

Unity Editor Basics

In this lesson you will learn about:

How to interact with the editor

Introduction to rotation, scaling, translation

Some basic scripting

Interface Overview

<http://unity3d.com/learn/tutorials/modules/beginner/editor/interface-overview>

<http://docs.unity3d.com/Manual/LearningtheInterface.html>

Scene View - where you manipulate 3d objects

Game View - when you press play, the game as it is

Inspector - edit properties of object

Project - file folder structure where models, scripts , etc are stored

Play Controls - play the game, pause, or step forward frame by frame

Scene Controls - move the camera and objects in scene view

Layers – show and hide content

Layout – change panel configurations

Scene View

<http://unity3d.com/learn/tutorials/modules/beginner/editor/the-scene-view>

<http://docs.unity3d.com/Manual/SceneViewNavigation.html>

qwer - hotkeys

hand tool – left mouse – pan, rmouse – first person lookaround, alt+lmouse - orbit, alt+rmouse - zoom

focus – select an object – double click or F

translate, scale, rotate – drag axis handles.

Rendering options (buttons at top of scene view)

Gizmos – helps to identify components

Search – find an object based on name (will gray out the other things)

View gizmo (3D vs 2D view - axis aligned views)

Game View

<http://unity3d.com/learn/tutorials/modules/beginner/editor/the-game-view>

Play, Pause, Step through

Maximize on play - when played, make it fullscreen

Play Mode

You can tweak things but changes do not persist outside of play mode

Edit>Project Settings> player – adjust resolution and build options for platforms

Stats button (e.g., frames per second)

Edit>Preferences>Color – play mode tint – remind yourself you are in play mode and will lose changes

Hierarchy and Parent Child

<http://unity3d.com/learn/tutorials/modules/beginner/editor/the-hierarchy-and-parent-child-relationships>

Take two objects and parent one to another. This makes the child transform (rotation, translation, scaling) relative to the parent.

Game Objects > Create Other – create various 3D shapes (e.g. cube)

Pivot point / center rotation – rotate relative to the parent 's center / averaged center of all parent+all children

Searching – t:type – search for all objects of a type (e.g. Audio Source)

Project

<http://unity3d.com/learn/tutorials/modules/beginner/editor/project-panel-and-importing>

This is where you store all your 'Assets' - models, scripts, plugins, sounds

Import by right clicking, top menu, or drag and drop from windows explore

Works like a regular file system

Preview window - will give you a preview

Search - find an asset with a specific name

The inspector

<http://unity3d.com/learn/tutorials/modules/beginner/editor/the-inspector>

Adjust properties of each game object

Tags, layers, static

Transform – adjust values by clicking and dragging or typing

Drag and drop items from the hierarchy

- Click and drag without mouse up

- Click the lock button on the inspector component

Material Properties (apply to all objects with that material)

Enabler and disable components with check boxes

Gameobjects

<http://unity3d.com/learn/tutorials/modules/beginner/editor/game-objects-and-components>

Everything in a scene is a game objects

Each has a set of components (e.g., transform, collider, rigidbody)

Scripts are also components

Copy and paste components with the cog

Importing simple gameobjects

Import a simple "stock" object: GameObject>3D Object

Add a light: GameObject>Light>Directional Light

A directional light is a light that is very far away (e.g., the sun)

Activity:

Use knowledge we have acquired about navigating the scene view and adding objects to the scene to make a level for a simple platformer game.

1. make a large "floor" with a cube
2. add several more geometry game objects (e.g., cube) that would require you to jump up to different levels
3. put a 'prize' at the top level (e.g., a gold cylinder or something). To change the color of an object, you'll need to create a new material

On the menu at the top goto Assets>Create>Material

click on the color next to the color picker and choose a color

go back to your object and under the Mesh Render component, click the circle and find your new material (or you could just drag it from the project explorer instead of clicking on the circle.)

Importing Packages

Packages contain many ready to use assets, such as characters, scripts, and images.

Lets import some skyboxes – download the one for today on Blackboard

Assets>Import Package>Custom Package and choose sky5x.unitypackage and click Import

Apply a skybox:

Click on Main Camera in the Hierarchy

Click Add Component in the Inspector

Type skybox, select the skybox component

Click on the little circle next to material and choose a skybox.

Pretty! These skyboxes can also be found on the asset store:

<https://www.assetstore.unity3d.com/en/#!/content/6332>

Character Controllers

Unity comes with prebuilt controllers for a first person game and for a 3rd person game. This allows the player to perform interactions like running, turning, jumping, etc.

Assets>Import Package>Characters

Then drag one of the objects from the Project tab to the scene or hierarchy

For example - Standard Assets>Character>First Person Character>Prefabs>FPS Controller

You will need to disable or delete the main camera for this to work. Note: if you wonder where you skybox went, it was stuck to your old camera. Add a new one under the FPSController>FirstPersonController in the hierarchy.

Activity: Add a character controller to the scene, position it on your 'floor,' and tweak it to be able to navigate your level and get to the goal.

Tags

<http://unity3d.com/learn/tutorials/modules/beginner/editor/tags>

Identify a specific type of game objects

- E.g., These are helpful to know what objects collided

Add a tag with the tag manager (click on the Tag dropdown at the top of the inspector)

Assign the Player tag to the Player

Click on FPSController in the Hierarchy

Click Tag at the top of the inspector and choose Player

Find an object with a specific tag

GameObject player;

player = GameObject.FindWithTag("Player");

Prefabs

<http://unity3d.com/learn/tutorials/modules/beginner/editor/prefabs-concept-usage>

Create a base object that can be instantiated (e.g., missiles – edit the prefab to edit all missiles in the scene)

Create a prefab – drag an object to a folder (preferably 'Prefabs') in the project

Edit an instance

Drag a prefab onto the scene and make changes

Revert / Apply – undo changes to an instance or apply to the prefab (all instances!)

USE PREFABS GENEROUSLY

Saves memory, can speed up rendering and loading times

Build and player settings

<http://unity3d.com/learn/tutorials/modules/beginner/editor/build-player-settings>

File> Build Settings

- Make an executable version of your projects
- don't forget to add the scenes you want.

Build Settings uses 'Player Settings' to determine rendering settings (e.g. resolution)