Module Seven – Project Reflection

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CS-330

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*Justify development choices for your 3D scene. As you write, think about why you chose your selected objects. Also consider how you were able to program for the required functionality.*

The curriculum lays out most of the big development choices. Such as the choice to use OpenGL, the given libraries, and the type of scene to create. There were a few choices made within these constraints. An example of this was choosing to use two cubes to create a USB object. This fulfilled the need to have an object made of many primitives. Another choice was using a single vertices array to streamline development. This had the unintentional impact of creating a reusable code block. The result is a light which is a scaled down version of the full model. A final example was placing much of the navigation logic in the “camera” header file. The curriculum suggested we use this file. It contained much of the logic already required. Extra camera logic went into this file rather than the “source” file. This choice resulted in more organized code.

*Explain how a user can navigate your 3D scene. As you compose your thoughts, discuss how you set up to control the virtual camera for your 3D scene using different input devices.*

The input devices chosen in the curriculum were keyboard and mouse. The mouse controls where the camera is pointing and how fast the camera can move. The keyboard was set up to control the movement of the camera and the view mode. For example, the “source” file contains the “UProcessInput” function. This function waits for the user to press specific keys. It then passes that info to functions in the “camera” file. In this file, the “ProcessKeyboard” function drives how the camera should respond.

*Explain the custom functions in your program that you are using to make your code more modular and organized. Ask yourself, what does the function you developed do and how is it reusable?*

The “ChangeView” function allows the user to toggle between perspective and orthographic view. This has a modular benefit but is not a reusable function. A function that should exist is a “LoadTexture” function. The code used to load textures was identical and repeated three times in a row. The texture paths could pass into a single function. This function could load, save, and bind the textures. This would be modular, reusable, and more efficient.

References

*Learn OpenGL, extensive tutorial resource for learning Modern OpenGL*. (n.d.). <https://learnopengl.com/>

*Docs.gl*. (n.d.). <https://docs.gl/>