Description

This assignment is to help get you familiar with the basics of Unity. You will be building a very simple move-and-shoot kind of game in an enclosed arena. The goal is to make something functional. There is no need to spend much time on art, effects, or other flavor features. Since this is an introductory assignment, you will only be evaluated on functionality.

Beginners with Unity can use this as an opportunity to explore how Unity addresses the common problems you will encounter. For more experienced Unity users, this would be a good time to explore best practices.

You’re encouraged to collaborate, but be sure that you understand what you’re writing. The assignments all build on each other. If you don’t know how you did something now, it will only be harder to expand upon it later.

Finally, the TAs and I recognize that there are demo projects **very** similar to this online. If you’re clever enough to copy one of those, then you’re clever enough to do the assignment on your own. Anyone caught plagiarizing will be subject to UCI’s academic dishonesty policy.

Requirements

* 2D or 3D, student’s choice
* Original or freely available art. Remember that cubes and spheres still count as art.
* One (1) playable tank
  + Movable using W/A/S/D
    - Movement is in the direction pressed. Eg: Left moves the player left, it does not turn them left
    - The player must face the direction they are moving
    - Movement must be smooth and continuous
  + Fires bullets in the direction it is facing using Spacebar
    - Bullets can’t kill the player
    - Targets despawn (destroy) when hit
    - Bullets despawn (destroy) when colliding with objects
* Three (3) or more static targets. Can be tanks or target dummies, but must be recognizable as targets.
* An enclosed arena
  + The player tank cannot leave the arena
  + Bullets cannot leave the arena

Submission

Submit your Unity project directory compressed in the ZIP format to Canvas. The project must:

* Run in Unity v2019.2.17f1
* Come with an already built standalone executable in the default location

Grading

* (10%) Exe does not crash at any point during play
* (10%) Project opens and builds correctly on required version
* (80%) Features
  + Player Tank exists
  + Player Tank has a clear facing
  + Player can move
  + Player movement is smooth/continuous
  + Player can fire
  + Player fires in the direction they are facing
  + Player shots don’t hurt the player
  + Shots are destroyed on contact with objects
  + Shots destroy targets on contact
  + 3+ static targets exist and are identifiable
  + Arena exists
  + Player cannot leave arena
  + Shots cannot leave arena