Game Engine Foundations

Final Project

Due Date: Dec. 8 @ 11:59PM

You are requested to develop a mini first-person shooter game by using the codes that we have developed in class and in labs.

Vehicle

The game consists of some vehicles that are spawned every two seconds and in random locations of the scene. Once spawned, a vehicle moves toward the center of the world (0, 0, 0). You can may what you built for lab 9 to represent a vehicle, i.e. body with four rotating wheels. Further, a vehicle is destroyed (wiped out from the scene) if at least one of the following conditions is satisfied:

1. Vehicle has reached to the center of the game scene
2. Vehicle has collided with other vehicle
3. Vehicle is collided by a bullet (shot by the player)

Player

As for the player, use the same controls that we have used in class (mouse & keyboard). Further, provide the shooting functionality as follow. Pressing 'F' key on keyboard makes a bullet spawned right in front of the player and moves in forward direction. You can use any kind of 3D geometry to represent the bullet, but scale it down.

Game Over

The game is over under one of the following conditions:

1. Ten vehicles are shot by the player (Victory)
2. The player collides with a vehicle (Fail)

Submission

Follow the instructions on the blackboard.

Rubrics

Vehicle Spawn (15 Marks)

Vehicle Destroy (5 Marks)

Vehicle Motion: (20 Marks)

Collision

- Vehicle-vehicle (10 Marks)
- Vehicle-Bullet (10 Marks)
- Vehicle-Player (10 Marks)

Shooting functionality: (25 Marks)

Game Over: (5 Marks)