men? Perhaps he sees the darkspawn as a small obstacle or an army he could defeat himself. Perhaps he is simply blinded by their evil so that he cannot see the greater evil that is the true threat.)

A: The archdemon.

MC: >Then we need to find this archdemon.

What is this archdemon exactly?

Alistair is the real Grey Warden here, not me.

Will you help us fight this Blight Flemeth?

We should contact the rest of the Grey Wardens.

What could the Teyrn hope to gain by betraying the king?

A: By ourselves? No Grey Warden has ever defeated a blight without the army of half a dozen nations behind him. Not to mention the fact that I don't know how to defeat an Archdemon?

F: (Which is more difficult? Fighting the Archdemon or raising an army? Seems to me those are two different things. Have the Grey Wardens no allies?)

A: I... I don't know. Duncan said that the Grey Wardens of Orlais had been called. And Arl Eamon would never stand for this surely.

MC: Arl Eamon? Is this someone important?

>Perhaps we could go to him then.

You think the arl would believe us over the teyrn?

A: I suppose. Arl Eamon wasn't at Ostagar. He still has all of his men. He is also Calen's uncle. I know him. He's a good man, respected in the Landsmeet. Of course! We could go to Redcliffe and appeal to him for help!

MC: >Surely there are other allies we could call on.

That sounds like an excellent idea.

Keep in mind that Loghain was also an honorable man.

Everyone will see the danger the Blight poses right?

And say he doesn't help us? What then?

A: Of course. The treaties. Grey Wardens can demand help from dwarfs, elves, and mages to fight the blight.

F: I may be old but all of these dwarves, elves, and mages, as well as this Arl Eamon fellow, that sounds a lot me like an army.

A: So can we do this? Go to Redcliffe and these other places and... build an army?

MC: Why not? Isn't that what Grey Wardens do? As long s there's some profit in it. Whoa! Let's not get ahead of ourselves! >I doubt it will be as easy as that.

F: <Laughs> And when is it ever?

A: It's always been the Grey warden's duty to stand against the Blight. And right now, we are the Grey Wardens.

F: So you are set then? Ready to be Grey Wardens?

MC: >As ready as we'll ever be.

I'd be happy with just staying alive.

I don't suppose you could offer any more help?

Yes. Thank you for everything Flemeth.

We're going old woman, don't push us.

F: Now, before you go, there is yet one more thing I can give you.

<Morrigan enters>

M: (Now dinner is ready. We will have two guests or none?)

F: (The Grey Wardens were just leaving dear and you will be accompanying them.)

M: (Too bad they won't be... What?)

F: You heard me girl. The last I looked, you had ears! (Laughs)

MC: I think that's an excellent idea.
What makes you think we want her?
>Thank you, but if Morrigan doesn't wish to join us...

F: Her magic will be useful, even then she knows the wilds and how to get past the horde

M: Have I no say in this?

F: You have been itching to get out of the Wilds for years. Here is your chance. As for you, Wardens, consider this repayment for your lives.

MC: Very well, We'll take her with us. >Was this your idea all along? She had better be as useful as you say...

F: Pardon me, but I had the impression that you two needed assistance whatever the form.

A: Not to look a gift horse in the mouth, but won't this add to our problems. Out of the wilds she is an apostate.

F: If you would reject help from apostate mages then maybe I should have left you in that tower?

A: Point taken.

M: But mother, this was not how I wanted it. I am not yet ready.

F: (You are ready enough. These wardens will need your help to succeed against the blight. Without them the Blight will consume this land and kill everyone. Even me.)

F: And you Warden? Do you understand? I give you that which I value above all else in this world. I do this because you must succeed.

MC: I understand.

We don't need her help.

>She won't come to harm with us.

M: Allow me to get my things if you please

M: I am at your disposal Grey wardens. I suggest a village north of the wilds as our first destination. (It is not far from here and I can take us around the darkspawn.) Or, if you prefer, I shall simply be your silent guide. The choice is yours.

MC: I think we should just get underway.
>No, I prefer you speak your mind.
I have no problem with your presence if Alistair doesn't Actually I have some questions.

F: <Laughs> You will regret saying that.

M: Dear sweet mother you are so kind to cast me out like this. How fondly I will remember this moment.

F: Well, as I always say, if you want something done, do it yourself, or risk hearing about for a decade or two afterwards.

A: I just... do you really want to take her along because her mother says so?

MC: >We need all the help we can get.

Oh, get over yourself, Alistair.

Not really, no.

A: I guess you're right. The grey wardens have always taken allies where they could find them.

M: I am so pleased to have your approval.

MC: >I think we should just get underway.

Actually, I have some questions.

M: Farewell mother, do not forget the stew on the fire. I would hate to return to a burned down hut.

F: Ha! Tis far more likely you will return to see this whole area, including my hut, swallowed by the Blight.

M: I.. I did not mean...

F: I know what you meant. Try to be careful dear.

<End Dialog>

**End Transcription**