Training Course

Prototype P.D.D

Overview

Quick Pitch:

The Training Course is a game to perfect one's ability to accurately shoot and hit targets in games. You will be controlling a recruit going through training camp as you go to different locations with different challenges and targets to find.

The gameplay is straightforward: Go from location to location while accurately shooting and hitting target dummies. After the dummies have been hit, the player may then move to another level, where they will face more complicated situations like elevation or movement.

Requirements

Environment/World

- Walls, floor and other environment elements (chair, cabinets, boulders) to sprinkle around the levels.
- 3D capsule to represent the player as well as targets.
    - 3D cube to visually represent the player's gun.

UI/Items

- Start Game button
- A counter to show how many dummies are left in the level

Player Control

- The player will be controlled with the W, A, S and D keys while they will be aiming their reticule with the mouse.
    - The player can shoot with the right mouse button.

Enemy AI

- While this game has no enemy A.I per-se (as the targets are training dummies simply made to be shot), some will be moving from left to right or up and down, providing a bigger challenge to the player.
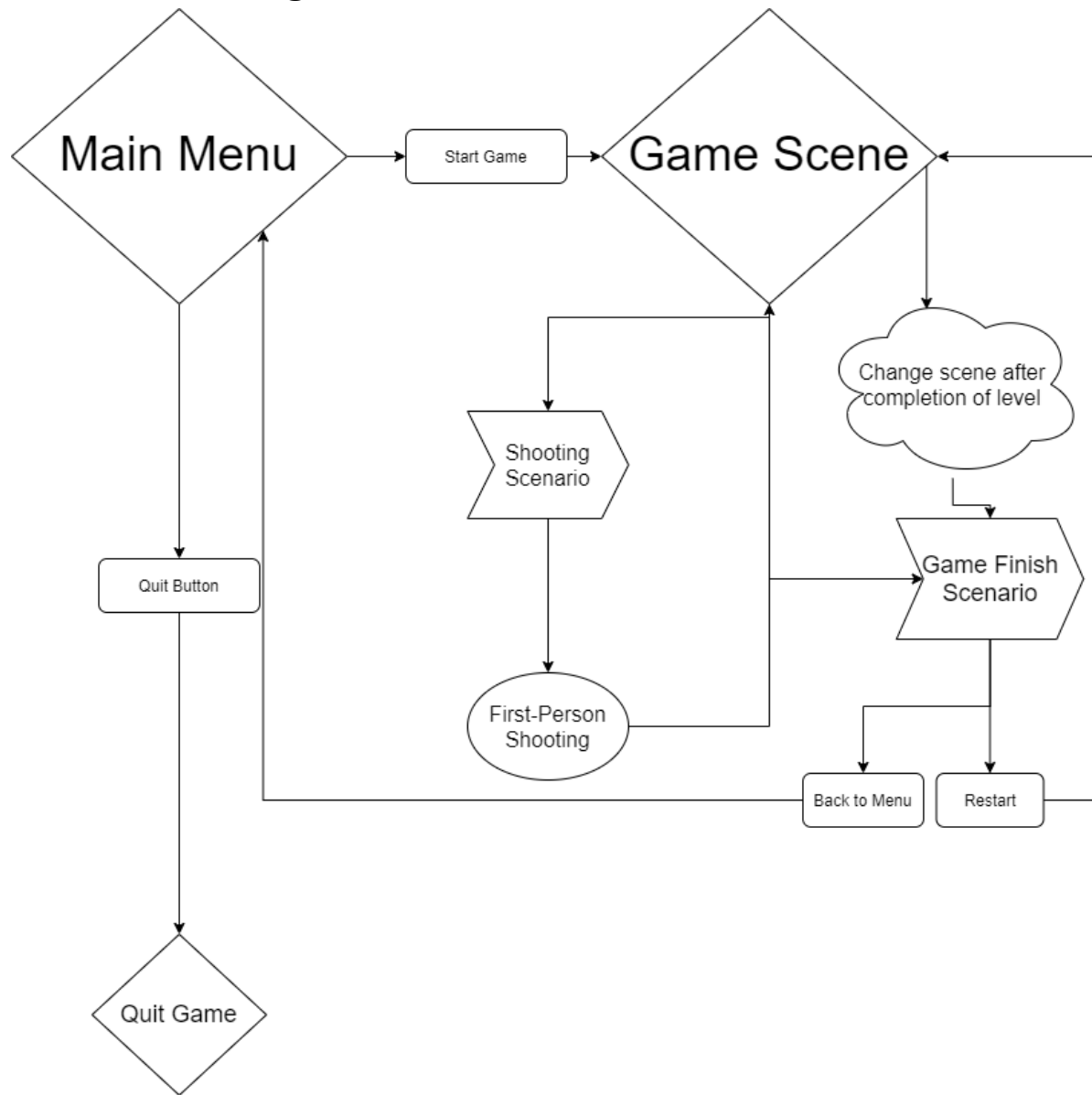
Screens

Scenes

- Main Menu
    - New Game
- In game
    - Win Screen
        - Restart
        - Back to Main Menu

There is no ''Game Over'' screen, as nothing in this game is hostile towards the player. The only way to use, technically, would be to quit the game.

Game Flow Diagram

Non-Goals

- Audio and sound effects will not be included to save time and energy.
- The environment will have no custom lighting
  - There will be no real assets used in the environment
- No other shooting style or guns
  - Nothing will affect shooting accuracy (like walking and shooting)

Tools

Unity 2020.1.5f1

The only game engine I know how to use with the only coding language I know integrated in it.

Visual Studio 20

As it is integrated into Unity, it is a no-brainer to use it as well. Furthermore, this scripting API easily highlights and shows the coding errors, allowing for quick fixes.
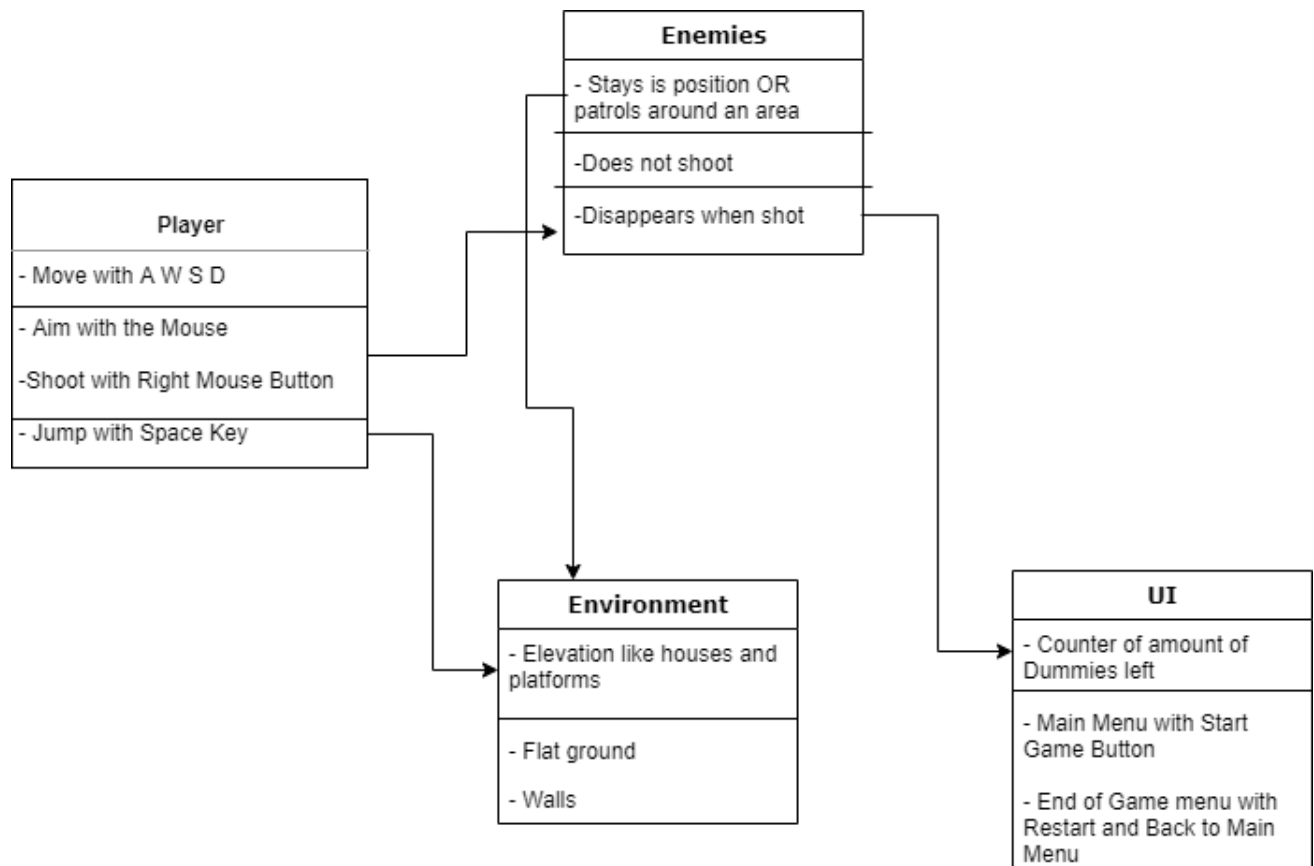
DOTween

An addon that can allow for some great flashiness in games, it will be used to make the bare graphics more appealing and interactable for players.

Systems of Note

The Combat System

The combat, or rather the shooting, is the only noteworthy system of this game. The player moves around a 3D arena filled with blockades, walls and target dummies. After placing the reticule onto a dummy, the player can shoot a bullet to hit the target and eliminate it, repeating this process until no more dummies are left on the level. When this is accomplished, the player will be sent to the next level, where a greater challenge awaits them.

System Design Diagram

Enemies

- Stays is position OR patrols around an area

-Does not shoot

-Disappears when shot

Player

- Move with A W S D

- Aim with the Mouse

-Shoot with Right Mouse Button

- Jump with Space Key

Environment

- Elevation like houses and platforms

- Flat ground

- Walls

UI

- Counter of amount of Dummies left

- Main Menu with Start Game Button

- End of Game menu with Restart and Back to Main Menu

Open Issues

Raycasting

    I have never personally used the Raycasting myself, as while they have been part of previous games I have been a part of, I was never the one coding it. I believe it will be a challenge to make it work.