Project

CS-330

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The scene that I chose to select for my development work in this course, depicts a study desk with some typical objects on it. These objects are things such as a laptop computer, pens and pencils, as well as a coffee mug. I chose this image because I felt like the shapes were well-represented within OpenGL, and I would have the ability to easily work with these base shapes. Choosing a more basic image gives me the opportunity to really focus on the quality of the texture, lighting, and camera perspectives, instead of having to create complex shapes to just fulfill the basic requirements. Being able to work through each step, one at a time, helped me to really understand how to tie every aspect of the image together. Starting from just creating a basic foundational shape and moving to texturing, lighting, and movement, created a much better flow and greater depth to the image. Incremental coding made the task much easier for constructing the entire image, as it could be built up layer by layer.

I was able to enable the user to navigate the environment using GLFW keyboard input. To do this, I incorporated UProcessInput to also handle the w, a, s, and d keys for basic camera movements, in addition to the esc key to handle terminating the process. The user can utilize mouse movements and keyboard inputs to navigate the environment. Doing so, the user can alter the camera vertex and viewpoints, so that they can explore the entirety of the 3D image.

In my code, I have made sure to employ many different functions and capabilities. Creating baseline functions for things such as texturing, lighting, sizing, and perspective allows me to apply each one individually to different shapes within the image. If I can create a modular and reusable function for each unique component in the image, these can be transferred between objects, with their individual characteristics altered to match the desired output. This makes the overall process easier to handle and creates the opportunity to design and create more complex images, without having to spend an excess of development time. The way that I created the image incrementally, allowed me to reuse the same code and just make adjustments depending on the iteration and the progress.