

Lab 0b

Familiarization with UNITY 3D :: Scripting

- *Tasks for week3*
- *all computers in LAS 1004 have Unity installed and are useable for this lab – in future labs (using VR peripherals), a limited set of these computers will be used – these computers*

Preamble:

The goals of this introductory session are to familiarize yourself with the basics of scripting within the Unity Game Engine.

You will learn about how to achieve finer control of such objects and properties within the unity game engine using scripts. Specifically, you will focus on where modifications to objects and properties should occur (prior to frame updates), and the different types of initialization and updates within Unity. You will test these ideas by scripting the manipulation of basic camera, lighting and object properties.

Note: you will need to first setup a Unity Account (free) after you log in – this will be important for accessing the unity asset store later. You may also work with Unity offline (without store access). After login, you may create a new 'empty' project.

Goals:

1. Follow through the following introductory tutorials on the Unity website <https://unity3d.com/learn/tutorials/s/scripting>, namely:
 - BEGINNER GAMEPLAY SCRIPTING;
- a. Prioritize:
 - Scripts as behaviour components
 - Awake and Start
 - Update and FixedUpdate
 - Enabling and Disabling Components
 - Activating Game Objects
 - Translate and Rotate
 - LookAt
 - GetButton and GetKey

2. Exercise:

In this exercise you will build upon your previous diorama, using different keyboard keys to individually modify and move various game objects within the scene (including the camera, light and other game object positions and orientation).



Required elements

- For the camera:
 - Use “T” and “R” key to switch between a rotation and a translation movement
 - Use (W|X|A|D..) keys to induce a rotation/translation about a specific axis
- For the lights: some basic modification of intensity or orientation
- For a game object: a key to switch between game objects, again followed by a modification of some property (e.g. material switch), or change in position/orientation

*** please note, in this lab it is not required that you move objects using physics (application of force/torque): translation/rotation should be done directly.*

**** HINT, use the property inspector to manually test rotations/translations on individual objects prior to controlling these changes within scripts*

DUE: January 25th, 5pm (Demo & Submit files to TA: /8 marks)