CMPE 485

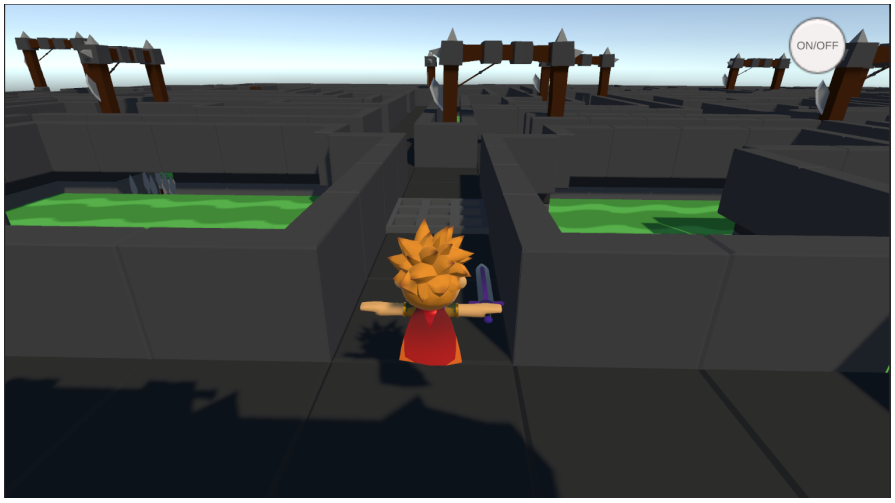
Spring 2024

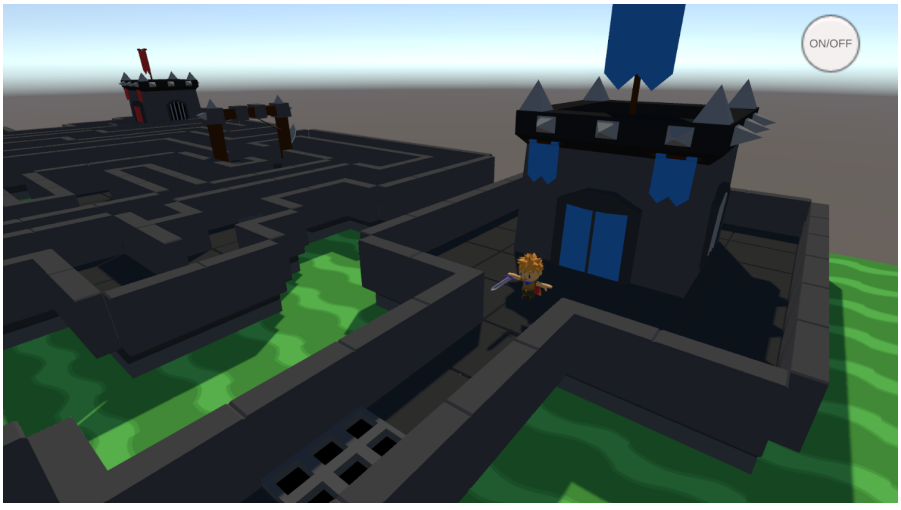
HW#2 - A Simple 3D Maze Escape Game

- **Deadline: 03 March 2024 - 23:59**

- You will design a simple Third Person 3D Maze Escape Game with Unity (version 2021.3.35).

(You are not expected to use the visuals in the document for the game. You should design your own scene, player character, maze design, traps etc.)





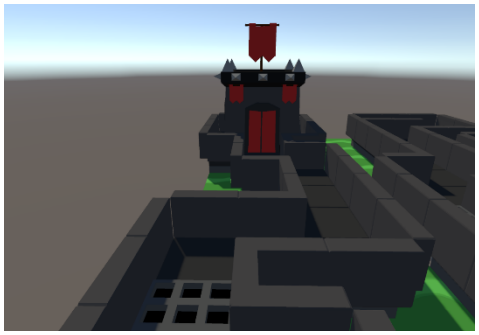
Game Description

- In the game the player should navigate through a maze-like platform with multiple paths to choose from. At least 2 paths should be available with one path containing a **key object** that the player must find and the other path that reaches the **Door** to end the game.

- Note that this document represents the bare minimum you are expected to deliver. You are encouraged to add as many rules, objects, and mechanics as you want to.

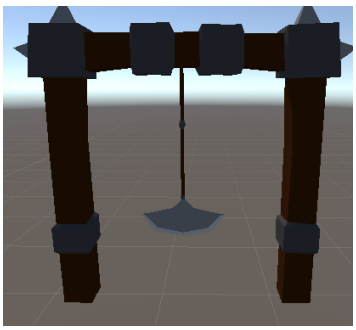
- You are expected to create a platform that has at least 2 different paths to navigate. Optionally, the platform can be enclosed with walls.

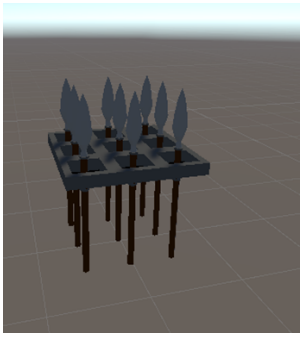
- The key object, preferably a basic cube, should be affected by physics including forces, collisions and gravity. The player should be able to push the key around. Collision of the key with the door shall end the game. You are expected to utilize the OnCollisionEnter function for that.



- **Door Object** can be a basic plane that will be opened when collision occurs with the key.

- The player must overcome a challenge to get the key. The challenge should be **a trap that periodically enables and disables.** So that if the player gets caught, it should die before being able to complete the game.





- **The trap** can be anything; like making some parts of the ground disappear, generating a fire that blocks the road or moving the platform. You are expected to use Coroutines so that the movement of the trap occurs periodically.
- Also add **guards** who constantly move from a specific point to another specific point along the path. (hint: use coroutines) If the player passes in front of the guards and is too close to the guards, the user will fail.
- The game shall have a background music that can be toggled on and off.

Game Mechanics

For this project, you are expected to create a short document that explains your game's mechanics. Feel free to explain your game's world, additional rules and mechanics. You should describe your player, key and door objects, winning conditions etc. Please add a screenshot of the map if your maze is too complicated :)

Grading Criteria

Creating a maze-like platform	20%
The Player can move	5%
The player can push the key around	10%
Game ends when key and door collide	10%
Trap exists and moves periodically	10%
Trap and guard can kill the player	10%
Background music	10%
Smoothness of the game experience, visual aesthetics, creativity	15%
Guard exists and moves periodically	10%

Penalties

- Not using coroutines and collision detection **-40%**
- Not uploading a video **-20%**
- Uploading a video that is longer than 5 minutes **-20%**
- Uploading a video that doesn't go over the necessary parts **-20%**

Bonus Points

+ Use assets from Unity store for the environment, player, maze, key and the door **+10%**
+ In the cases of both winning and dying, the game should ask the user for another round. This can be a simple GUI with two buttons. **+10%**

What to Submit

- Push to your GitHub repository under the folder HW2 . Please double check that the code in your repo, unity version and runs as you expect. We had some troubles regarding this in the first project.

- A short video that summarizes your work. (Your video should go over the game scene and show how the grading items work. It should not go over code.)
- P.S. This project is **not** a group project, you should do it on your own.