

Name:

Date:

Period:

American History Grade 9

GETTING STARTED: Follow along in this handout while you complete the tutorial from the link below. You will be using what you learn to create your own level. Save often, but only once you understand the steps to progress in the tutorial. Disclaimer: All images were created by the teacher and screenshot from Unreal Engine 4.

Unreal Engine Tutorial: Level Designer Quick Start Part 1

https://docs.unrealengine.com/latest/INT/Engine/QuickStart/index.html?utm_source=launcher&utm_medium=ue&utm_campaign=uelearn

Questions to help you practice can be found in red text. These questions should be answered in the “Questions and Screenshots for LDQST” handout.

NOTE: “Ctrl + z” on your keyboard is used to undo your previous action. When in doubt, use the undo command to return to a familiar direction.

Your goal in this tutorial is to design a level similar to the image in Figure 1:



Figure 1: Example Level Created in Unreal Engine 4

Objectives

After completing this tutorial, developers will know the following:

- How to navigate viewports.
- How to create a new level.
- How to place and edit actors in levels.
- How to build and run levels.

Section 1-Required Setup

1. Open the Epic Games launcher:



2. Click LAUNCH to begin your level design:



****Name your project similar to “Your First Name Initial_Your Last Name_LevelDesignerQS” (ex. N_Pant_LevelDesignQS). Your project title cannot be longer than 20 characters.**

3. Complete steps 1 and 2 of section 1-Required Setup of the Level Designer Quick Start Tutorial (LDQST).

4. At the end of section 1-Required Setup, your design should look similar to Figure 2.

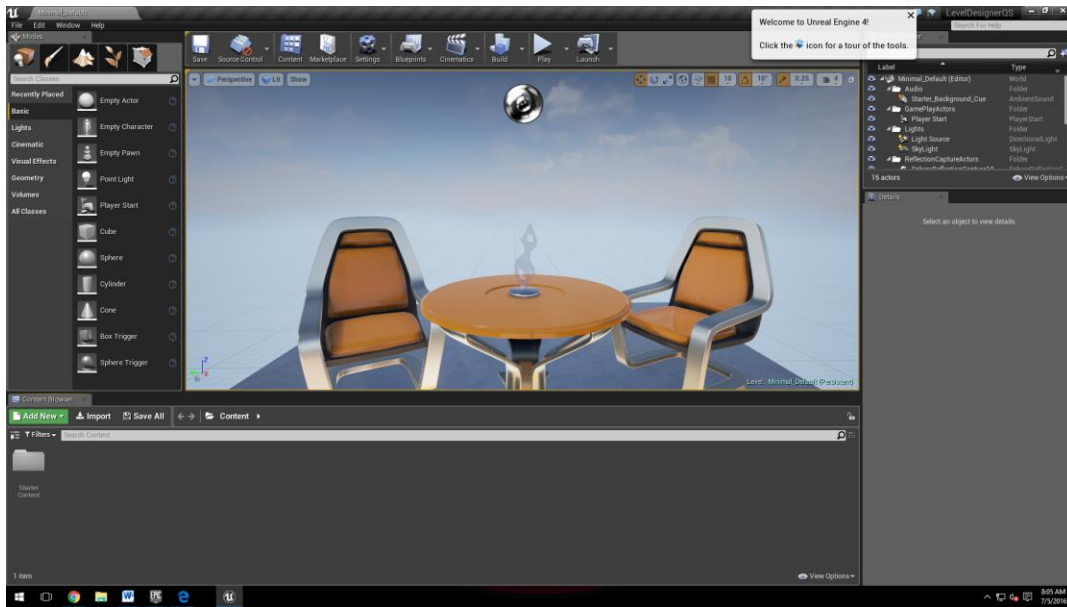


Figure 2: Design Example Created in Unreal Engine 4

NOTE: Whenever you complete the tasks on each page from the LDQST, click [Next Step >](#).

Section 2-Navigating the Viewport

5. Follow the directions from section 2 of the LDQST.

6. Practice becoming familiar with the navigation and viewport controls.

7. At the end of the second section, your design should still look similar to Figure 2 above.

Section 3-Create a New Level

8. Complete step 1 of section 3 of the LDQST.

To add a new level, you may need to go to FILE → NEW LEVEL. This will give you the “New Level Dialogue Window” (Figure 3) that the tutorial mentions.

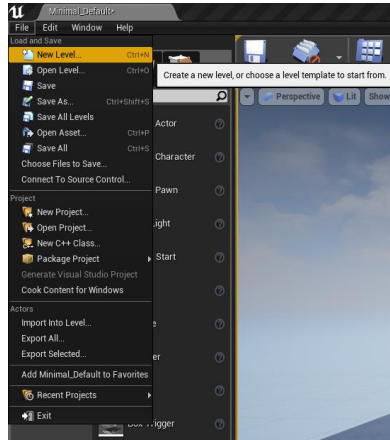


Figure 3: New Level Dialog Window

9. Complete the third section of the LDQST. At the end of the page, your design should look similar to Figure 4.

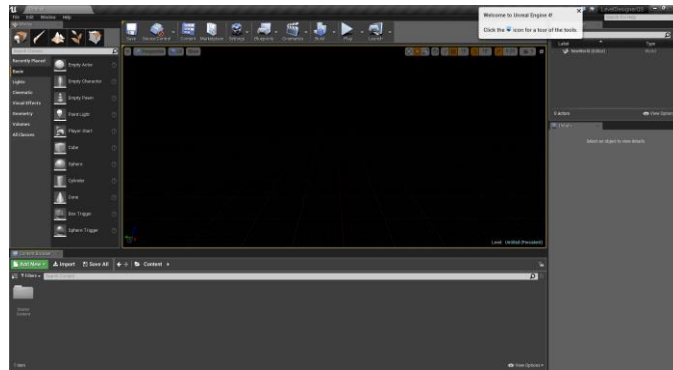


Figure 4: End of LDQST Section 3

Section 4-Placing Actors in the Level

10. Next, you will be adding Actors. **Before you follow the tutorial, read what Unreal says about Actors below.** More information can be found by clicking the “Actor” link from the LDQST.

- An **Actor** is any object that can be placed into a level. Actors are a generic Class that support 3D transformations such as translation, rotation, and scale. Actors can be created (spawned) and destroyed through gameplay code (C++ or Blueprints). In C++, AActor is the base class of all Actors.

- There are several different types of Actors, some examples include: StaticMeshActor, CameraActor, and PlayerStartActor.

- No matter the type of Actor you are using in your level - be it a light, a Static Mesh, a Particle System Emitter Actor, or anything else - you will need to know a few basics on how to create and manipulate them in your scenes.

- This involves a few integral tasks: placing Actors, selecting Actors, positioning Actors, and modifying

Actors. In other words, to create a level, Actors will be placed into a map, moved around to create an environment, and their properties will be modified to cause them to look or behave appropriately.

11. Step 1 of the LDQST asks you to select BSP. This may not exist in your version of Unreal. Instead, select GEOMETRY to get to BOX (see Figure 5).

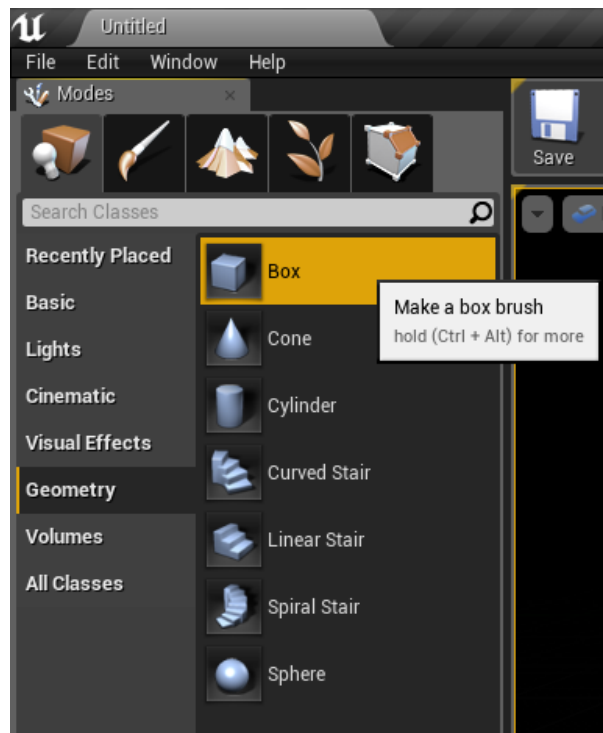


Figure 5: BOX

12. Complete steps 1 through 6 of the LDQST. If your directional light actor does not have the gizmos as shown in Figure 6 (with arrows), you need to select the MOVE Tool. This is done at the top-right of the viewport screen or by pressing the “w” key.

Hint: If you hover your mouse over a tool, a description will pop up.

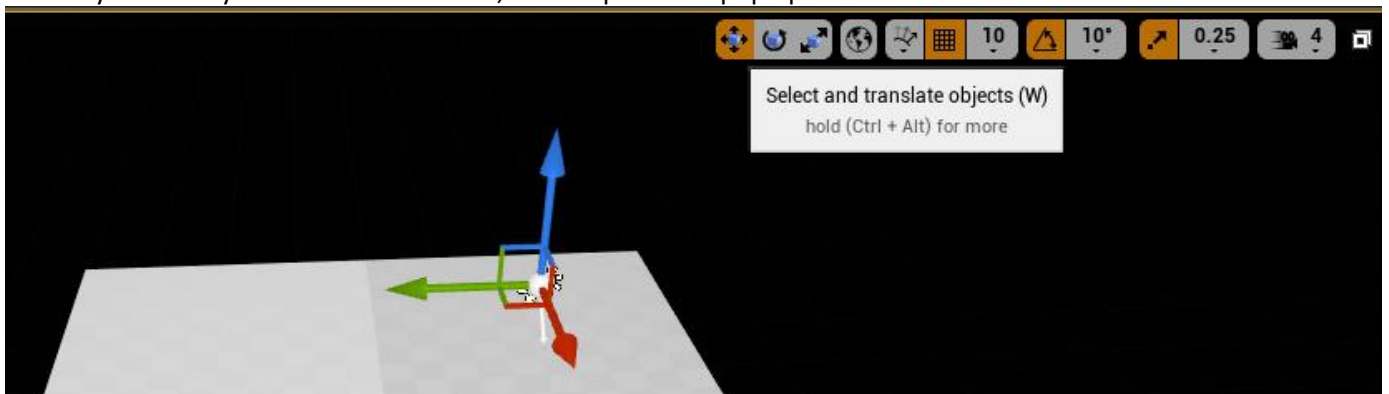


Figure 6: Gizmos as Arrows

NOTE: You will eventually use all of the TRANSFORM CONTROL TOOLS (see Figure 7) but for now, focus on the MOVE Tool.

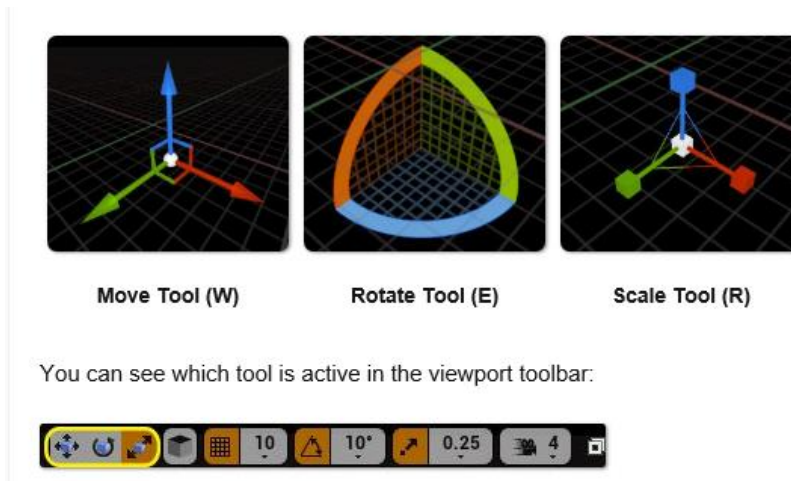


Figure 7: Transform Control Tools

13. Now that you have an actor, continue to practice using your navigation controls. While holding the “Alt” key, hold the right mouse button (RMB). You should be able to rotate the viewport around your selected actor (Directional Light).
14. **What happens with the ALT + LMB command?** Become familiar navigating in the Viewport Screen.
15. You can also familiarize yourself with the different gizmos. Practice moving the directional light actor by dragging the different colored gizmos. **What happens to the actor when you drag the blue, green or red arrows?**
16. Locate the details panel and notice what happens to the location of each axis when you drag the gizmos.
17. Practice alternating between moving your actor and using the “Ctrl + z” command.
18. **Can you use the gizmos to place your actor at the coordinates Figure 8 shows below?**

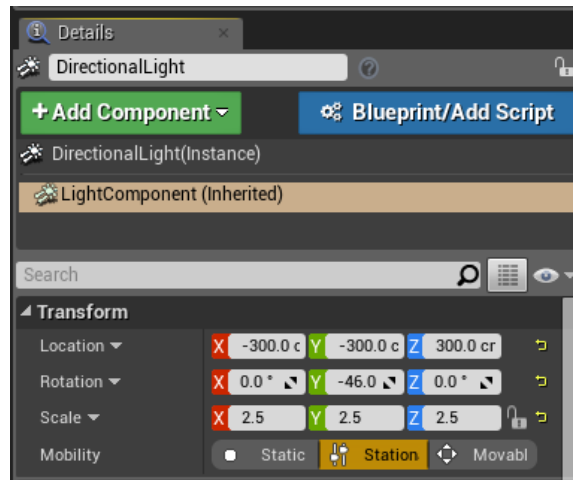


Figure 8: Directional Light Coordinates

19. Complete steps 7 through 12 of the LDQST. When you add the SM_TableRound Actor Prop, and try to center it in the middle of the floor, make sure that you are in the correct TRANSFORM CONTROL TOOL. Revisit step 12 in this document to learn how to select the MOVE Tool.

20. Complete steps 13 through 16 of the LDQST. Once you add the SM_Chair Actor Prop (see Figure 9), practice using all 3 TRANSFORM CONTROLS. ****Be sure to use the undo command after each action until you get the hang of it.** The chair and table must be at their default size before continuing to the next step. **What happens to the chair when you drag the blue, green and red arcs while using the rotation tool?**

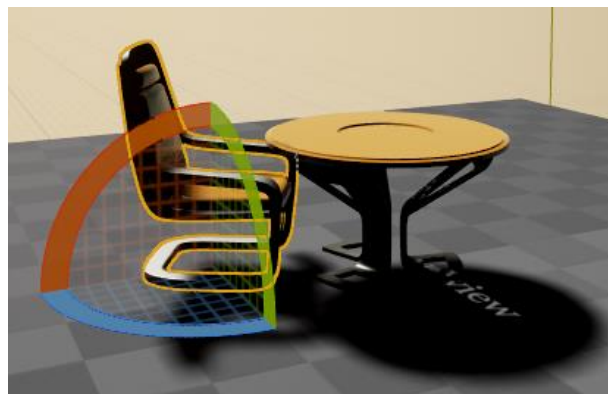


Figure 9: SM_Chair Actor Prop

21. Before adding more actors to create an original scene (step 16, section 4 of the LDQST), your level should look similar to Figure 10 when zoomed out.

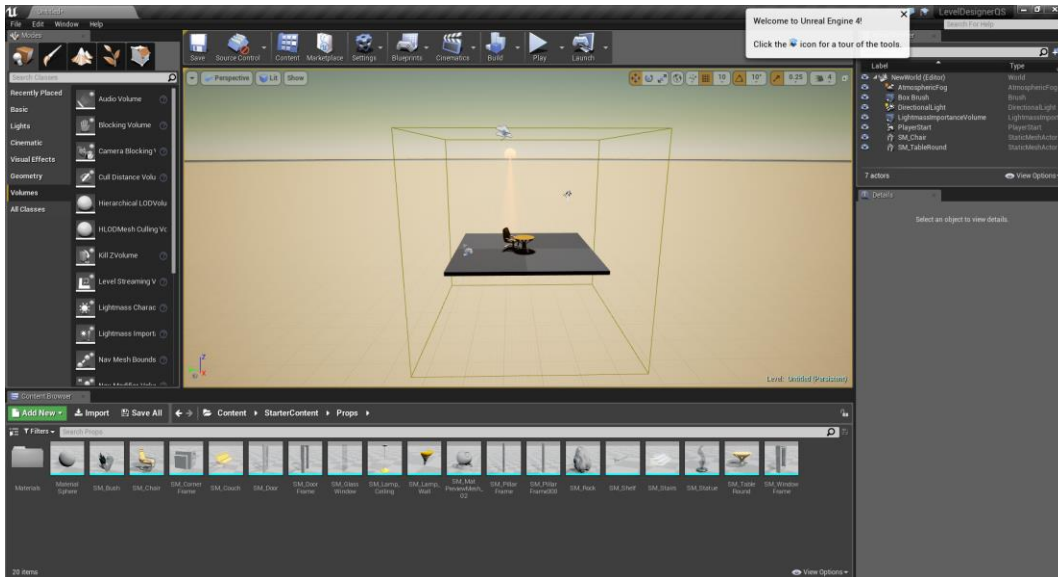


Figure 10: View of original scene before adding more actors

22. Take a screen shot, or snip, of your level before moving on to step 16 of the LDQST. Make sure your file name (top right corner) can be seen in the image. Paste it into a Word Document named similar to “Your First Name Initial_Your Last Name_LevelDesignQS” (ex. N_Pant_LevelDesignQS).

23. Using what you have learned, create an original scene as the LDQST states in step 16 of section 4.

24. Take another screen shot or two of your final scene and paste it into your Word document. Do not move on to the next page (section 5). Your final scene should look something like the example from Unreal in Figure 11.



Figure 11: Unreal room example

25. How did you decide what actors to use and where to place them?
26. How did you incorporate detail? Did it improve your scene? In what ways?
27. In what ways can this scene be used in your American History Project?

END TUTORIAL Part 1 after section 4-Placing Actors in the Level of the LDQST.
