Dungeon Diver

https://github.com/comp195/spring-2021-final-project-dungeon-diver

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System Architecture

Software Modules

This system should not need any other software to run.

Hardware Components

This system will only need to run on one computer.

User Interface

The system will have a simple user interface.

Interfaces to External Systems

This system will not need to have connections to external systems.

Hardware, Software, and System Requirements

Minimum:

OS:

-Windows 7

-Mac OS X 10.6+

Processor: Intel Core 2 Duo

Memory: 2GB RAM

Graphics: GeForce 7600 GS

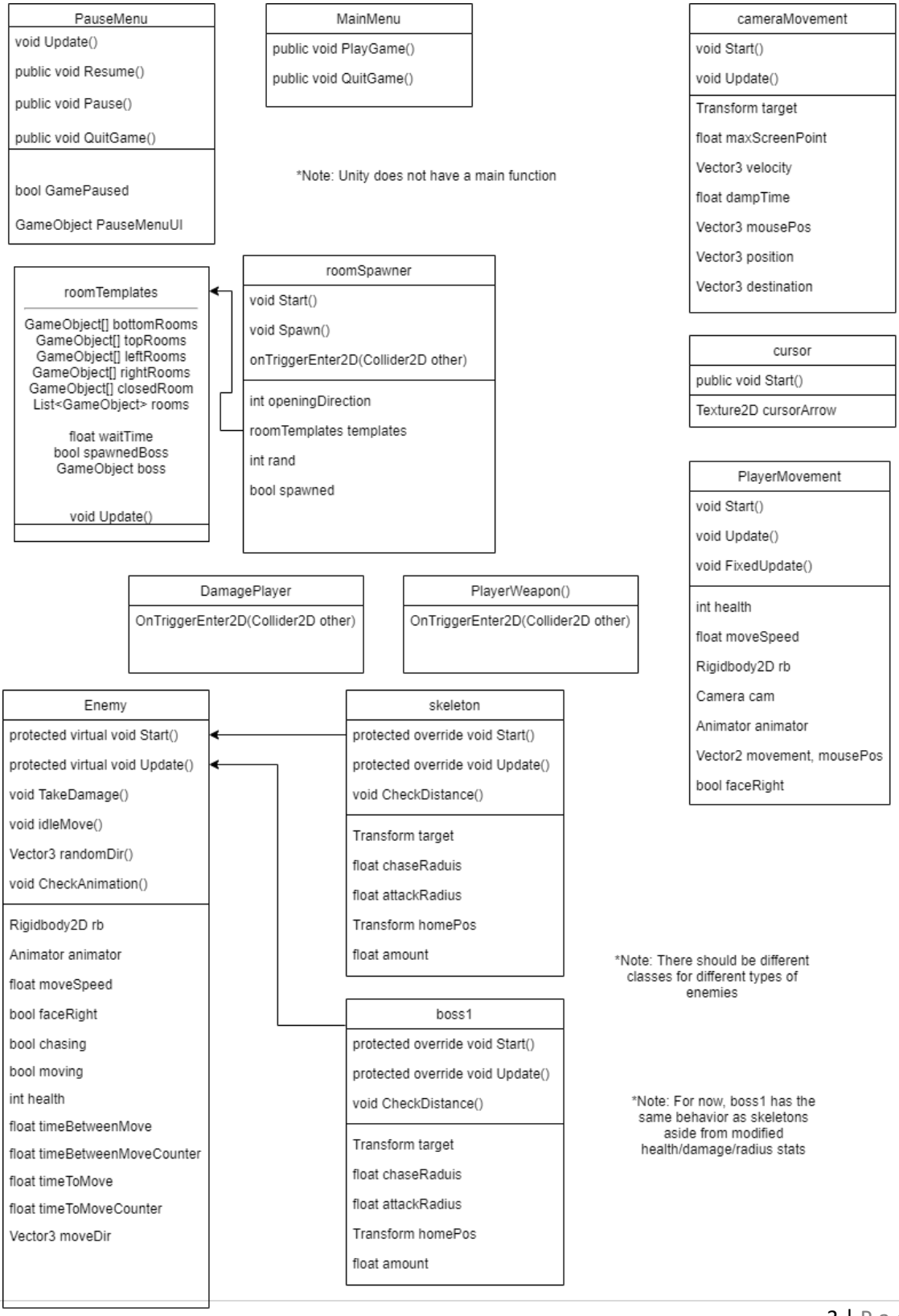
Storage: 2 GB available space

External Interfaces

None

Software Design

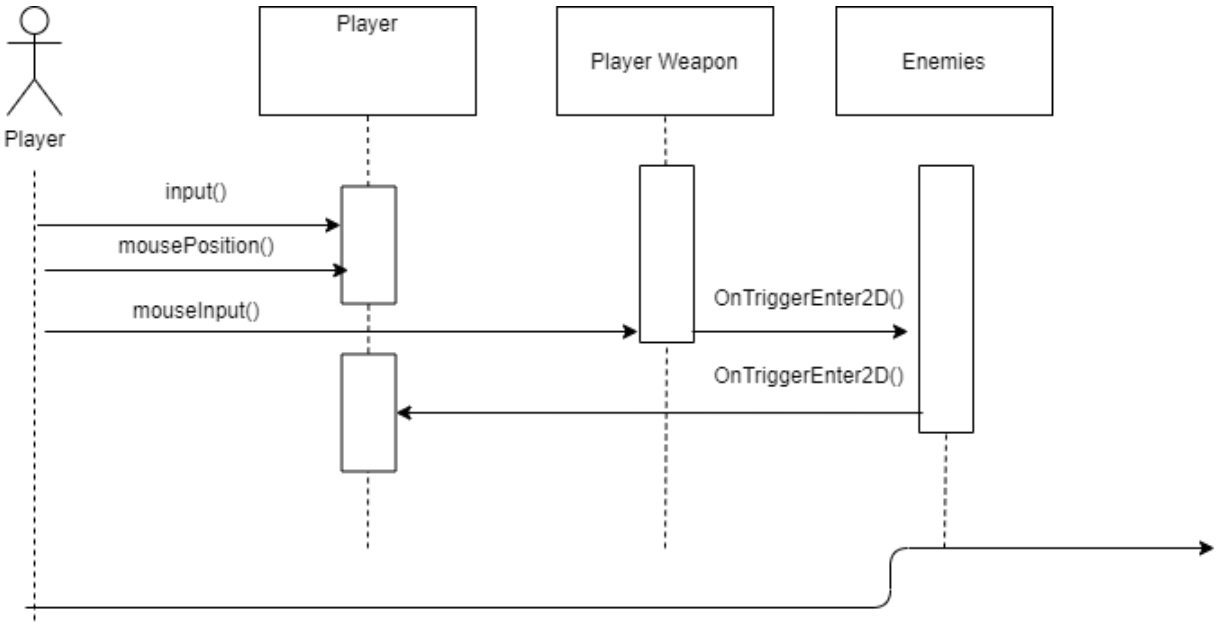
Class Diagram & Class Specifications



The main idea of my design is to have 4 different arrays representing the 4 different direction a room might have a door in. Above in the roomTemplates class, you can see that the class manages the array of rooms, and also manages a list of rooms that spawns the boss prefab. The camera movement class handles how the camera is affected, as I have made it so that the camera moves when the player uses the mouse to look around. I intended to use the enemy class as a parent class for all enemy types.

Interaction Diagrams

This is a very simple and barebones Player diagram. For now, it just shows a simple player interaction. When the player left clicks, it will go to the script for player weapon. Then it will check if the player weapon hits an enemy. The player's key inputs and mouse position are handled by player script. Enemies directly check if they hit the player.



Design Considerations

Since this game is randomly generated, that means that the design of the maps and levels are not the main focus. I plan to have simple maps with simple designs generated, thus allowing me to focus more on the actual gameplay. However, with that being said, it is essential that the random generation works in the first place.

User Interface Design

The user interface will be simple and easy to understand. Because this game is randomly generated, there will be no level selecting. The options in the menu would be something like: Start, Option, and Exit. I am debating on whether or not to allow users to save their progress.

A similar game I would liken this to is called *Risk of Rain*. In this game, you only have one life. If you die, you start the game over from scratch, but all the levels are in different order and in slightly different design. However, I am expecting my game to have users take longer to clear levels. Thus, I might enable the user to save their progress.

Once you start playing, I am planning to have a simple UI. The picture below is a great

example as to what my game should be like. You can clearly see what you need to know, such as life and money. However, the user interface itself does not clutter the view, allowing the user to clearly see the game. What is different however is that the player will be able to look in all directions, as opposed to only looking up, down, left, or right. You will still be able to use WASD to move around however. ESC to pause.

Glossary of Terms

Top Down

– Game Genre in which the camera's point of view is looking "down" from the sky

Prefab

- Unity term that describes a set of gameobjects that make up a asset. For example, rooms, that I have created using Tilemap, are grouped together and saved together as a file so that when I spawn a room it spawns all the components inside the prefab

Tilemap

- A tool for Unity that allows you to create maps from pixel images

References