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CS 330 Comp Graphic and Visualization

Reflection

For my project, I am created a 3D image of the dark blue box, white octagon case, pink circular case, and white and black makeup tube. The reason why I chose these objects is because of my familiarity with the shapes and colors which I can picture in my head how to form these objects. In addition, these objects also provide a dynamic in terms of size, shape, and depth where I was able to implement different functions for the project.

The user can navigate my 3D scene using the following:

* “W” key to move forward.
* “S” key to move backward.
* “A” key to move left.
* “D” key to move right.
* “Q” key to move upward.
* “E” key to move downward.
* “P” key for perspective view.
* “O” key for ortho view.

Users can also use the mouse cursor and scroll to navigate in different directions. To allow for navigation in my 3D scene using different keys, mouse scroll, and cursor, I utilized the GLFW library which allowed me to connect to the camera header files where the specific camera functionalities were coded. In my main CPP file, I defined a camera variable, set up my camera view, and created different functions with the implementation of the keys and mouse movements to allow for navigation in different directions.

I declared variables for each of my texture, object color, and object position. By doing this, I am able to give attention to each of my objects and perform necessary modifications without affecting the others. In addition, I coded all vertices for all my objects under one GLfloat function so with descriptive comments to specify which object belongs to certain vertices. This way was easier for me because for me I was able to navigate to my objects easily instead of having to jump from one file to another. I changed my background color to orange so that it gives a brighter illumination to my overall scene given that my original picture had a bright tint. For my shader, I implemented a key light and fill light with white color that provides enough intensity to highlight the colors and shapes of my objects. I created two light sources with key acting as a light bulb in a room that provides a subtle illumination. The fill light was implemented to cover angles that are not visible. Overall, I think I need improvement in improving my efficiency in coding because there are always other ways to create different objects where coding hundreds of triangles is not required. One of the biggest thing that I learned from building my project by writing a lot of code is being able to utilize new and different functions. I was also able to utilize my advanced mathematical skills to create my objects. This project has been a challenging but overcoming it was definitely an accomplishment.