CS 485 HW Assignment 3 (100 pts)

Due: September 21st (Monday) 12:00pm, 2020

1. Objective

Develop a simple 3D game using a game engine. Be familiar with the user interface of Unity3D. Learn C# or JavaScript scripting for object control and movement. Gain experience in game design.

2. Submission

a. **Upload a screen video of your game on Youtube, then submit the Youtube link on cougar course. If you cannot upload your video to Youtube, you can also submit your screen video file on cougar course directly. The size of the screen video should be less than 20 MB. You can google free screen capture software. Powerpoint can do screen capture as well.**

3. Requirements

3.1 Create two objects: (50 pts)

Create two objects, let these two objects move and rotate. Make these two objects move toward each other. Eventually they will collide with each other.

To do so, for example, you can:

Create Object 1 at position (x = -7, y = 1, z = 0). Make object 1 move to direction (x = 1, y = 0, z = 0). Make object 1 rotate along the z axis (x = 0, y = 0, z = -1).

Create Object 2 at position (x = 7, y = 1, z = 0). Make object 2 move to direction (x = -1, y = 0, z = 0). Make object 2 rotate along the z axis (x = 0, y = 0, z = 1).

Hints: you can use transform.Translate(direction * Time.deltaTime, Space.World) and transform.Rotate(direction, Space.World).

To ensure that these two objects will collide, you need to add Rigidbody (Component->Physics->Rigidbody) as a component to each object. You also want to disable gravity in Rigidbody.

3.2 Instantiate the third object: (40 pts)

When the above two objects collide with each other, destroy the second object (hint: using Destroy(gameObject)) and instantiate the third object (hint: using Instantiate(object, position, Quaternion.identity)). Then rotate the third object using Quaternion.Slerp().

For example, you can do this: Quaternion target = Quaternion.Euler(0, 0, 180);

```
transform.rotation = Quaternion.Slerp(transform.rotation, target, Time.deltaTime);
```

To detect collision, you can use `void OnCollisionEnter(Collision collision) {…}`.

3.3 Make the game look more beautiful: (10 pts)

Use assets to make your game look more beautiful. For example, you can make beautiful objects, beautiful plane or background.

ACADEMIC HOMESTY: *Please read the academic honesty policy on the syllabus.*

WARNING: *This assignment will catch you off guard if you leave it to the last minute. Make sure you are getting enough time and learning for the assignment. This assignment is critical for your knowledge of Unity and basic game programming concepts.*