Department of Computer Science and Engineering

College of Engineering, University of Nevada, Reno

Darkness

Team 35

Rahul Bagchi, John Dieu, Diego Lamas, Sharyn Smith, Gordon Tan

Instructors: Sergiu Dascalu, Devrin Lee

Advisor: Alireza Tavakkoli

12-16-22

Table of contents

1. Abstract

Our game delivers a thematic experience that breathes life into the poem by Lord Byron in the early 1800's. We intend to also bring more vibrant world design and innovative game mechanics. Our first few accomplishments were creating a working menu that navigates through the options of starting the game, starting the tutorial, navigating the settings, and choosing a save state. We have also accomplished a working turn-based game mechanic where we can simulate a fight with our main character and the game's entities. The premise to our story goes as follows: Lost in an unknown world our character finds themself in a fight for survival against unknown enemies that emerge from the dark.

2. Introduction

This project is a 2-D turn based horror RPG made in Unity. It will have an emphasis on storytelling, and have a duration between 1 and 2 hours. Based on the short poem “Darkness” by Lord Byron, as well as taking inspiration from games such as Omori and Lisa the Painful, this story will take place within an apocalyptic/post-apocalyptic setting in which our main character will interact with the world and its surroundings. Using a combination of game mechanics, visual elements, music and storytelling, we hope to create an experience that is both unique and very impressionable to players.

Since the previous progress report, we have made a significant amount of progress in our design. We have since implemented a functioning main menu that leads users to either a start screen, continue screen, settings screen and how to play screen. In addition to this, we now have a semi-functioning settings menu, a functioning how to play/tutorial scene, and the basis for our level design. We’ve been able to achieve most of our goals in terms of the player characters’ sprite movement and function, and we intend to next move on to the movement and functionality of the enemy sprites. We have also decided on using art from the Unity assets store, and have selected the music that will be played throughout the game. One idea that we have recently begun to consider scrapping is the idea to have the game completely in the dark. While working on the game and its design, we’ve come to realize that it may not be feasible, and could end up taking up more time and resources than its worth. We’ve also decided that we want to aim for at least three levels in the final product; the first level will be an introduction to the story, the second will be the main story, and the third will lead the player to the ending.

3. Prototype Objectives & Functionality

The first significant element that we decided to implement for the prototype was having all the options on the menu clickable and lead to a related page. We wanted to be able to show a general idea of what the user should expect after clicking on these menu options, and it was some basic functionality that we felt should be implemented early on.

One of the menu options that we were able to implement in nearly its entirety was the settings. We implemented the ability to universally change the volume of the music in the game, and see the controls and display. This was prototyped in the demo already because we felt it was also basic functionality that we could work on and implement in the game in its beginning stages.

We decided to include music throughout the parts of the game that we've implemented thus far (volume is adjustable in settings as mentioned previously). This was something we decided to implement because we felt it would help set the tone for our game, and build the ambiance we intend to carry over into our final product. Music is a powerful way to influence how people interpret media, so it was important for us to choose a soundtrack that we felt would fit the purpose of the game.

The next element we decided to include in our demo was the 'How To Play' sequence. This was important to us because it shows how the character is supposed to function, both in movement and combat. It lets us show how we intend for the gaming experience to go during regular gameplay, and demonstrate what sprite functionalities we've implemented thus far. With this, we were also able to show how characters can restore health using health drinks in the game, which is important to know when playing.

We also decided to include in the prototype an example of the turn-based combat that will be implemented throughout most of the game. This was an important thing for us to work on as early as possible, even if we couldn't quite get it perfected, as it is one of the major elements of our game and will be used on frequent occasions.

4. Develop Prototype

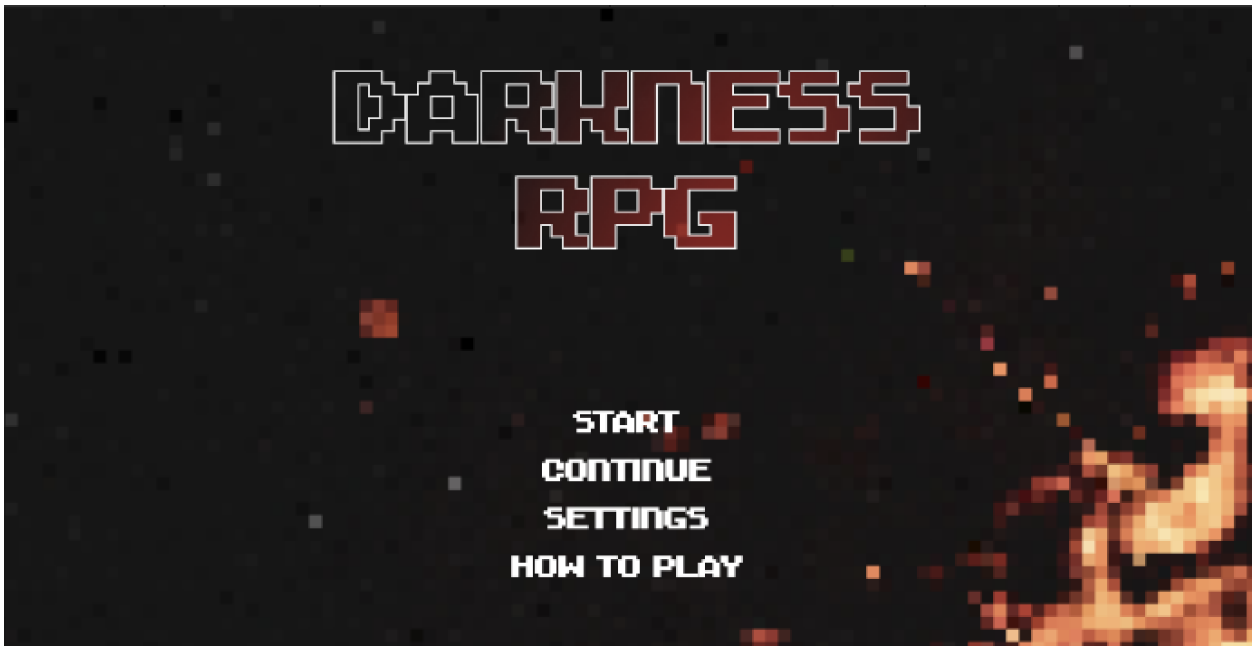

Figure 1. The start screen of Darkness RPG with all functional buttons are shown.

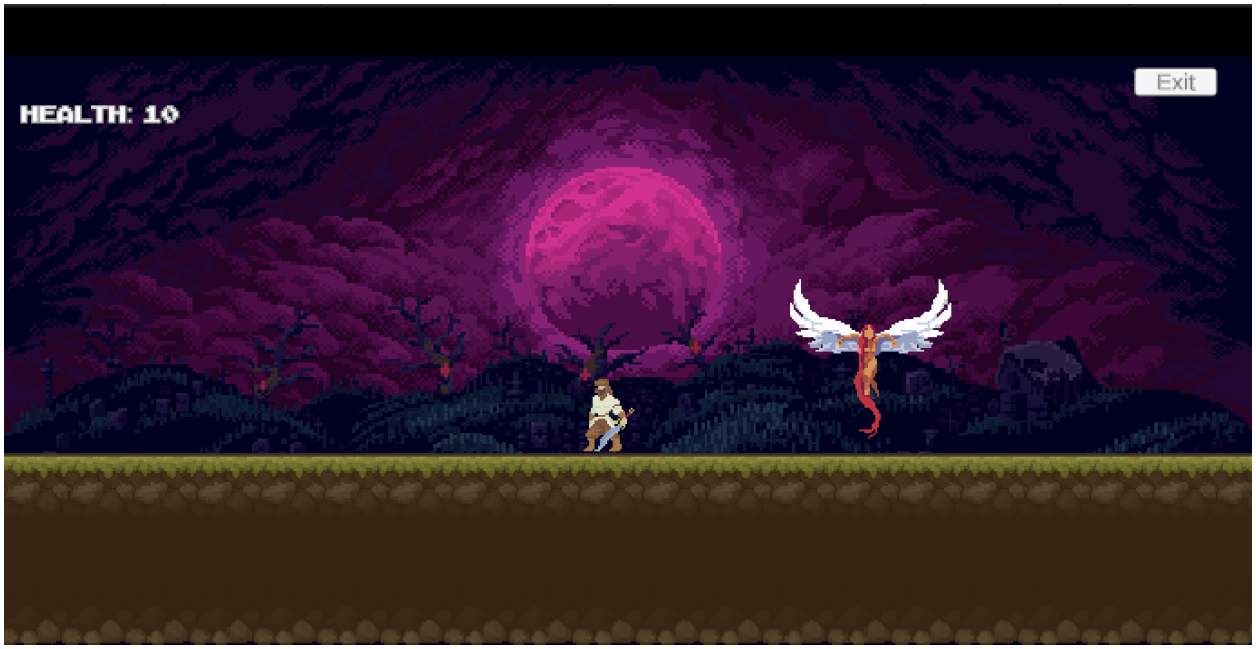

Figure 2. The level screen once the “Start” button is pressed and the player is loaded into the first level. An “Exit” button is also there for the player to return to the start screen.

Figure 3. The “Load Save” window will pop up if the player clicks on the “Continue” button. This is where previously saved games will be stored so the player may pick up from where they previously left off.

Figure 4. This is the window that pops up when the player selects the “Settings” button. Here the player will have the option to adjust the display, controls, and audio settings.

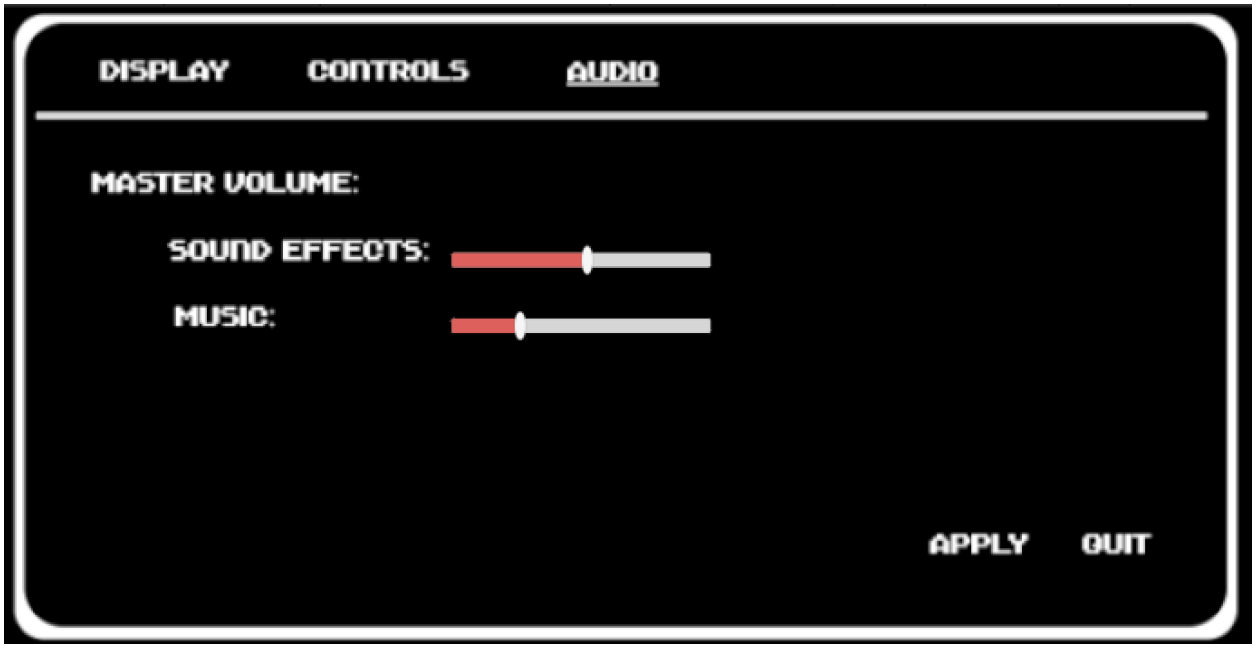

Figure 5. The audio settings is the only functional option for this prototype. The user must select “Apply” for changes to go into effect.

Figure 6. Here we have the controls settings screen. Not currently functional.

Figure 7. Here we have the display settings screen. Not currently functional.

Figure 8. This is the tutorial screen, this is the screen the player will arrive at when they select the “How To Play” button. All the controls listed are fully functional in this demo along with the health potions functionality. An “Exit” button is also here for the player to return to the start screen.

Figure 9. This is a prototype for turn-based combat, where the player can choose how to interact with an enemy. Only the attack function is implemented while the other buttons are examples for potential actions which could be used. The player and the enemy have speed values that determine turn order as turns take place on a fixed time basis.

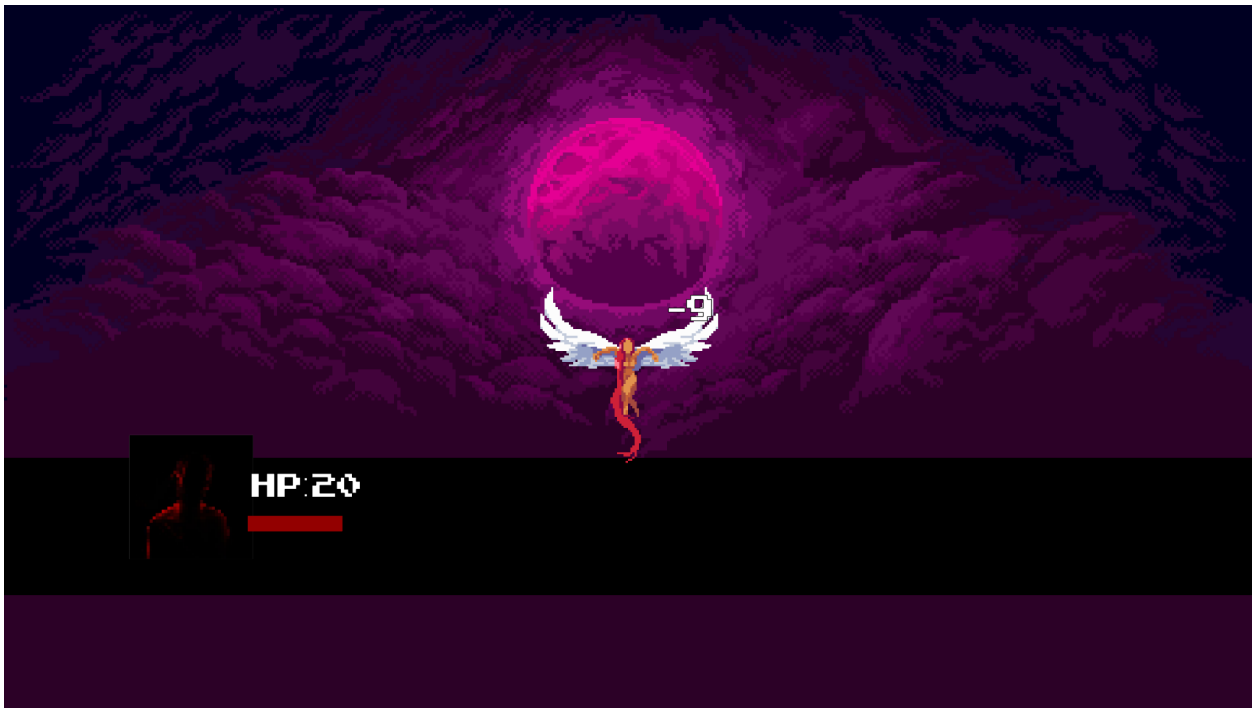

Figure 10. Here the player chooses the attack option, and the enemy takes damage based on the unit's based damage multiplied by some potential variance.

5. Demo Prototype

Date & Time of Demo: 12/12/2022 3:30pm

Recommendation(s):
Incorporate the theme of Darkness more in the game, such as:

- Visual aspects such as lighting, or depicting contents of Darkness in the background.
- Mechanically incorporating the themes into gameplay aspects.
- Thematically in storytelling

Flesh out the core content of the game to provide a playable experience.
Add an exit button to the main menu.

6. Team Contributions

Team Member	Time Worked (hours)	Specific Activities
Rahul Bagchi	2	Develop Prototype, Demo Prototype
John Dieu	1	Develop Prototype, Implemented Code, Demo Prototype
Diego Lamas	1	Abstract
Sharyn Smith	2	Introduction, Prototype Objectives & Functionality
Gordon Tan	1	Table of Contents, Abstract, Develop Prototype, Implemented Code

7. Implemented Code

All code and scripts in the attached zip file were developed on our own except for some integrated code from outside sources which are listed below.

Integrated scripts:
Bandit.cs
Sensor_Bandit.cs
EnemySpawn.cs
EnemyUnitAction.cs
PlayerAttack.cs
PlayerUnitAction.cs
SelectUnit.cs
TurnSystem.cs
UnitStats.cs