Game Design Document

Title: Portrait of a Tree

Authors: Tiffany Abernathy & Grayson Garrett

Intended System Compatibility: PC

Target Age: 12+

Intended ESRB Rating: E

Projected Ship Date:

 -Season 1- (Episodes 1.1): December 7, 2017

 -Season 1- (Episodes 1.2-1.4) To Be Announced

 -Season 2- To Be Announced

 -Season 3- To Be Announced

 -Final Season- To Be Announced

Revision History

Version	Date	Author(s)	Comment
1.0	9/13/17	Tiffany Abernathy	Beginning Creation, Basic Outline.
1.1	9/17/17	Tiffany Abernathy	Filled in: Introduction (All, except backstory), Gameplay(All), Gameplay Mechanics (Game Walkthrough, The Player(Movement)), Enemies(AI), Pick Up Objects(All), Unlockables/Achievements (All), System Specs (All Known), Appendix B, C, E
1.2	9/18/17	Grayson Garrett	Filled in: Character (All), Game World (All), Enemies (All), Enemy Spawning (All), Sound Effects (All), Appendix A, D, E
1.3	9/19/17	Tiffany Abernathy	Filled in: Introduction (Back Story), Formatting Before First Review
1.4	9/20/17	Tiffany Abernathy	Revisions from Peer Review
1.5	15/5/17	Tiffany Abernathy	Changes for Final Submission

Introduction

Game Concept:

-High Concept

Portrait of a Tree is a third-person, 3D, side scroller, adventure game where the player is Myla (See Character Page) the main character in the story set out to save her lands by finding the ancient artifact before the excavation crew. She must battle crew members and leaders within each level and find all the power up flowers for each of her powers, only one in which will be exposed in the demo, to beat the game.

-Core Game Play

Using the keyboard, or optionally a controller (See Game Mechanics), the player will move horizontally through the tropical jungle world jumping between and climbing platforms. The user will have the ability to blast enemies with the power(s) they were born with or acquired in future levels, through use of controller triggers or left mouse button. The enemies will be placed upon set platforms within the level and one mini boss at the end of each level with higher stats. Most bosses will require the level up flowers to have been collected to defeat them within the timer limit (See Appendix D).

-Theme

The main goal is for the user to balance focusing on finding the level up flowers and fighting the enemies as some require a certain number of level up flowers before they can be defeated (See Appendix D). To fully defeat a level, all the level up flowers within that level must be found along with all the enemies defeated within the time limit. It is also intended for the user to be able to choose if they prefer using a controller or the keyboard or mouse. The overall layout of the game will be artistically realistic, with each of her powers having their very own particle effects that will explode upon each hit to an opponent.

-Back Story:

Earth is dying. Entire ecosystems have been drained of life. It has been years since a healer has been among the population. Myla, our main character, is sent from home to uncover the mysteries that surround the events unfolding. The world's leaders have become desperate to find a solution and heard rumors of an ancient culture once having an artifact within a tree that could restore life to the world. The leaders have resorted to bringing a private military excavation crew to excavate the forests of Myla's people in hopes of finding the artifact. Not knowing what the object of power is, only working off rumors, they tear through the forest in search for the object. It is Myla's goal to get to the artifact before the excavation team and restore life to the world before the crew dooms humanity by destroying it.

Example of Play

The game will load with a simple cinematic intro, showing the main character, Myla, speaking with her parents about her destiny and how it is up to her to save the world by finding the ancient artifact before the excavation crew. She will start embarking on her journey by going through the door on her right and beginning the first level. A menu will pop up offering a tutorial on how to play the game, which can then be dismissed or read. She will start off with her main power that she was born with. The power is a blue particle enhanced magic that can be shot at enemies. The main character will jump between platforms moving towards the right to continue through the level and searching for the hidden power up flowers and enemies.

When a level up flower is found, a sound will play signaling the level up, and the skills menu will open for the user to choose to level up her power. For the demo, she will only have the first main power unlocked, so she can only choose to level that one up.

When an enemy is encountered, they will pursue the player only on the platform in which they are tied to. The enemy will have the ability to shoot the player, causing damage based on the level of the enemy being faced. The player will then have to attempt to beat the enemy before their health or the timer runs out. Upon defeating each enemy, the amount of damage points due to a single hit from the enemy will be restored to the health of the player (See Appendix D). The health and strength of the enemy will increase with each level.

To beat each level, the player must defeat all the enemies and have collected all the level up flowers within the time limit. If the player dies, they will lose a life and will respawn at the beginning of the current level unless they are out of lives, of which they have three. If all three lives are lost, the game is over and they must start over. Making the challenge level like that of *Dark Souls*.

If the player wins all the levels and finds the artifact before the excavation team, they will see life return to the world, and Myla will return home to her family. However, if they beat all the levels but do not get it done within a certain time, the excavation crew will find the artifact before her and unknowingly destroy the artifact dooming humanity and resulting in a game over for the player.

Market Analysis
- -Target Market

    Anyone ages 12+, simply because of the mild combat. The target audience is people with interest in casual adventure gaming, with goals of perfecting their completion time.

- -Expected ESRB Rating

    The team expects a rating of E for Everyone for *Portrait of a Tree*. There is no material that is gory, sexual or otherwise inappropriate for children only mild combat between player and enemies.

Project Overview
- -Target Hardware Requirements

    Operating System: Windows 8+

    Processor: 2.0 GHz +

    Memory: 4GB Ram

    Hard Disk Space:

    Input: Mouse/Keyboard or Controller

- -Milestone Schedule
    - -Game Pitch: September 12, 2017

    - -Game Design Documents: September 21, 2017

    - -Midway Point Game Play: October 24, 2017

    - -Season 1: Episode 1.1- December 17, 2017

    - -Season 1: Episode 1.2-1.3- TBA

    - -Season 2-4: TBA

- -Team Members

    Tiffany Abernathy

    > Responsibilities: Programming (Mechanics, Menus, AI, UI)

    Grayson Garrett

    > Responsibilities: Artist/3D Modeler (Character, Enemies, Environment)

Character

-Overview:

Myla is our fictional character for our game. She is part of an indigenous tribe located on a fictional island in the middle of the Atlantic Ocean. She is the fabled "healer" although that is to remain unknown to her as well as the player until the end of the first section in the tropical forest. She is a charismatic leader, with a keen sense of morality and fairness. From an early age, she realized that she had a special power - that of the "Soul of the Tree". This power normally runs through the males of her people. This is the first time this power has been seen in a woman. For some reason, the Gods have shined brightly on Myla. She surpasses all her colleagues in strength as well as cunningness. Not seeing the bigger picture of things, Myla is reluctant when chosen to fill the role of the Traveler. She loves her family and believes that they need to only worry about saving themselves. She is chosen to seek out the fabled mystical artifact that only reveals itself to a healer, in hopes of saving not only her family, but her entire planet.

-Health:

The health system performs in a classic fashion. There will be a health bar in the top left corner with a photo of Myla's face. Each blow Myla receives from her opponents will decrease her health, which will be seen in the health bar. The photo of Myla will also have 4 stages. When the health bar reaches 4 certain points, the picture will show her face looking more beaten up to signify to the player that she is wounded. There is a way, however, to increase your health. Upon killing an enemy, Myla's health will increase based on the damage value of the enemy killed. I.e. The enemy does 10 points of damage per hit, the player will gain 10 health points upon killing the enemy.

-Powers:

Powers are similar to the powers in the game, *Infamous: Second Son* (Sucker Punch). They will all be extremely bright and saturated colors that gives a mystical sense to the environment. In this first part of the game, we will be using the power of the "Soul of the Tree". It will include many different values of bright blue and smoke. This will be a simple blast from her right hand. When the rest of the game is made, Myla will uncover a new, hidden power in each temple she visits. There are 3 powers total.

Written by: Tiffany Abernathy & Grayson Garrett

Gameplay

-Challenge Structure:

Within the game, the enemies are going to get more difficult through increased health and increased strength. The only way to restore health it by killing enemies which only restores 5/10/15/25 (See Appendix D) points of health per enemy. Some enemies are also going to require you to have a certain number of power up flowers to defeat them on time and survive.

The player also only has three lives throughout the entire game. If the player loses all their lives, the game is over and they must restart the game. If they die within a level, and still have lives, they will restart the current level they are on. Only one level will be included within this class scope.

-Puzzle Structure:

The only puzzle like piece within the game, is that the level up flowers will be hidden through-out the game and the player will have to adventure to find them all to complete the game.

-Level Progression:

For the class scope, there will only be one level but the main character will progress through that level until they defeat the final boss.

-Timer:

There will be a timer for each level in which the level must be completed by. However, upon finishing the entire game there will be a timer accumulation between all levels in which you will have to complete them before a certain time to find the artifact before the excavation crew and save humanity.

-Displaying Gameplay Stats:

There will be a health bar on the in-game HUD to show the players health. There will also be three hearts shown for the players three lives.

-Victory Condition:

To win each level the player must collect all the level up flowers and defeat all the enemies disbursed throughout the level before the timer runs out.

To win the finished game product the player must defeat all the levels with a cumulative time less than the set excavation crew completion time.

-Economy:

The player will have 100 points of health per life, and 3 lives. There will also be a timer limiting the amount of time that can be spent on each level and overall completion time of the entire game upon finishing. There are also level up flowers within the game that must be collected to beat the game entirely.

-Replay:

> The game has a small replay ability aspect simply because it is possible to get all the way to the end and not win if the excavation crew's time was not beat. Anyone that aims to beat their time and or beat the game will find more replay ability within it, than someone who just wishes to beat all the levels.

Game World:

-Environment

The environment is set on a remote island in the middle of the Atlantic Ocean. It is a dense jungle with mountains and volcanoes. Around it is smaller patches of land and large rocks sticking up out of the water. Around the entire space, a mystical force field surrounds it, concealing it from wandering eyes.

-Overall Feel

The overall feel should be that of excitement, curiousness and adventure. There is mystery and unknown that await both Myla and the player. The sense of bewilderment will be heavily played on with visual aesthetic and an extremely ambient and minimalistic music soundtrack. Although adventure is welcomed, one needs to take a step back and consider the possibility of death. The unknown is greedy and can entrap all who enter it.

Gameplay Mechanics:

-Game Walkthrough:

After installing the game, and running the executable file, the player will be shown the start menu. They will then need to press any key to load the main menu where they can choose to start the game, options, help, or Quit Game. If they choose to start the game, they will see the small schematic of the main character Myla speaking to her parents, then the character will walk through a door and the game will start.

The player will then need to find all the level up flowers within the level, and defeat all the enemies. Upon getting to the end of the level and having all complete, there will be an ending scene showing success and the time taken for them to beat the level. Upon finishing of the development of the entire game, the player will either return home to her family having saved humanity, or must start over because they did not beat the excavation crew's time.

If they choose options they will be given a menu with list of options on keyboard/mouse or controller, full screen or window mode, others TBD.

Help will display a basic overview tutorial of the game and how to play (i.e. move, goal, what the flowers look like, different enemies)

Then Quit Game will obviously close the application.

-The Player:

Character Design-

The character design will be completely based on where the setting of each chapter is. For the sake of this one level, we will be entering a fictional tropical jungle island in the Atlantic Ocean, hidden behind a magical forcefield. Therefore, she will have a green outfit. Within other environments, for example, the mountains she will be wearing a coat of sorts and all white.

Movement-
-Mouse/Keyboard

Movement Action	Button
Move Right	Right Arrow Key/ D Key
Move Left	Left Arrow Key/ A Key
Jump Up	Space Bar
Shoot	Left Mouse Click

-Controller

Movement Action	Button
Move Right	Analog Stick to Right
Move Left	Analog Stick to Left
Jump Up	X Button/ A Button
Shoot	Right Trigger(R2)/(RT)

-Physics:

The game will follow basic physics, the player will follow the rules of gravity i.e. the player won't be able to fly.

Enemies:

-Boss Characters:

There will be 2 types of Bosses: Mini-Boss, which are at the end of each episode, and the Main-Boss which will be at the end of each chapter. The mini bosses will pose more of a threat than the ads, but will not be too overwhelmingly difficult. Upon completion of each episode, the player will be allowed one upgrade point to upgrade the percentile strength of the power they choose, which allows the player to encounter, and defeat, higher level enemies. The main-bosses, which are at the end of each chapter, will require a great understanding of the game's mechanics, posing a large threat to the player. These will require quick thinking and puzzle completions to pass through to the next chapter.

-Excavation Crew Members:

The excavation crew members are simply ads. There will be 2-3 levels of enemies: light, medium and heavy. Each of these enemies are increased in strength and health. The light enemies will have weak weapons and health. The player should be able to take them out with 10 shots. The medium enemies will be a little stronger, with slight visual differences from that of the light enemies, indicating the difference in strength. They will be able to be taken out with 15 shots. The heavy class of enemies will have a noticeable difference in visuals to that of the medium class. They will require to be hit 20 times and will have a larger weapon.

-Main Antagonist:

This character is going to be ever present in all games I make. The same character and everything. He is an ever-present evil that is a constant across multiple realities. Myla will meet him later in the game and he will be the final boss battle. He is to be very quick and agile. He has a dark source of powers that he acquired through means of science and not natural causes.

-AI:

The enemies will have limited AI. They all will be bound to a specific platform within a level. Upon the player entering their field of view, they will start shooting the player.

Enemy Spawning

Throughout the level, the player will have to face an ever-increasing number of enemies. Each enemy is tied to a platform within the game. Once the enemies are killed, however, they do not respawn. The player can go back and venture through missed parts of the level without having to worry about running into a small army again.

Pick-Up Objects

-Level Up Flowers:

These flowers will be hidden throughout each level. The player will have to discover the flowers and grab them by walking up to them. Each flower found will increase the power chosen (basic power Myla is born with for the demo) by 20 points. For an overall strength of 100 if a power is leveled up all the way.

-Power Unlock Flowers:

These flowers will have a specific color to them signifying a specific power that is going to be unlocked. Therefore, there will only be two hidden throughout the entirety of the game sense Myla is born with her first power. ((Not until further development, not included in demo))

Unlockables/Achievements

-Powers:

Upon release of further levels, two other powers will be unlockable and able to be levelled up in equivalence with the first power.

-Game Time Trophy:

If the game is finished, beneath the excavation crew's time then the player will beat the game and get the completion trophy at the end versus getting a game over and having to restart and try to beat the time.

Sound Specs

-Sound Effects:

Upon picking up a level up flower, a small noise will sound letting the user know they successfully collected the item before opening the skill menu for the user to select a level up box. There will be a large, volumetric ambience that includes both music and sound effects such as animals and other natural sounds. There will be sections of the game where, when the player enters, the sound slowly fades away and the sound of a new ambience begins. I hope to create a range of sounds that inspire hope as well as a feeling of adventure. The sounds will also be in surround sound to give the illusion of depth. The character will have a few grunts and other onomatopoeia, just like the enemies. Her feet will make different sounds as they encounter different surfaces and there will be the sound of the hand slapping noise when she grabs a ledge.

System Specs

-Network Requirements:

This game will be an offline game in which no networking features will be needed or used for the time being.

-Hardware Requirements:

Operating System: Windows 8+

Processor: 2.0 GHz +

Memory: 4GB Ram

Hard Disk Space: TBA

Input: Mouse/Keyboard or Controller

-Game Specs:

TBA

-Save Structure:

The user will resume at the level in which they died in, if they lose all their lives, they game will be over and they will have to restart. There is no midway game save structure as of right now.

Appendices

Appendix A- Gameplay Art

-Character:

2D/3D Models

1. The characters will be 3d modeled and animated. Myla will retain her same animations throughout the whole game. The only thing that will change will be her outfit, which will only change in chapters. She will have

2. 2 running animations which are basically just left and right with an animation that shows her switching directions which is a plant and turn, she will have a jump and double jump animation, as well as a grab ledge and pull up animation. All the grab ledge animation will be is her grabbing the ledge and sitting there until the player presses the jump button which will play the jumping animation, launching her up and onto the platform. 2. The enemies will also be 3d modeled and animated. They too will retain the same animations throughout the game. Each level of the types of enemies (minus the bosses) will be the same of each before. The stronger the enemy class, the slower the animation will be sped down. This shows the weight and power of the character.

Powers Particle Effect

The only power that will be included in this game will be that of the Soul of the Tree. It's a bright blue mystical explosion with smoke. It fly's in a straight, horizontal direction either left or right and leaves a smoke trail. Upon impact, it will deal damage to the target. Each target requires to be hit a certain amount of times before dying.

-Environment:

Rainforest

1. This will be 3d modeled as well. There will be small, subtle animations signifying the wind blowing. These will be a constant loop around the environment. In some parts of the game, the backdrop will clear out and the player will see a larger landscape. This will be anywhere from a waterfall to a mountain in the distance. The environment will also change throughout the level so it doesn't get too dull or repetitive. It will also respond to dynamic lighting from the powers.

Appendix B- Interface Details

-Menu: Start:

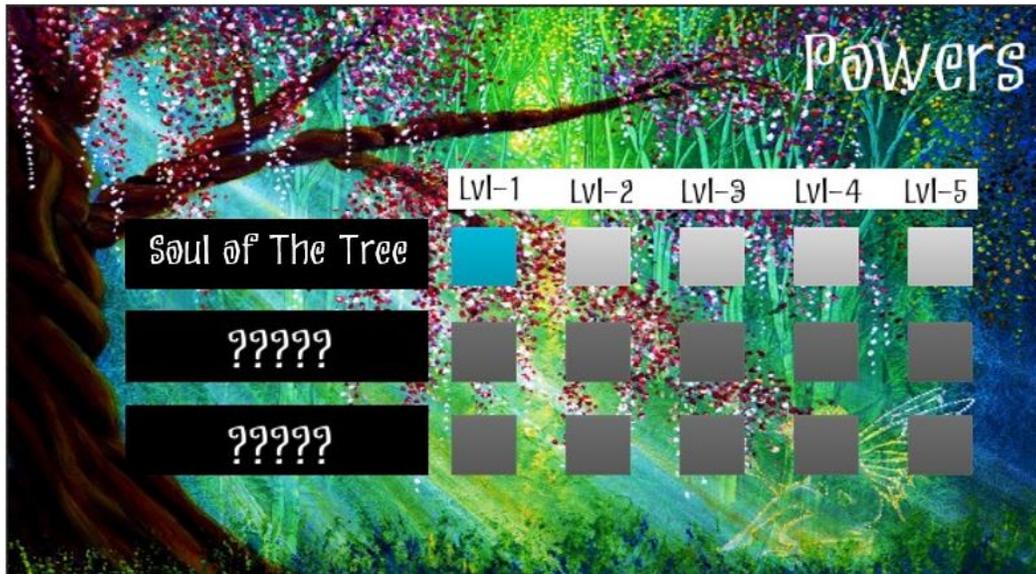Text indicating the user to press any key in order to continue onto the main menu.

-Menu: Main:

Player will have four options, Start Game, Options, Tutorial/Help, and Quit.

-Menu: Skill Tree:

This menu will display the unlocked powers along with what level each power is currently at.
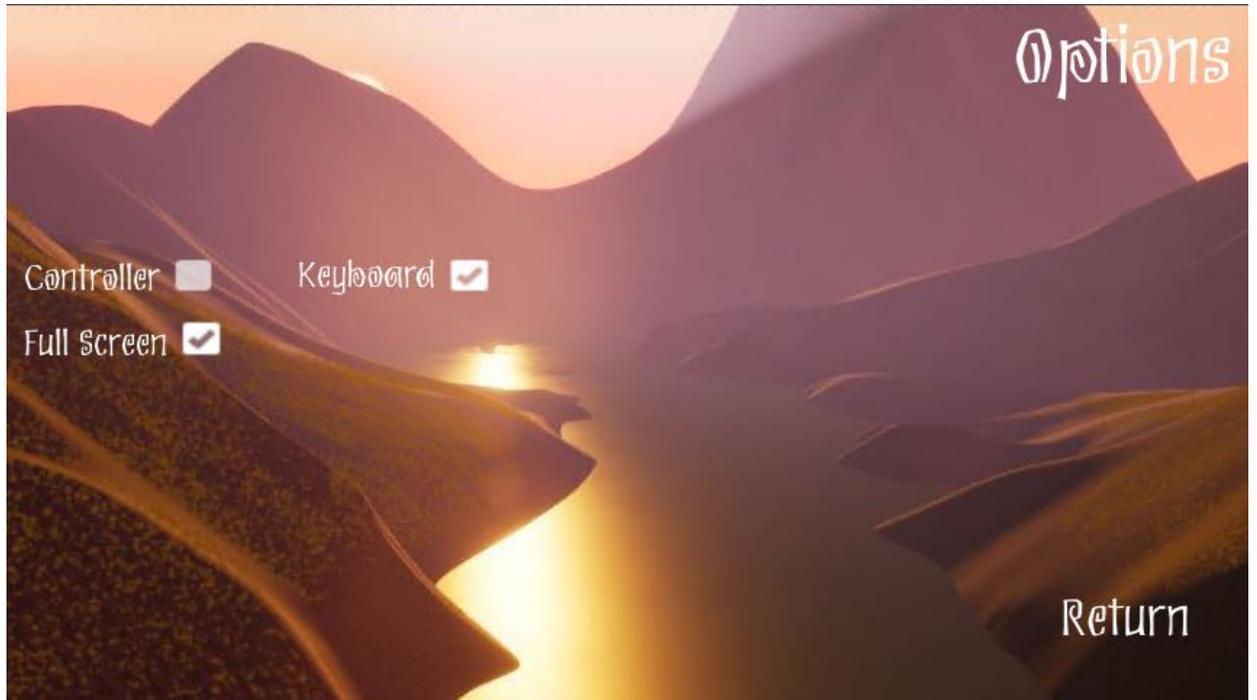

-Menu: Pause:

Within the game the user will have the ability to pause the game, they will then have the options of resuming, restarting the level, or quitting. The menu will also display the number of enemies left to be killed and flowers left to collect.
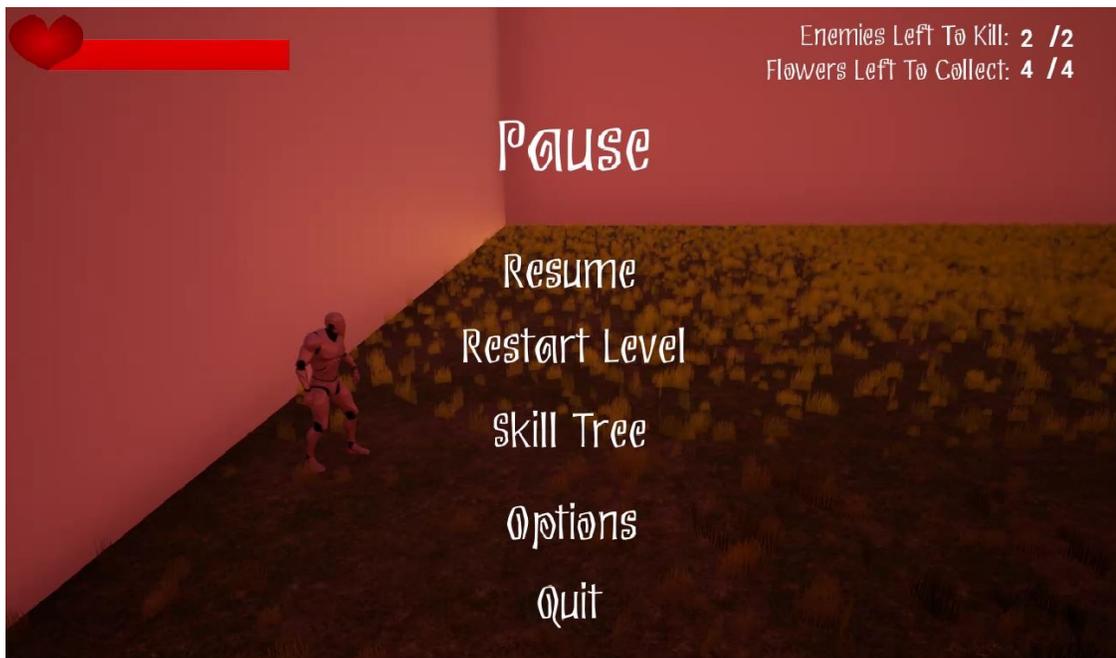
-Menu: Options:

This menu will have the choice of controller or keyboard/mouse. Full screen mode, or window mode, more TBA.

-Menu: Help/Training:
This menu will express how the controls work whether using keyboard and mouse, or a controller. It also explains how to beat the game/level.

-Menu: Controls:
This menu will specifically detail what each button does within the game, for both controller and keyboard and mouse.

-In Game HUD:
A health bar, image or Myla's face, and a level timer displayed within the in game HUD. The health bar and her image in the upper left-hand corner of the screen and the timer in the upper middle.

Appendix C – Project Schedule and Details

-Schedule Overview:
-Game Pitch: September 12, 2017

-Game Design Documents: September 21, 2017

-Get main character 3D model incorporated into the game.

-Have basic game mechanics working and all menus implemented.

-Midway Point Game Play: October 24, 2017

-Have game level fully functioning as it should with all bugs fixed.

-Testing

-Season 1: Episode 1.1- December 17, 2017

-Season 1: Episode 1.2-1.3- TBA

-Season 2-4: TBA

-Legal Issues:

Considering this project is for a college course, and does not directly correlate with any game, I do not see where any legal issues may occur.

Appendix D – Enemy Stats

	Level 1 Mini Boss	Light Crew Members	Medium Crew Members	Heavy Crew Members
Health (How many Times Hit)	200 hits	10 hits	15 hits	20 hits
Damage (To Player)	25	5	10	15
Level of Power Needed	TBD	TBD	TBD	TBD

Appendix E – Team Members

-Tiffany Abernathy:
> Roles:
>
> Programmer: Game Mechanics, User Interface/Menus, Artificial Intelligence.
>
> Bio:
>
> Computer science major at the University of South Carolina, aiming to get a career in game development, programming video games or other forms of software. Experience working with Unity and Unreal game engines, along with various programming languages.

-Grayson Garrett:
> Roles:
>
> Game Artist and Animator
>
> Bio:
>
> Media Arts Major at the University of South Carolina with an emphasis on Game Design. I am proficient in creating believable characters that players can both understand and connect with. I aim to get a job as a Concept Artist or, more specifically, a Character Artist.