**CS 330 7-1 3-D Scene.**

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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 scene I selected was my front yard, it included items like a brick line around the back portion of the yard near my porch, it had several pots with different plants within them, then it has a large bush in the front area of the yard. I chose this scene due to its complexity, as it’s mostly nature with a few human made objects within it. These all combined made for a complex environment with multiple different shaped and sized items, and as I wanted a challenging scene with different sized object different looking textures and shapes that weren’t perfect these was the best scene I could think of.

***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 user will be able to navigate throughout the environment with the W, A, S, D keys to go forward, left, back, and right in addition to the Q and E keys they can go up and down in relation to where they are facing. These all manipulate the camera within the environment and work with the user input through the mouse position function for the user to manipulate where the camera faces allowing them to travel around the environment with full control. The user can also modify the environment to see different views from the normal view to a orthographic view of the scene by selecting either O or P, further they can see the polygon vertices by selecting the left or right on the left or right arrow keys changing from normal view to seeing the wireframe of the shapes, finally the user can also modify the light sources from “sun” above the scene to the “lamps” around the side walk by pressing the bracket keys allowing for multiple light sources and intensities to see the scene in different times of day.

***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?*

I made sure to add in comments and notes for my self through out the project, these allowed me to understand at a glance what I have written and also allowed me to troubleshoot and recollect my mind set far easier than trying to just memorize when and why I did different parts of the project the way I did. I made sure to separate the portions of code to make it easier to distinguish what line interacted together and make it easier to read and locate new areas to write in without causing issues. The difficulty and precision need for this project made it clear that clean and readable code was very important to ensuring any successes I have in the future when writing code weather by my self or with others.