

PROJECT REPORT

ON

FIGHTING GAME

SUBMITTED TO

**DEPARTMENT OF COMPUTER SCIENCE AND
ENGINEERING**

FOR

INTEGRATED PROJECT (CS203)

Submitted By:

Name(s): Akshiv, Anmol,Anirudh

University Roll No(s): 1810991666,1810991668,1810991906

Semester: 6th

Session: 2018-2022

Acknowledgement

It is with great pleasure and effort that we are able to present this project report. We have tried our best to make it complete in all respects. We would like to take the opportunity to give thanks to those people who help us directly or indirectly during the completion of this project.

We take this opportunity to express our deep sense of gratitude towards the great help, which we have received from my project guide **Dr. Neha Tuli**, during the course of development of my project titled **“AVATAAR”**. We are also very much thankful to our **Mr. Karthick Sir** whose constant support and interest which led us to the completion of my project.

Finally we would like to convey our regards to our family members especially our parents whose emotional support is always with us during this project.

Index

Sr. No.	Topic	Page No.
1	Problem Statement	<u>4</u>
2	Title of project	<u>4</u>
3	Objective & Key Learning's	<u>4</u>
4	Introduction	<u>5</u>
5	Tools and Softwares	<u>7</u>
6	Workflow	<u>10</u>
7	References	<u>21</u>

Problem Statement:

As we have seen, there are not many good fighting games. So we are creating a fighting game which can be played with your friends. The game include a offline mode too.

Title of project:

Avataar : Fighting Champ

Objective & Key Learnings:

1. To improve our understanding about Unity
2. To learn more about scripting in unity.
3. We will learn how to make a 2.5d game.

4. To create a competitive environment by providing a fun and challenging game.
5. To learn about photon.
6. To learn more about usage of sprites.
7. To learn about collaborate feature in unity.
8. To have an experience of making a game with a team

Introduction:

- **Game:** Avataar is a PvP pixel art fighting game inspired by many PvP fighting games like Tekken and Mortal Kombat and various others. The game is brought to a more minimalist and aesthetic approach unlike the games it is inspired by.

- **Logline:** Avataar will have to fight against the wizards to save the forest.
- **Synopsis:** The forest is under attack by the wizards as they want the whole forest for some evil reason. Avataar lived his whole life in the forest so he can't let thousands of animals and other people who live there die. He will fight the wizards until his last breath.
- **Genre and Potential market:** Game genre is fighting game. The game is focused on teenagers but anyone from other age groups will equally enjoy the game.

Tools and Softwares

Unity:

Unity is a cross-platform game engine developed by Unity Technologies, first announced and released in June 2005 at Apple Inc.'s Worldwide Developers Conference as a Mac OS X-exclusive game engine. The engine has since been gradually extended to support a variety of desktop, mobile, console and virtual reality platforms. It is particularly popular for iOS and Android mobile game development and used for games such as Pokémon Go, Monument Valley, Call of Duty: Mobile, Beat Saber and Cuphead. It is cited to be easy to use for beginner developers and is popular for Indie game development.

The engine can be used to create three-dimensional (3D) and two-dimensional (2D) games, as well as interactive simulations and other experiences. The engine has been adopted by industries outside video gaming, such as film, automotive, architecture, engineering and construction.

Several major versions of Unity have been released since its launch. The latest stable version, 2021.1.0, was released on 23 March 2021; 2 months ago.

Unity Collaborate

Unity Collaborate is part of Unity Teams. Unity Teams enables small teams to save, share, and sync a Unity Project in a cloud-hosted environment. Using Collaborate allows your entire team to contribute to a Project, regardless of location or role. For more information on Unity Teams, see the [Teams page](#) on the Unity3d website.

Collaborate allows you to publish your projects to the cloud for storage. Collaborate maintains a history of the published versions of your Project, allowing you to restore individual files or your entire Project to an earlier state.

You can add team members to your Projects; allowing you and team members to work together. Collaborate continuously monitors changes that are made by each team member and displays a badge on the files that they have changed, but not published yet.

You can view the changes. You can then choose to revert the changes on your file or publish them and handle any merge conflicts that occur.

Collaborate is designed to support multi-disciplinary teams (that is, teams with a diverse mix of developers, artists, audio experts and other specialists) that work together on projects.

Microsoft Visual Studio

Microsoft Visual Studio is an integrated development environment (IDE) from Microsoft. It is used to develop computer programs, as well as websites, web apps, web services and mobile apps. Visual Studio uses Microsoft software development platforms such as Windows API, Windows Forms, Windows Presentation Foundation, Windows Store and Microsoft Silverlight. It can produce both native code and managed code.

Visual Studio includes a code editor supporting IntelliSense (the code completion component) as well as code refactoring. The integrated debugger works both as a source-level debugger and a machine-level debugger. Other built-in tools include a code profiler, designer for building GUI applications, web designer, class designer, and database schema designer. It accepts plug-ins that expand the functionality at almost every level—including adding support for source control systems (like Subversion and Git) and adding new toolsets like editors and visual designers for domain-specific languages or toolsets for other aspects of the software development lifecycle (like the Azure DevOps client: Team Explorer).

Workflow:

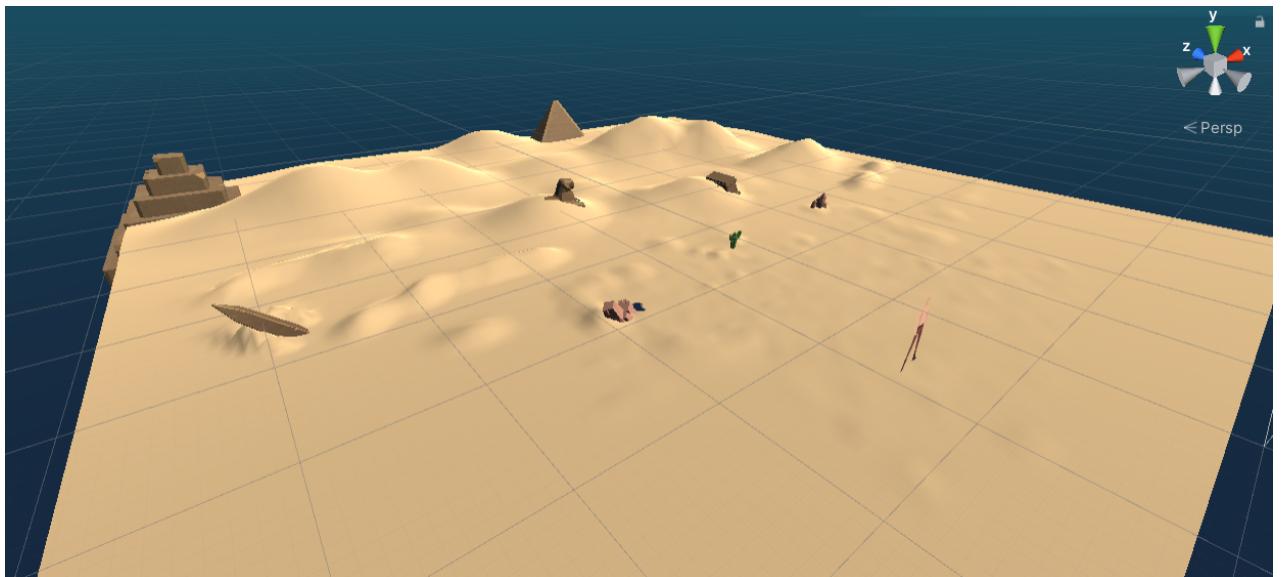
A. Look and Feel of the Game:

I Environments: We are creating a low poly environment with colorful themes. There is currently 1 map which is a pixel art style map.

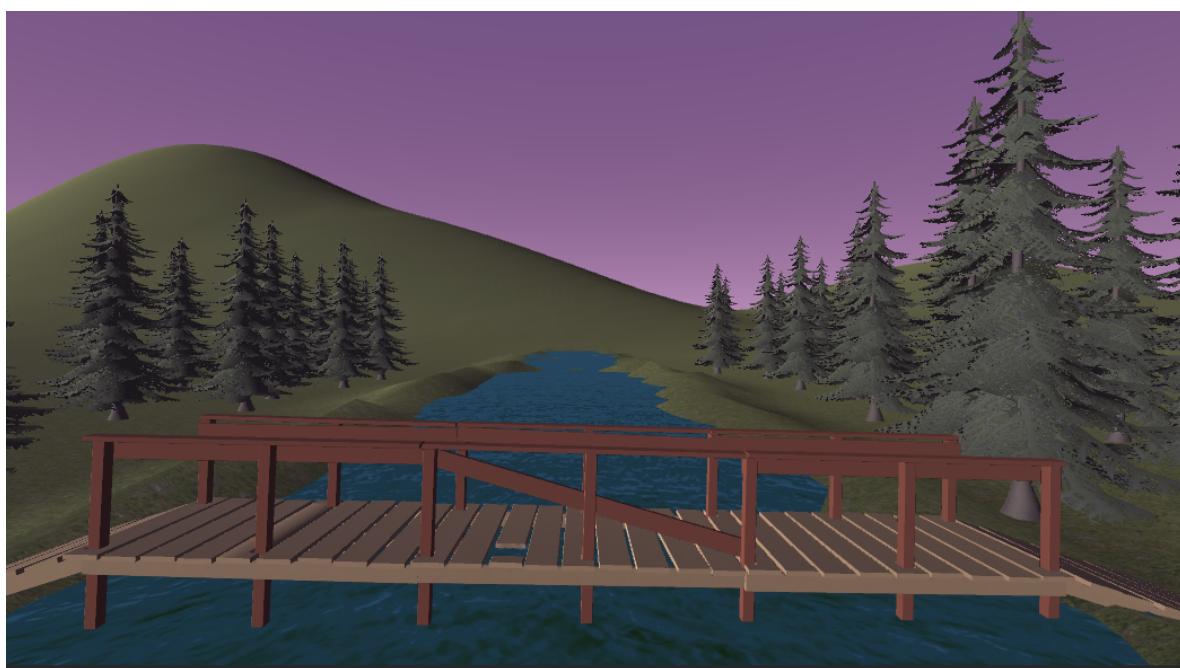
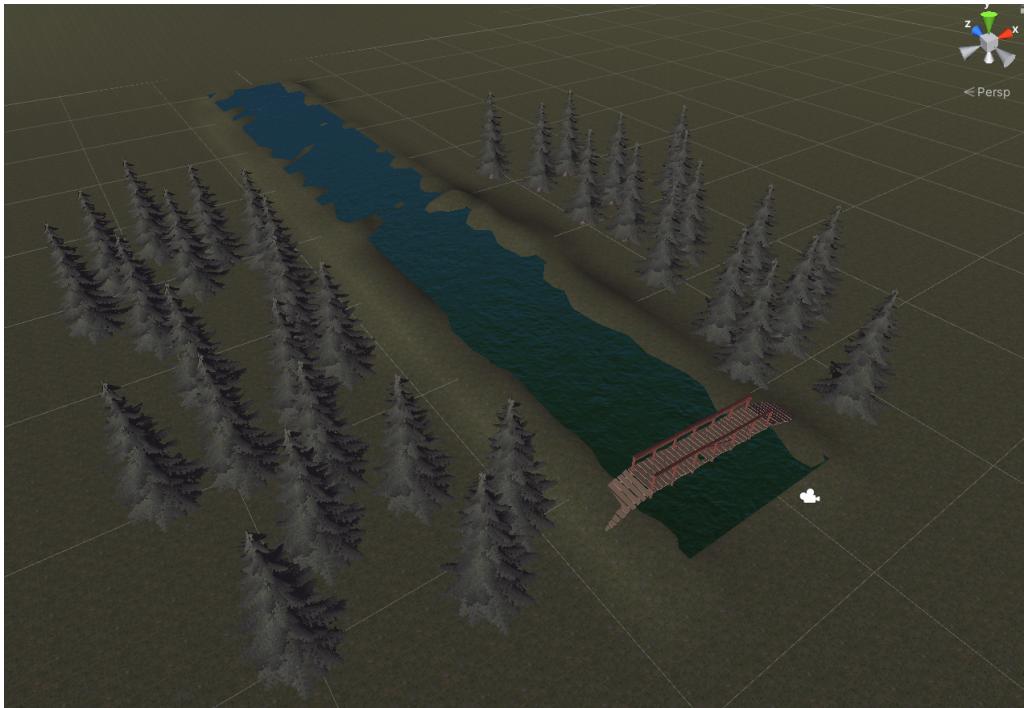


We made a few prototypes by using unity's Terrain system.

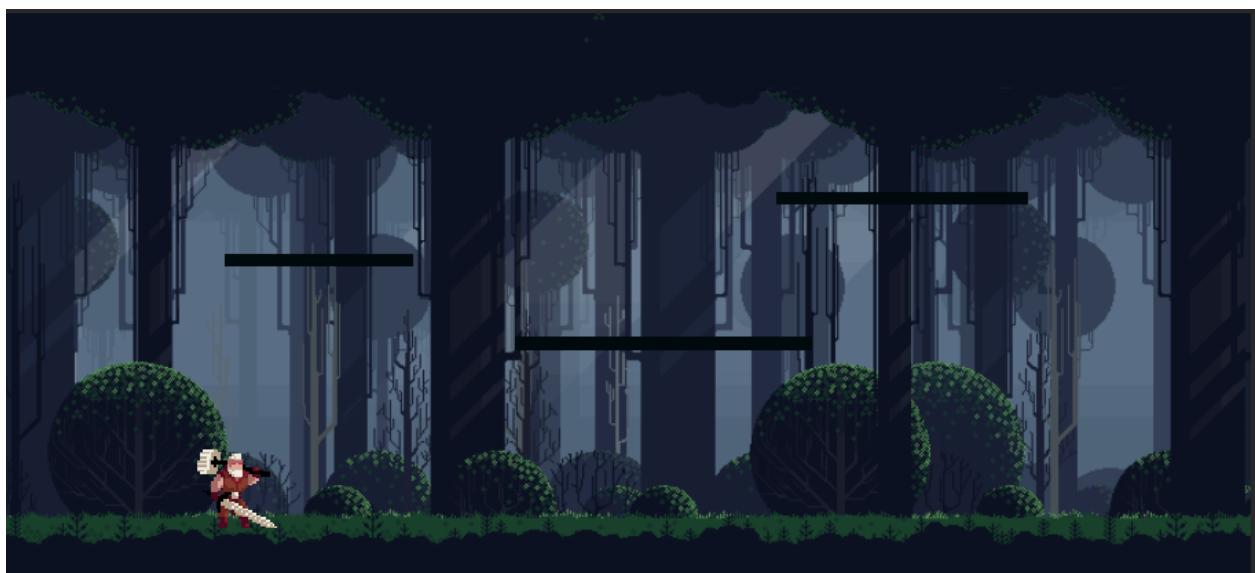
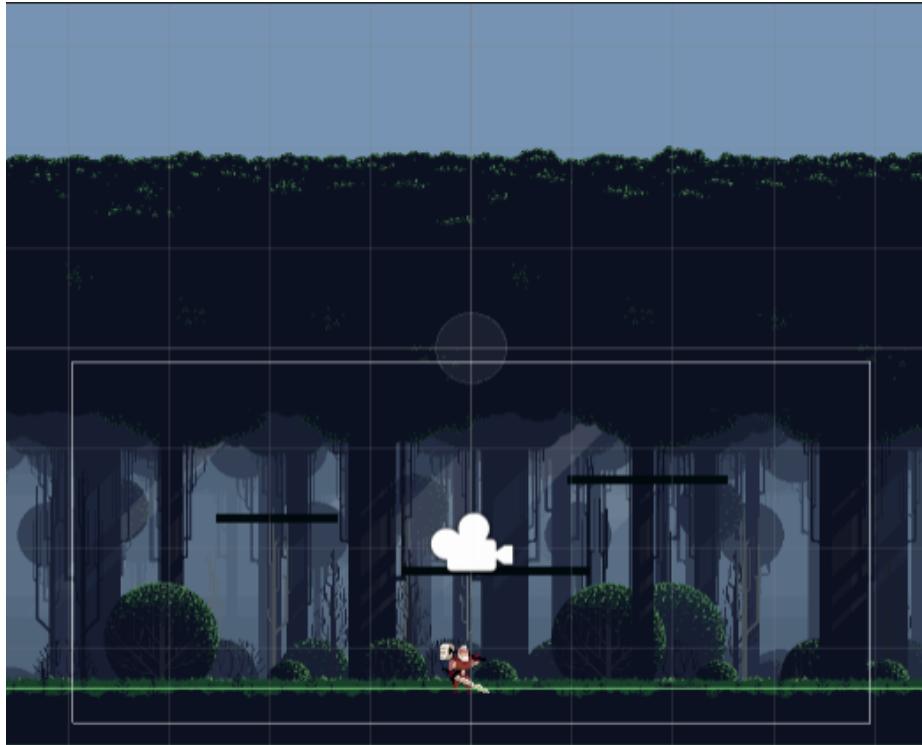
Prototype 1



Prototype 2



But at last we settled for this a pixel art style which focuses on simplicity and less load on hardware.



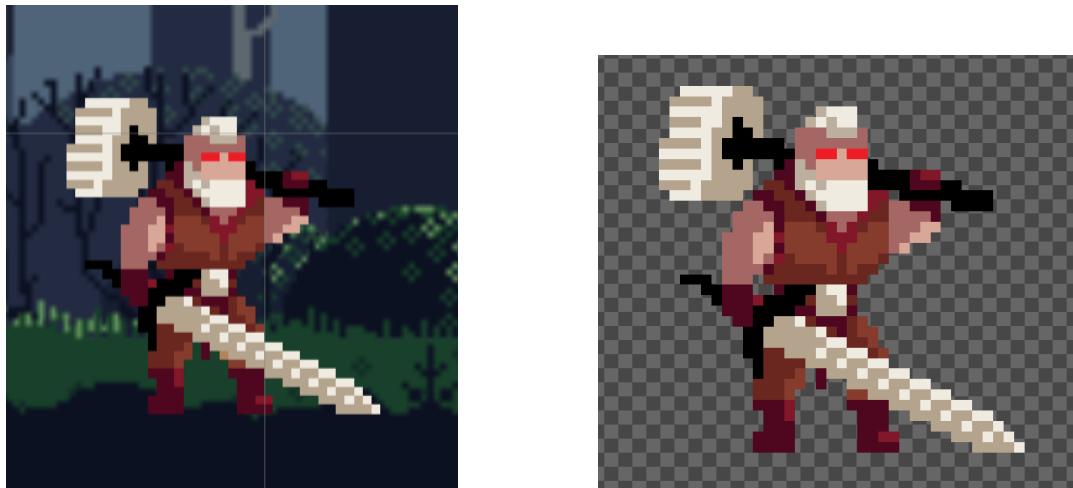
II Characters: Main character was supposed to be a fully customizable male avatar or a female one.

But the problems led to a change of plans and we decided to make a non customizable character. Character also had a couple of prototypes.

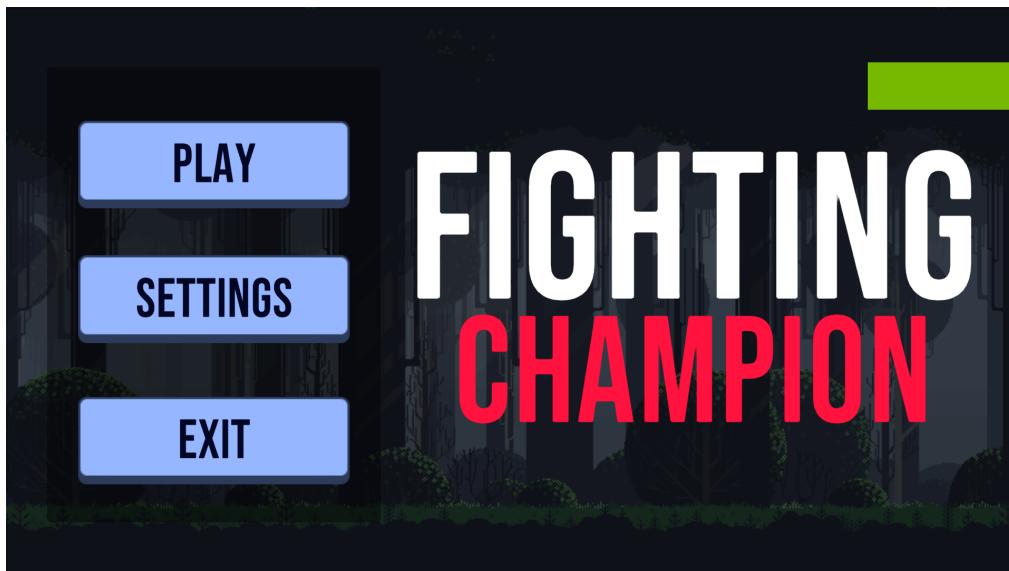
Prototype 1

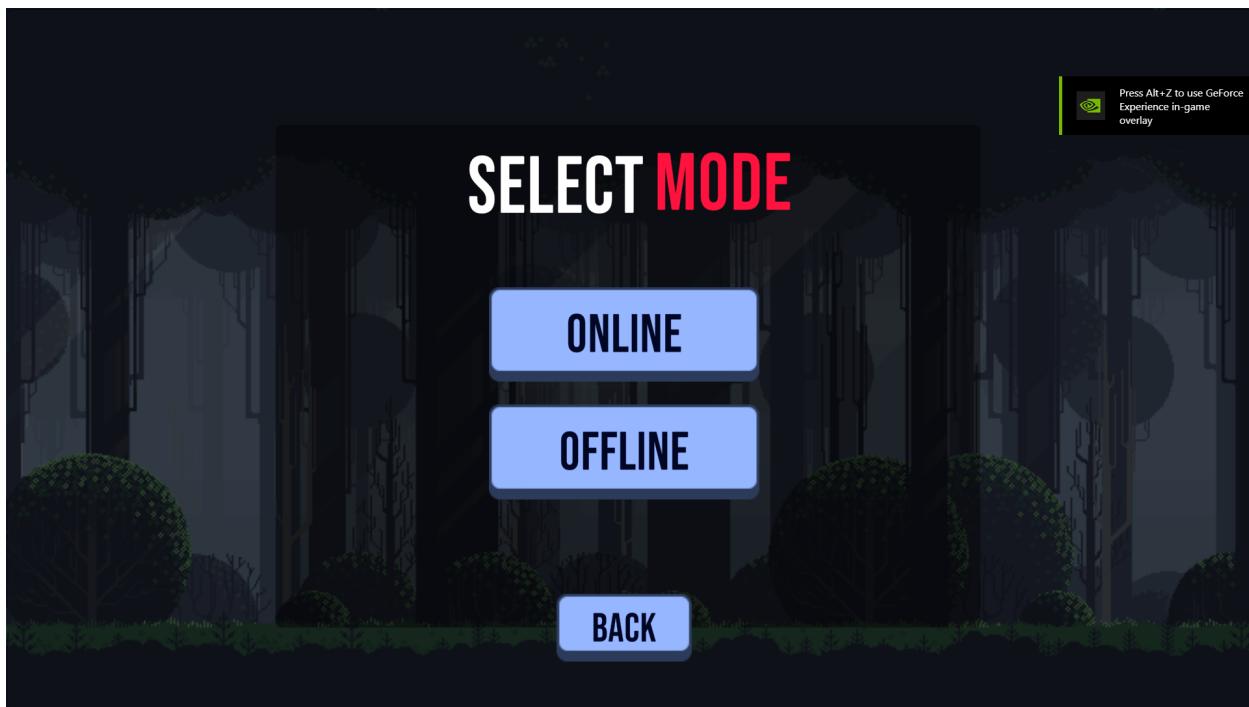
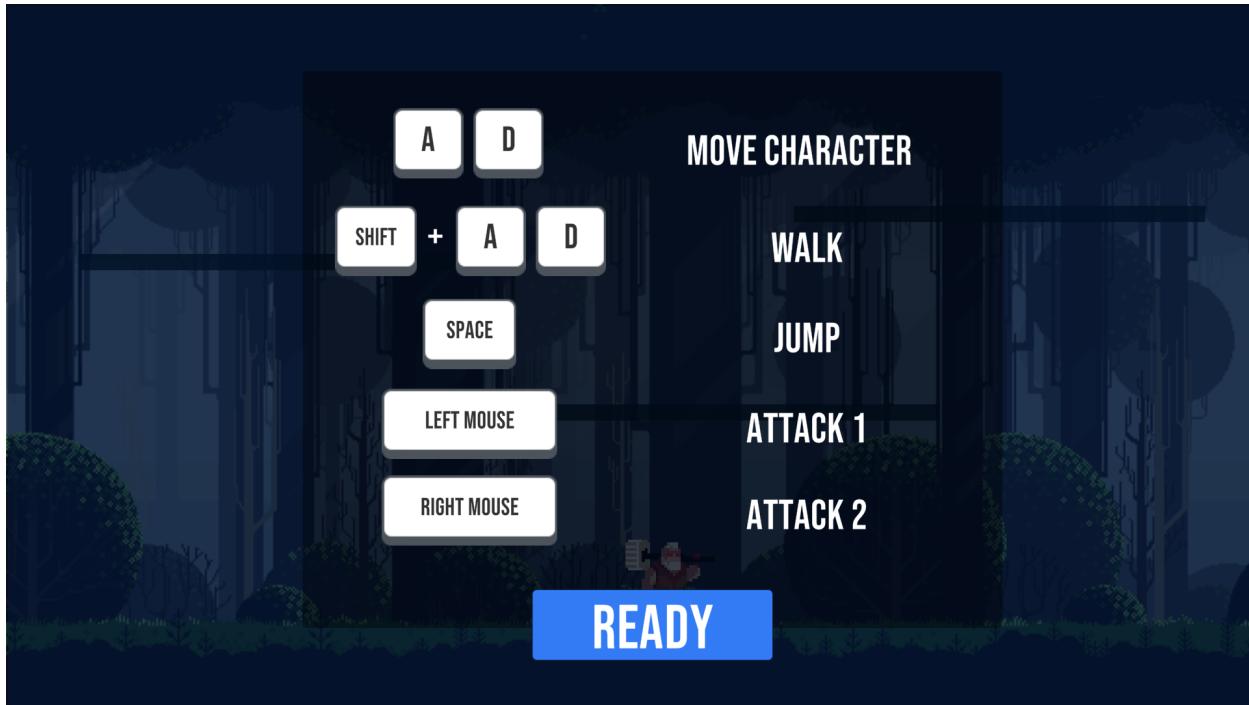


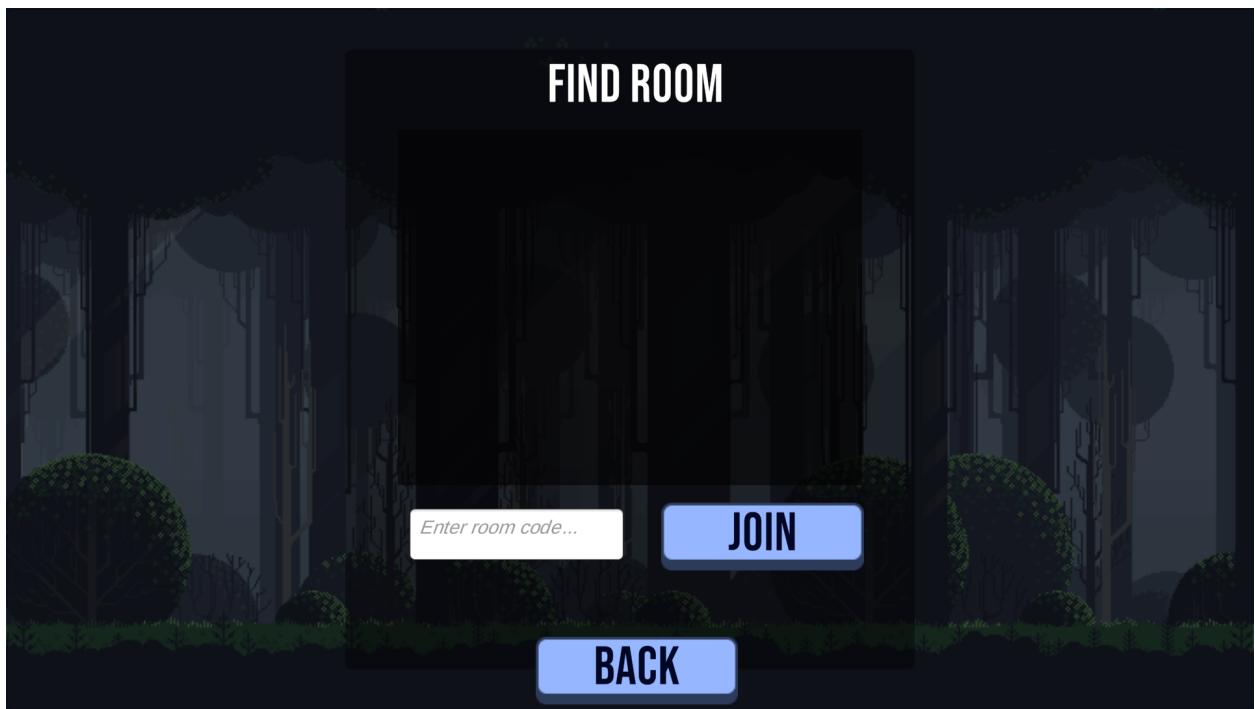
Prototype 2



III UI: Our UI is simple looking but really easy to use providing others a comforting user experience.







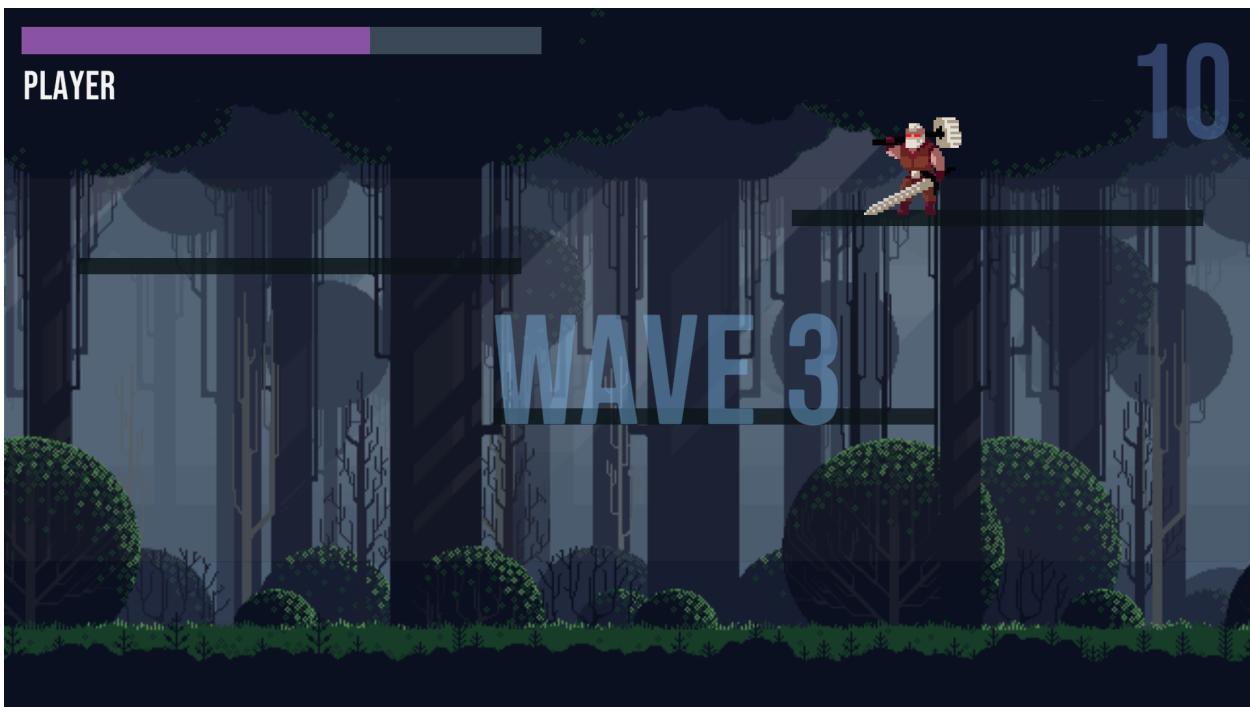
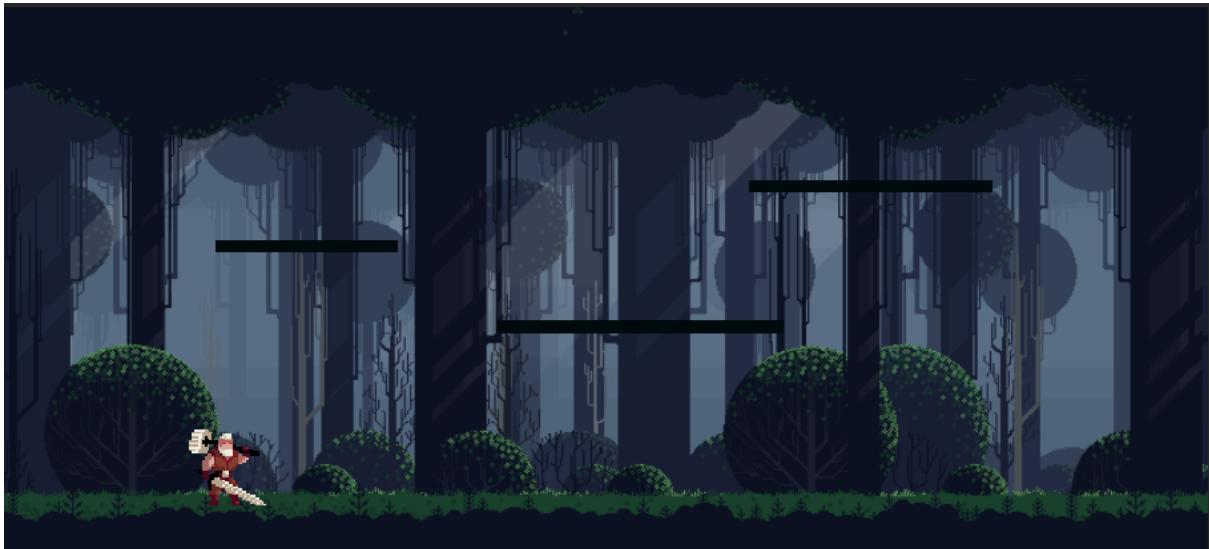
IV Flowchart of Game Development:

- a. Concept development:** Game concept was built in 3 days. Everyone shared their ideas about the game mechanics and aesthetics.

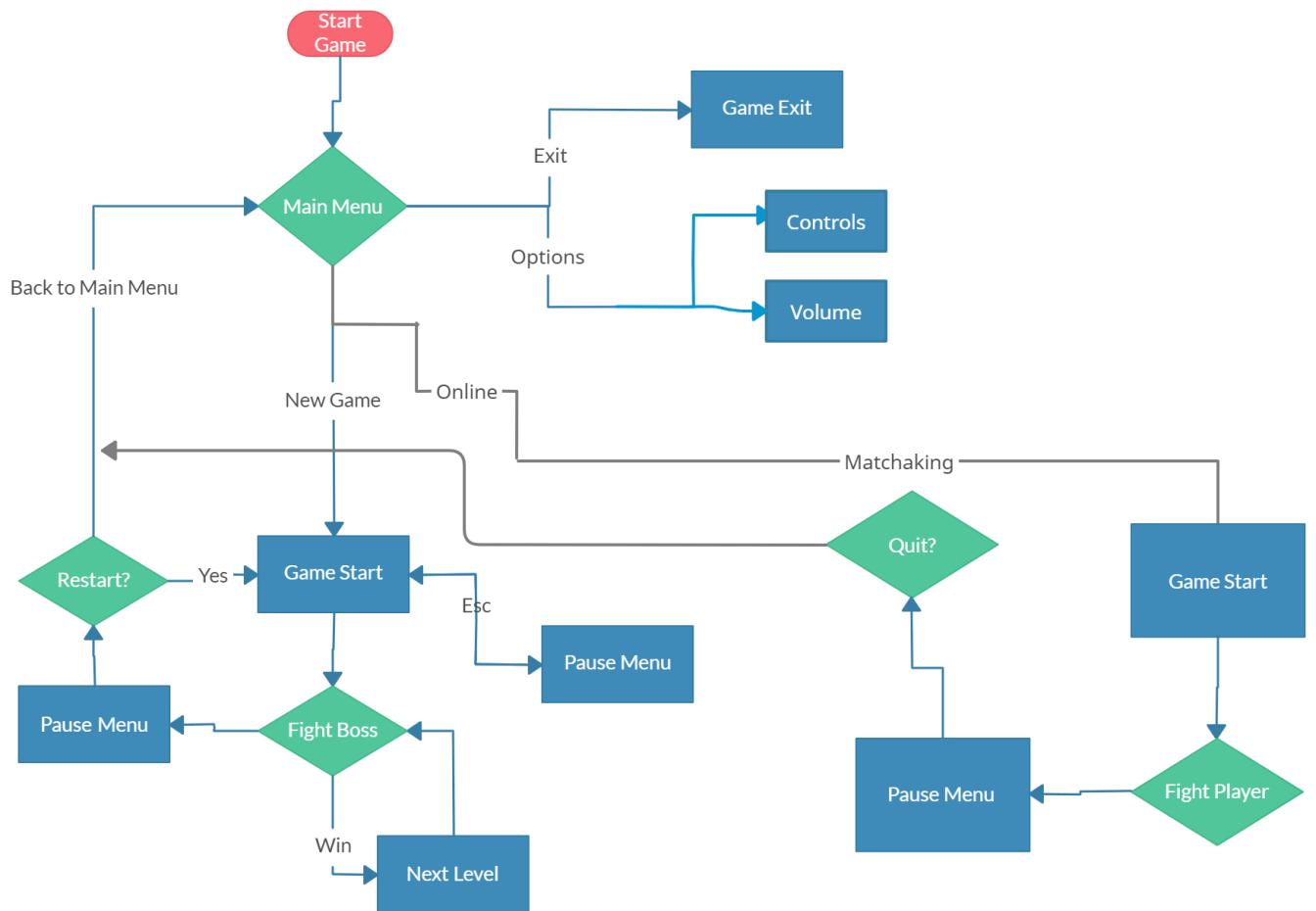
- b. Design:** Next 1 week was given for designing assets, characters etc. Work was divided between the members. Everyone made their own assets.

- c. Development:** Upcoming 2-3 week were development weeks. Everyone worked together and combined characters and assets. All the effects, lights and camera settings were done together.

- d. Testing:** Testing was done in the last 2-3 days any bugs and minor changes were done in this time period.



IV Flowchart of Gameplay:



B. Software and Tools Used: Unity 3D, Photoshop, Blender, Visual Studio.

References:

1. <https://youtu.be/PECZS26lgtM>
2. <https://youtu.be/wYulZiBKg-I>
3. <https://www.shutterstock.com/search/2d+game+background?color=bw>
4. <https://www.pinterest.com/pin/40813940362086592/?d=t&mt=signupOrPersonalizedLogin>
5. <https://wallpapercave.com/w/wp7787090>

