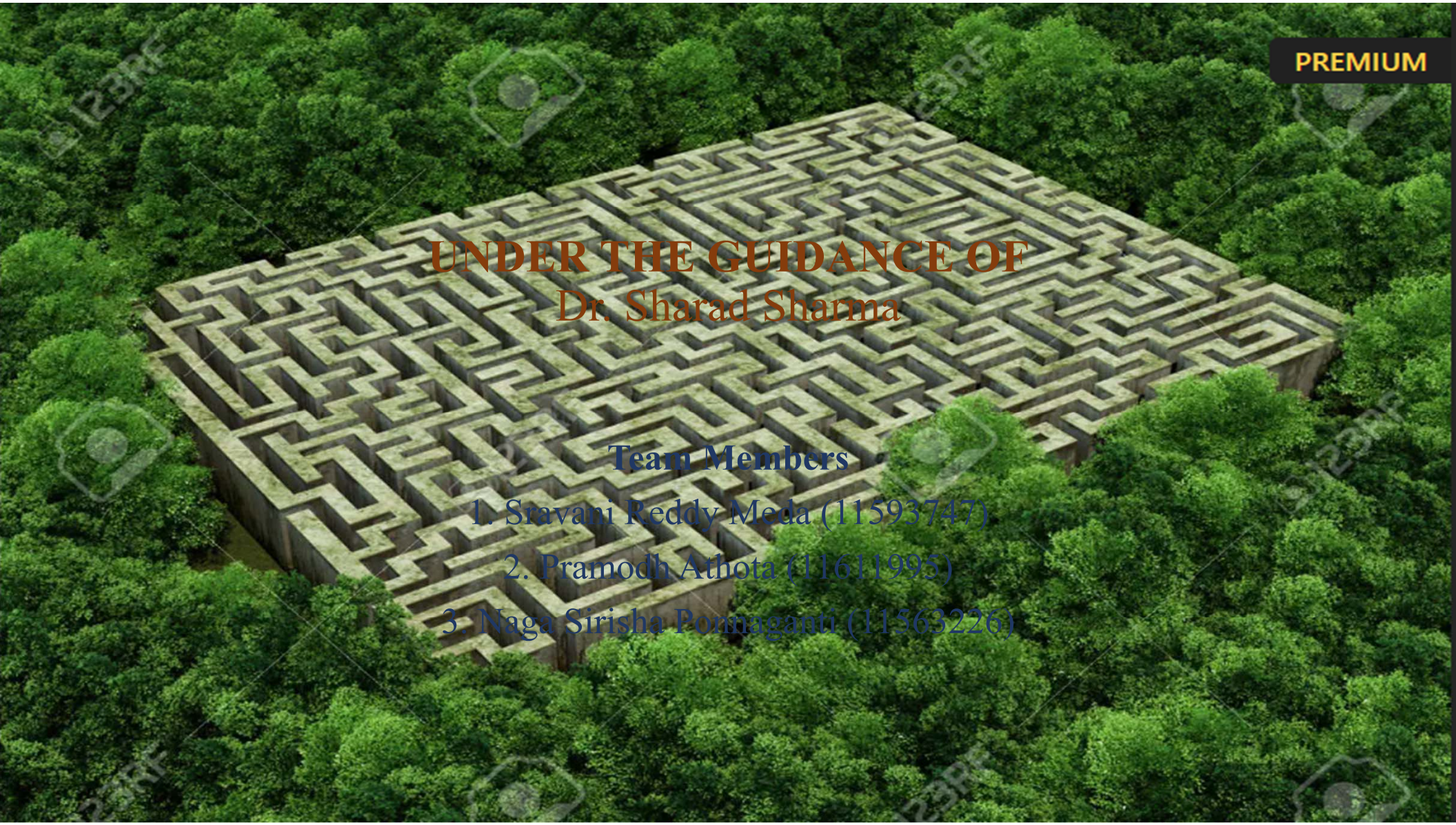
VIRTUAL REALITY AND IT'S APPLICATIONS
FINAL PROJECT

THE MAZE MASTER



UNDER THE GUIDANCE OF

Dr. Sharad Sharma

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ABSTRACT

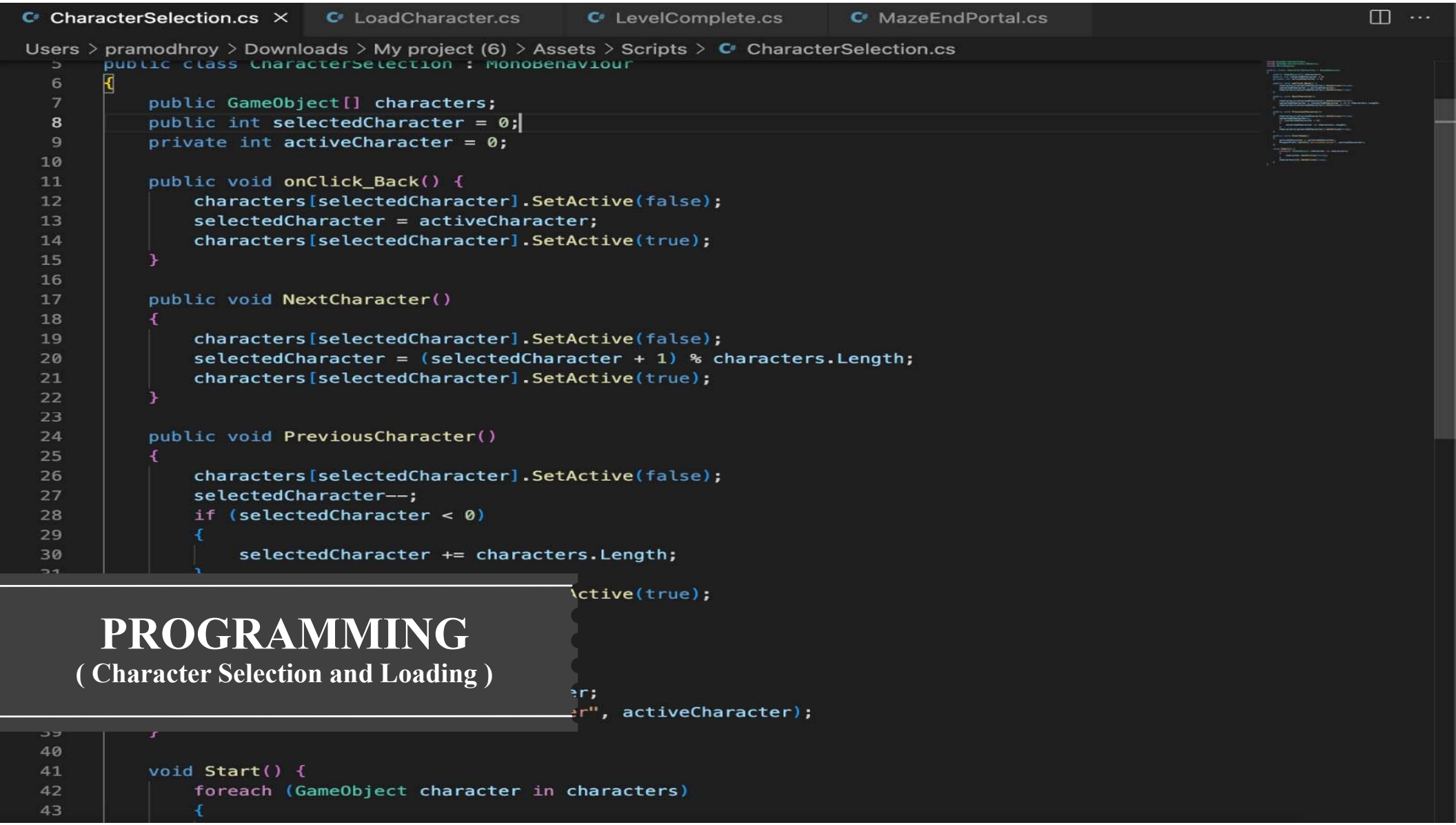
- A VR experience that is both immersive and interactive was developed using Unity for the Maze Master project. The goal of this project is to give players a fun and interesting approach to go into a maze-like environment and solve puzzles.
- The target audience for Maze Master game are primarily individuals who enjoy puzzle-solving and are interested in exploring new and innovative virtual environments.
- The application is useful because it provides a fun and interactive way for individuals to improve their problem-solving skills while also engaging with cutting-edge technology.


My project (6)
Time - 00:19
MODELLING
(Easy Level)
DESERT THEME
➢ WALLS & GROUND – SAND STONE TEXTURE
➢ 4K TEXTURES FROM BLENDER & POLY HAVEN
➢ PRO-BUILDER TOOL (To construct Maze)

My project (6)


Time - 00:19
MODELLING
(Medium Level)
FOREST THEME
➢ WALLS & GROUND –GREEN FOREST TEXTURE
➢ VOLUMETRIC FOG – USING PARTICLE GENERATOR PLUGIN
➢ PRO-BUILDER TOOL (To construct Maze)


My project (6)
Time - 00:23
MODELLING
(Difficult Level)
CITY THEME
➢ WHITE CITY PACKAGE FROM UNITY ASSET STORE
➢ 6000 BUILDINGS
➢ PRO-BUILDER TOOL (To construct Maze)



PROGRAMMING

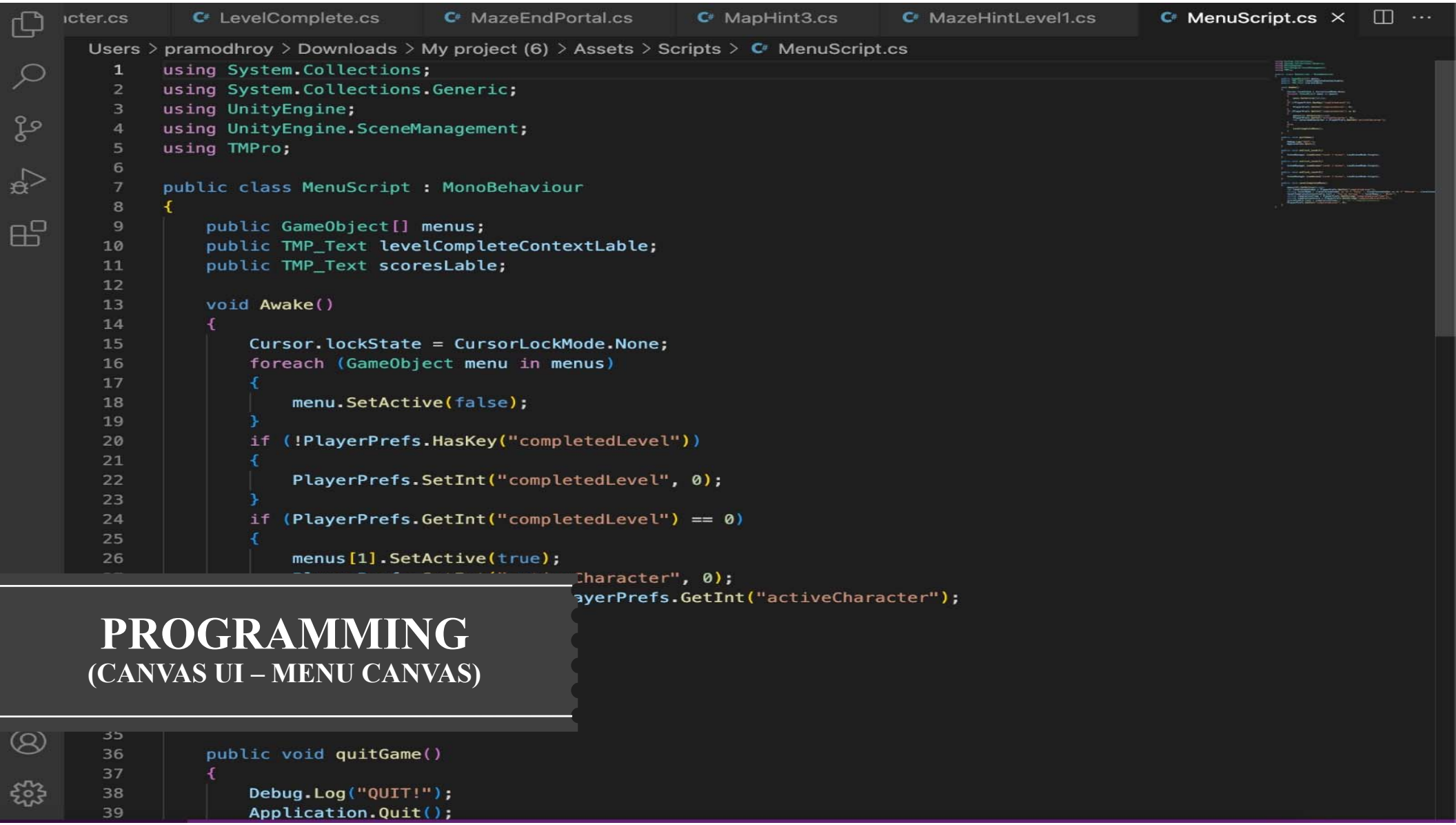
(Character Selection and Loading)

CharacterSelection.cs | LoadCharacter.cs | LevelComplete.cs | MazeEndPortal.cs

Users > pramodhroy > Downloads > My project (6) > Assets > Scripts > LevelComplete.cs

```
using System.Collections;
using System.Collections.Generic;
using UnityEngine;
using TMPro;

public class LevelComplete : MonoBehaviour //Unused Script
{
    public TMP_Text contextLable;
    public TMP_Text scoresLable;

    void StartNot()
    {
        string completionTime = "0" + PlayerPrefs.GetString("completedLevelTime") + ":00";
        string completionScore = PlayerPrefs.GetString("completedLevelScore") + "00";
        scoresLable.text = completionTime + "\n" + completionScore;
        PlayerPrefs.SetInt("completedLevel", 0);
    }

    // Update is called once per frame
    void Update()
    {

    }
}

```

PROGRAMMING
(CANVAS UI – LEVEL COMPLETION)

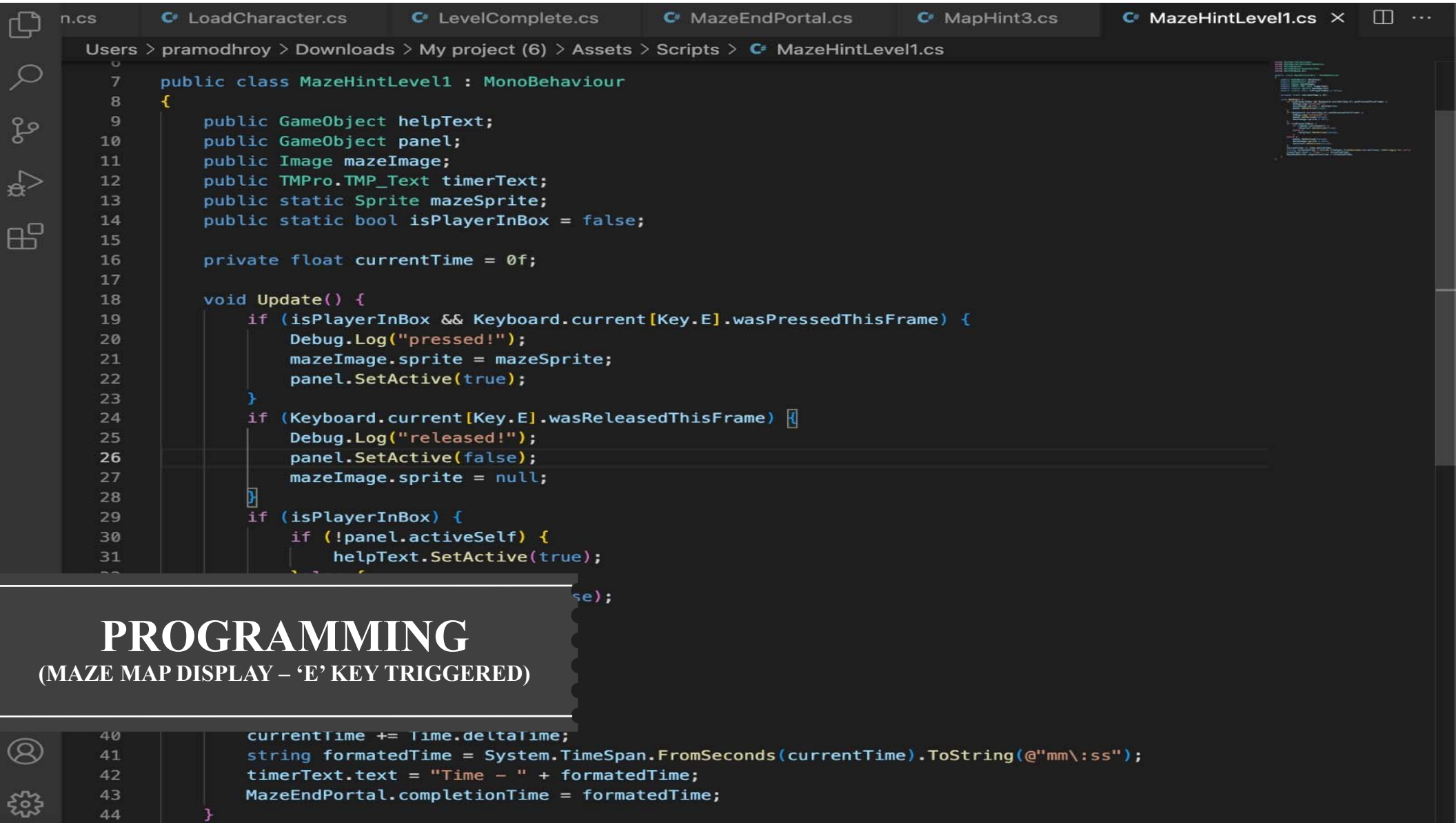

acter.cs
LevelComplete.cs
MazeEndPortal.cs
MapHint3.cs
MazeHintLevel1.cs
MenuScript.cs
Users > pramodhroy > Downloads > My project (6) > Assets > Scripts > MenuScript.cs
using System.Collections;
using System.Collections.Generic;
using UnityEngine;
using UnityEngine.SceneManagement;
using TMPro;
public class MenuScript : MonoBehaviour
{
public GameObject[] menus;
public TMP_Text levelCompleteContextLable;
public TMP_Text scoresLable;
void Awake()
{
Cursor.lockState = CursorLockMode.None;
foreach (GameObject menu in menus)
{
menu.SetActive(false);
}
if (!PlayerPrefs.HasKey("completedLevel"))
{
PlayerPrefs.SetInt("completedLevel", 0);
}
if (PlayerPrefs.GetInt("completedLevel") == 0)
{
menus[1].SetActive(true);
Character", 0);
ayerPrefs.GetInt("activeCharacter");
PROGRAMMING
(CANVAS UI – MENU CANVAS)
public void quitGame()
{
Debug.Log("QUIT!");
Application.Quit();

CharacterSelection.cs | LoadCharacter.cs | LevelComplete.cs | MazeEndPortal.cs | MapHint3.cs

Users > pramodhroy > Downloads > My project (6) > Assets > Scripts > MapHint3.cs

```
1   using System.Collections;
2   using System.Collections.Generic;
3   using UnityEngine;
4
5   public class MapHint3 : MonoBehaviour
6   {
7       public Sprite mazeImage;
8
9       void OnTriggerEnter(Collider other)
10      {
11          Debug.Log("Entered box");
12          MazeHintLevel3.isPlayerInBox = true;
13          MazeHintLevel3.mazeSprite = mazeImage;
14
15      }
16
17      void OnTriggerExit(Collider other)
18      {
19          Debug.Log("Exited box");
20          MazeHintLevel3.isPlayerInBox = false;
21          MazeHintLevel3.mazeSprite = null;
22      }
23  }
24
```

PROGRAMMING
(HINT DISPLAY)



PROGRAMMING

(MAZE MAP DISPLAY – 'E' KEY TRIGGERED)

FUNCTIONALITY

VISION:

- EASY LEVEL – 10*10 MAZE , DESERT THEME
- MEDIUM LEVEL – 15*15 MAZE , FOREST THEME
- DIFFICULT LEVEL – 20*20 MAZE , CITY THEME

FUNCTIONALITY

SOUND:

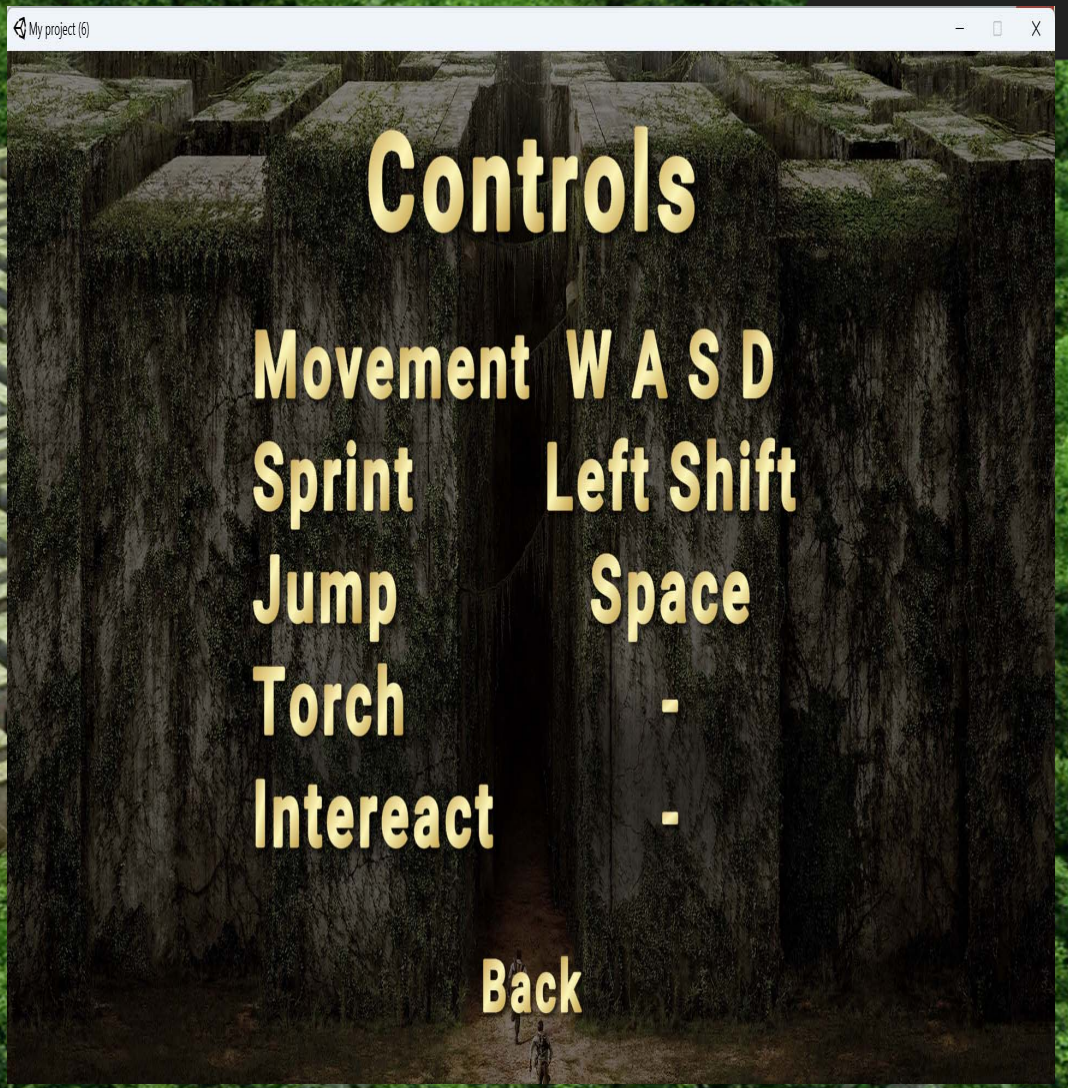
- FOOTSTEPS OF THE PLAYER ACCORDING TO MOVEMENT
- SOUND EFFECTS WHEN PLAYER REACHES A POINT IN MAZE.
- BACKGROUND MUSIC THROUGHOUT THE GAME

FUNCTIONALITY

ANIMATIONS:

- **PLAYER ANIMATIONS –**

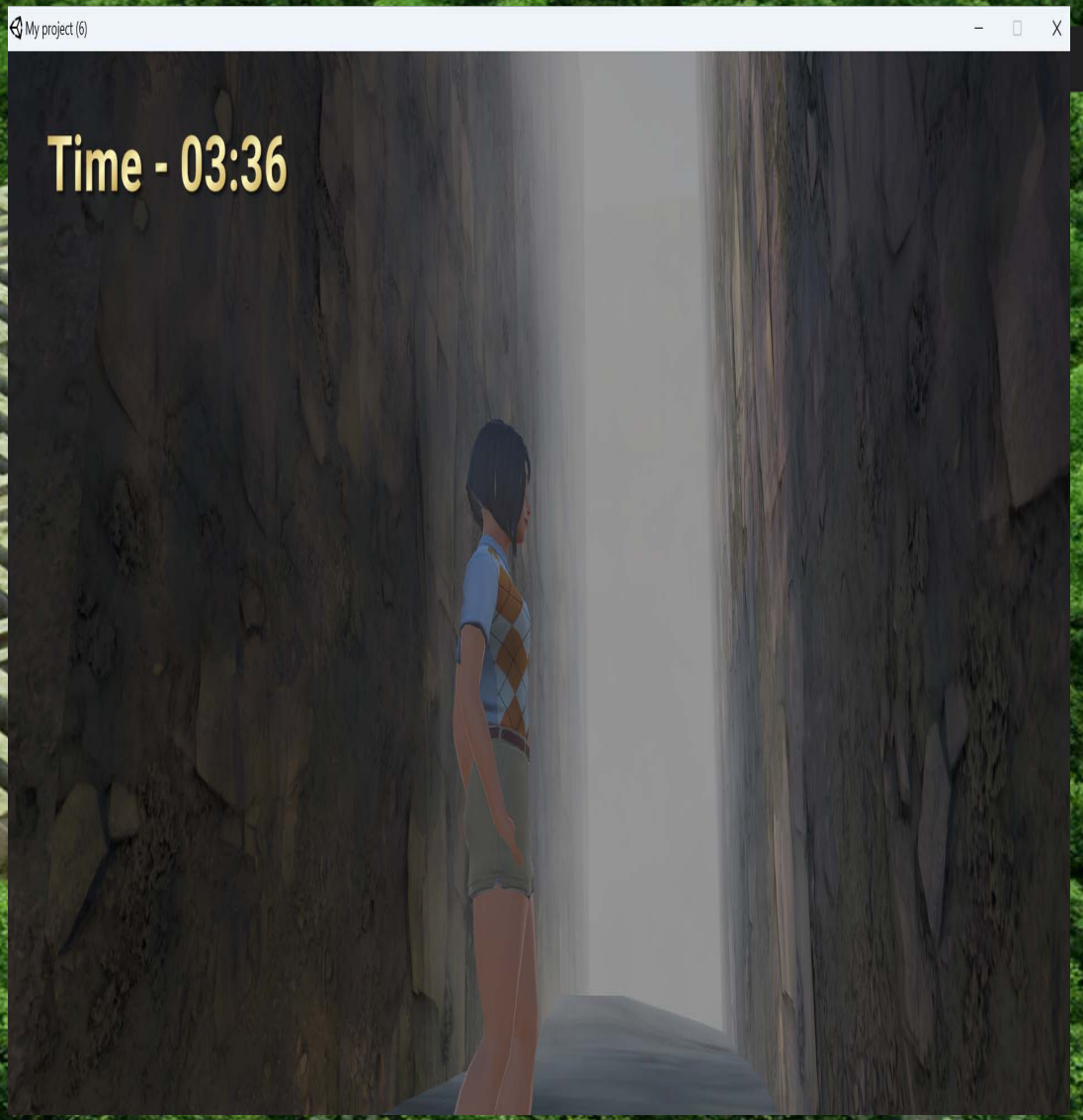
Player movement in all the directions, Jumping , Running and Climbing



FUNCTIONALITY

ANIMATIONS:

- **FOG ANIMATIONS –**
  Volumetric Fog is created using particle generator Plugin



FUNCTIONALITY

INTERACTIVITY (AVATAR SELECTION)

FUNCTIONALITY

- INTERACTIVITY (LEVEL SELECTION)

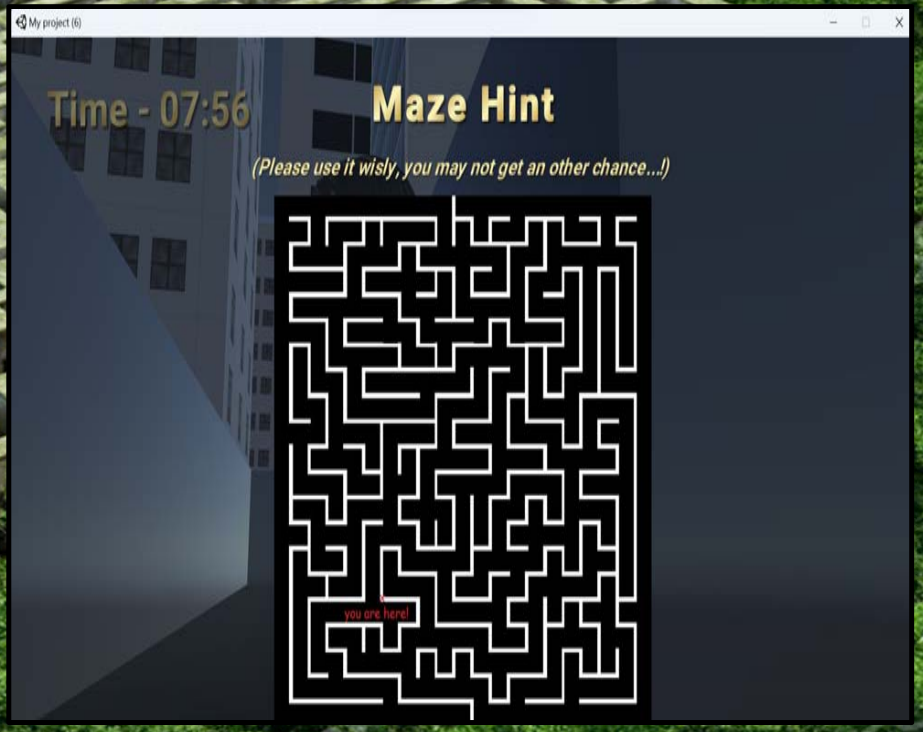
PREMIUM

FUNCTIONALITY

INTERACTIVITY (HELP NOTIFICATION)

FUNCTIONALITY

INTERACTIVITY (MAZE MAP DISPLAY)



FUNCTIONALITY

INTERACTIVITY (TELEPORTATION)

FUNCTIONALITY

CHARACTERS/AVTARS

- FEMININE AVTAR
- MASCULINE AVTAR
- W, A, S, D and LEFT SHIFT KEY , SPACE BAR for movement.
- Interactive with environment
- If the player collides with walls/buildings – Proximity Sensor

FUNCTIONALITY

- SENSORS (PROXIMITY SENSOR)

FUNCTIONALITY

- SENSORS (TIME SENSOR)

FUNCTIONALITY

- SENSORS (KEYBOARD INPUT - TOUCH SENSOR)

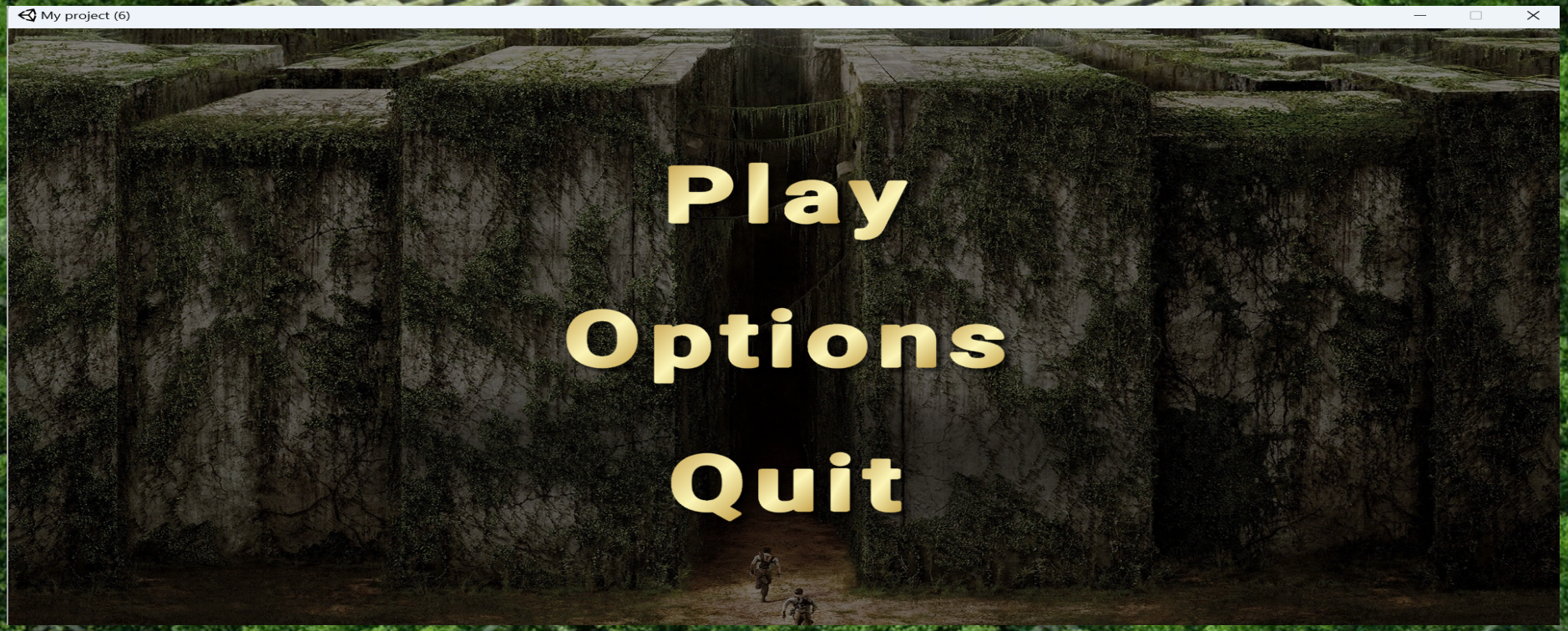
FUNCTIONALITY

PLAYER

Third Person Controller

FUNCTIONALITY

INTERFACE ELEMETS - MAIN MENU



FUNCTIONALITY

INTERFACE ELEMETS – CHARACTER SELECTION

FUNCTIONALITY

INTERFACE ELEMETS - OPTIONS

PREMIUM

FUNCTIONALITY

INTERFACE ELEMETS – HELP NOTIFICATION

FUNCTIONALITY

INTERFACE ELEMETS – MAZE MAP

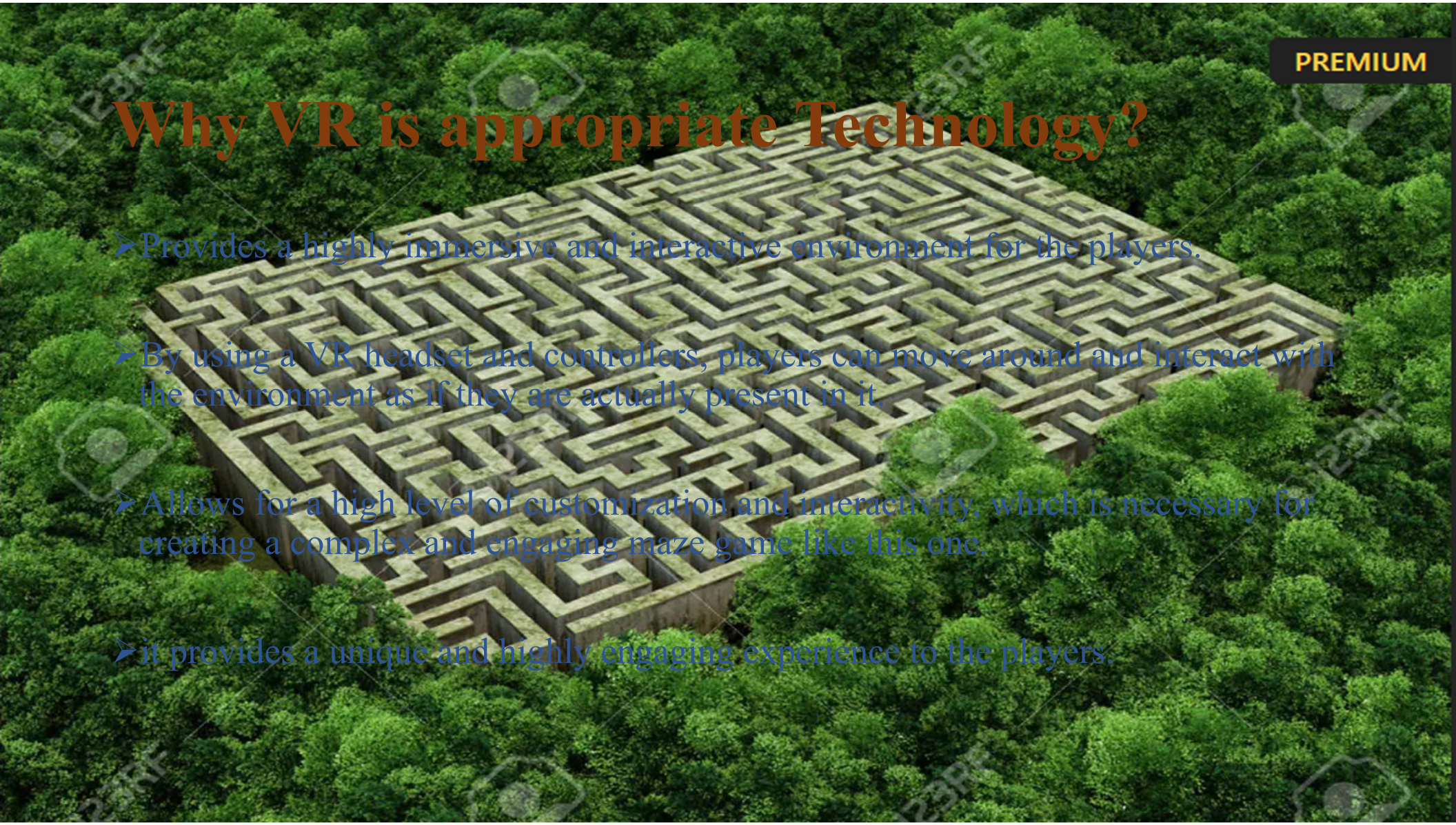
FUNCTIONALITY

INTERFACE ELEMETS – TELEPORTATION

FUNCTIONALITY

INTEREACE ELEMETS – TIMER

A timer runs for each level separately to calculate the time taken by the player to solve the maze

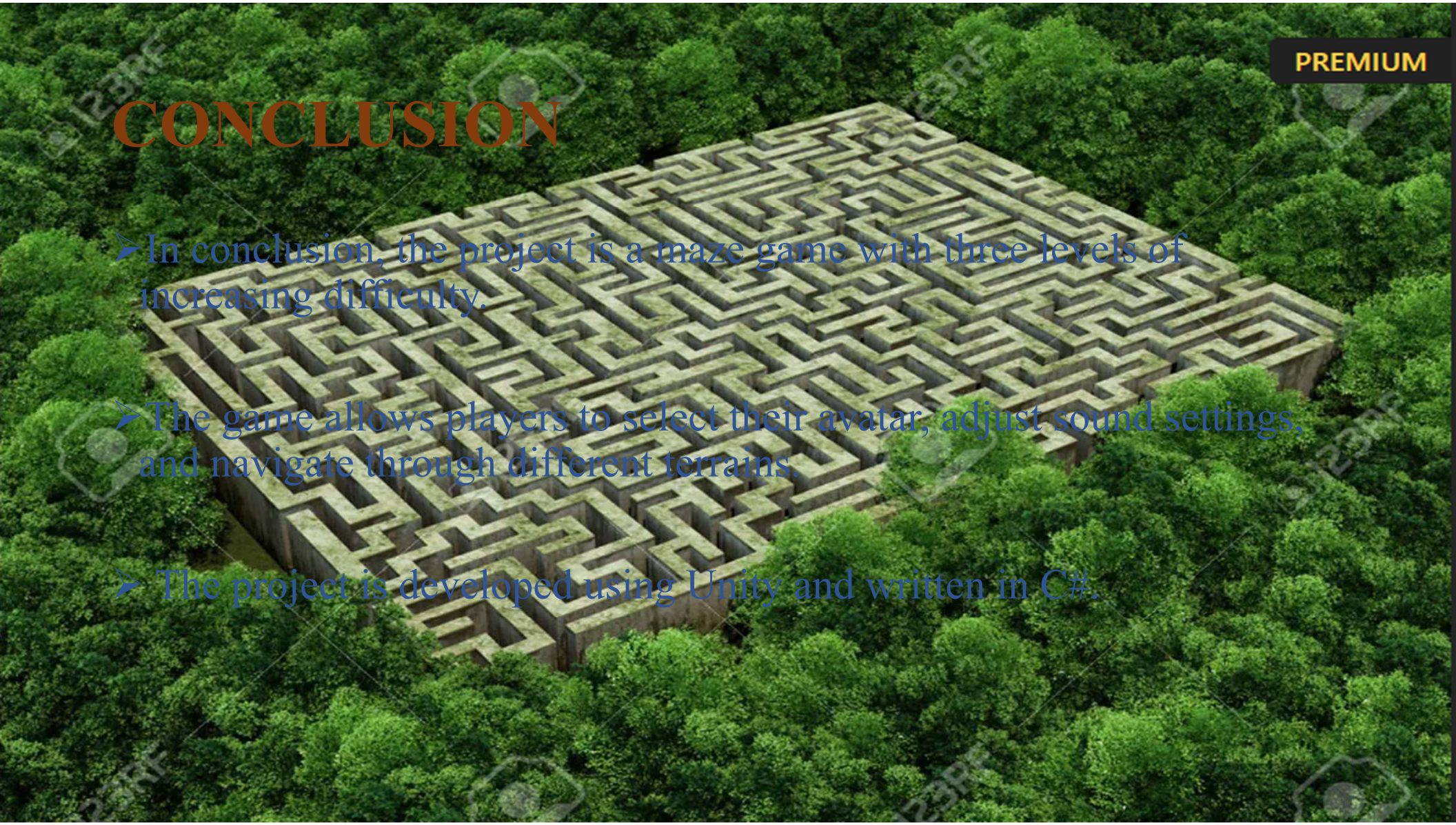


Why VR is appropriate Technology?

- Provides a highly immersive and interactive environment for the players.
- By using a VR headset and controllers, players can move around and interact with the environment as if they are actually present in it.
- Allows for a high level of customization and interactivity, which is necessary for creating a complex and engaging maze game like this one.
- it provides a unique and highly engaging experience to the players.

FUTURE WORK

- Multiplayer Mode
- More Levels
- Adding Opponent
- Achievements and Rewards



CONCLUSION

- In conclusion, the project is a maze game with three levels of increasing difficulty.
- The game allows players to select their avatar, adjust sound settings, and navigate through different terrains.
- The project is developed using Unity and written in C#.


PREMIUM
THANK YOU !!