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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.*

My scene was a bit of an interesting one. Instead of a large collection of multiple objects I decided to focus on one object that was made of many different shapes and sizes. This required a little bit more planning when it came to object placement. There are also some objects that are noticeable in the background of the original reference image. When recreating the scene in 3D I decided to add a few of these objects into the background as well. Potentially a DOF method could be updated allowing the user to recreate the original image if they so pleased.

**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.*

It was important to me that it felt comfortable to navigate around the scene. I wanted it to be easy to look at small pieces and move around at a speed that could be adjusted as needed. This led me to using the scroll wheel as a speed adjuster. It made popping in and out of the scene to make small adjustments so much easier. I also kept the ability to zoom in and out in the application. Holding the ‘z’ button and scrolling allows for this. Currently, the application is written in a way that only allows for the use of a traditional keyboard. I use specific calls like GLFW\_GET\_KEY\_LEFT\_SHIFT. If I were to use a controller it would not be plug and play. I would have to go in and manually add these options for any additional input devices. I believe there could easily be a better way to go about this in the future.

**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?*

When writing the render loop, I tried my best to re-use as many times as I could. This was textures, models, and positions. Looking back now, I could have easily created a method to improve the efficiency of placing multiple objects. By the time the final project had come around though I sort of just had to work with what I already had. Knowing what I know now though, I would certainly make a lot of changes to the workflow and modular aspects of the code.