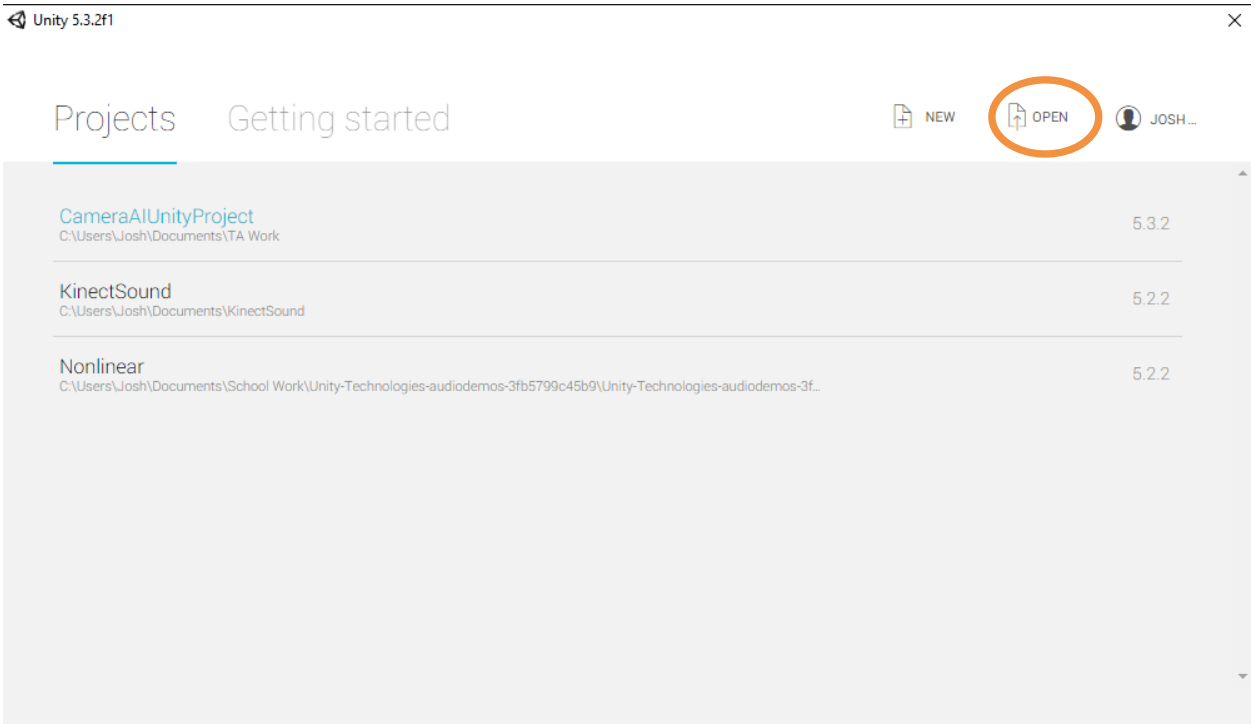
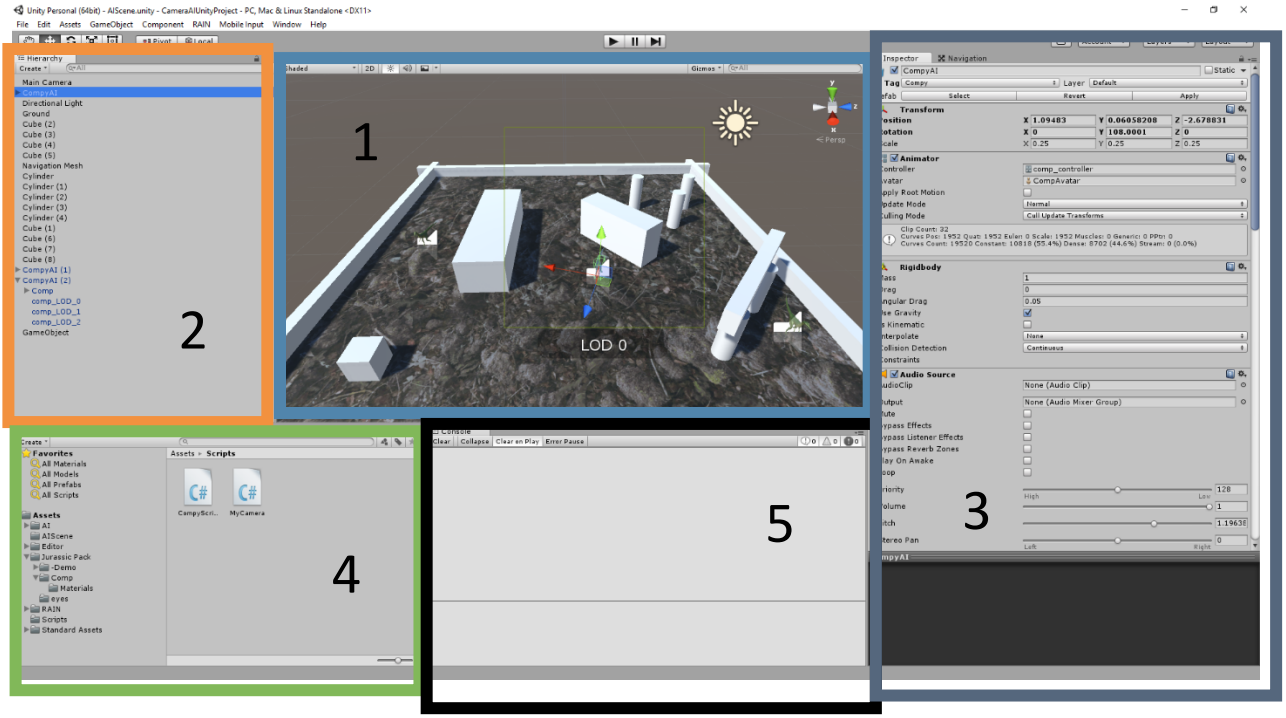
Camera AI Project: Using Unity

Setting Up Unity 3D and opening the project

1. Go to the Unity Website to download the Personal Version of the software and make a Unity account. This is completely free.
2. Install the software with all of the features.
3. Download the Camera AI Unity Project from T-Square, under Resources. Unzip the folder where ever you wish.
4. Run Unity, after logging into your account the following window should appear. Click on the Open Button on the top right, find the folder you unzipped for the project and select that folder. If you have opened the project before, you should see it in the list below. You can select that to open the project as well.
   (You do not go INTO the project folder, you select the folder itself that contains the project materials)



Navigating Unity



1. The Scene/Game Window – This is the main editor window of Unity where objects can be placed and moved around. The buttons in the upper left of the editor window changes the kind of interaction with an object, such as moving, rotating, or scaling an object. Directly above this Window, there are three buttons: a Play, Pause, and Step Button. These three buttons execute and stop the game inside of the editor, allows you to pause the execution of the game, and allows the frame-by-frame step through of the game in order to help with debugging. When the game is run, the Game Window takes priority over the Scene window, showing the execution of the game. You can move the Game Window to be side-by-side to the Scene Window, allowing you to edit the game while the game is running. NOTE: ALL CHANGES MADE WHILE IN PLAY MODE WILL BE REVERTED WHEN PLAY MODE ENDS. WRITE DOWN CHANGES THAT YOU MAKE SO YOU CAN UPDATE IT AFTER THE GAME STOPS.
2. The Hierarchy Panel – This panel gives you an alphabetical list of every GameObject in the scene. GameObjects make up the Unity Scenes, and can hold child objects that move with the parented game object. The primary objects you will be using are the “CompyAI” objects, and the “Main Camera” Object. Clicking on an entry in this list highlights the object in the Scene Window (double clicking, or selecting and pressing “f” focuses the Scene Window on the object) and brings up the attributes and components of the GameObject in the Inspector Window.
3. The Inspector Window- This window shows the attributes and components that are attached to this specific game object. Each section of this window such as “Transform” is called a Component, and a GameObject can have any number of Components on it. You can alter most of the public values of classes in this window (explained below). The main components that you

will be dealing with are the “Transform”, “CompyScript” (attached to the CompyAI GameObj), and the “MyCamera” components (which you will be editing).

4. The Asset Window – This window shows all of the saved physical assets that are in the project folder, including the scenes, scripts, textures and models that are used. You will mainly be dealing with the Scripts Folder, specifically the “MyCamera” Script. Clicking on an asset will allow you to examine it in the Inspector Window (for instance, if a script is clicked on you will see the text of the script file) Double-clicking an asset will open the appropriate program on your computer to edit that asset (e.g. Photoshop for Images, Visual Studio for scripts, Maya for Models). The program opened is based on your computer’s settings for the filetype that you are trying to open.
5. The Console Window- This Window is your standard textual output console for Unity. Unity uses stream compilation to validate your code before running your game. If Unity finds a compilation error in your code, you will not be able to run your game, and errors will appear in this window. Once all errors have been corrected the game will be able to be executed, and runtime errors will appear here if they happen. IN ORDER TO WRITE TO THE CONSOLE FOR DEBUGGING, use the function Debug.Log(String s); . This provides an output with stack-trace directly to the console.

Tips:

- The Unity API can give you a wealth of information on all of the built in C# classes for Unity. You may want to look at RayCast, Transform, and GameObject to get started. You can find the Unity API here: http://docs.unity3d.com/ScriptReference/
- Creating Public class variables allows you to change those values in the Inspector window. You DO NOT need to change them in the script every time, although setting an initial value for the variables does give default values in the editor for new instances of the class.
- In order to print out to the console, use Debug.Log(String s);
- Do not hesitate to come into office hours to learn about Unity.
- You can also get excellent tutorials from Unity 3D covering the basics. http://unity3d.com/learn/tutorials