Zach Fizet

CS-330

Final Project Reflection

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For my scene, I attempted to replicate a scene that I had set up in my kitchen using various utensils and objects from my kitchen. To describe the scene: a cutting board was used as the base for the scene. On that cutting board, I had placed a utensil holder, a coffee mug, and a wooden spoon. The utensil holder contained a ladle and a wooden spatula. I chose these objects because I felt these objects would be somewhat easy to replicate as a completely new user to OpenGL and OpenGL practices. When developing my scene, I utilized a few different simple objects to replicate the objects from reality. The objects I employed in my scene were: boxes, a torus, cylinders, spheres, and a couple of plane objects. The boxes were used for the cutting board and the handles for the utensils in the scene. The spheres were used to replicate the half sphere of a ladle and the top of a wooden spoon. The cylinders were used for creating the utensil holder and the coffee mug. The torus was used to create a handle for the coffee mug. I chose these objects because I felt they were the best objects to use and manipulate to reflect their real-life counterparts.

The user can navigate the scene I created using WASD on their keyboard, as well as Q or E to move up or down in the scene, respectively. The user can also utilize their mouse to change the direction in where the camera is looking by simply moving their mouse around the scene. Additionally, the user can scroll up or down to alter the speed in which the mouse travels using WASD. This might make it easier to navigate the scene for the user, depending on what they’re looking to do when navigating the scene. Lastly, to change between orthographic and perspective views, the user can press P for perspective few, and O for orthographic view. These views provide distinct viewpoints in which the user can view the scene.

The custom functions used in my program that I am using to make the code more modular and organized are primarily the RenderScene and PrepareScene functions. The prepare scene function allows for the loading of lights and different objects to be used in the scene. The PrepareScene function also allows for the loading of textures that are specified in another section of the code. The RenderScene function allows for the drawing and manipulation of objects. This is where the bulk of the work is done in the code, as each object’s parameters are outlined in this function. In an effort to create uniformity and organization within this function, I used the exact same structure when creating each individual object, as well as utilizing detailed comments for each part of the code, allowing for greater readability and replication were another user to come and change any part of that code. At the end of each object within the RenderScene function, ample spacing was utilized in order to increase readability and to make it clear where one object ended and another began. Also, at the beginning of each new object, I ensured to comment what object this block of code was utilized for. For example: at the beginning of the block of code used to create the cutting board object in my scene, it is clearly commented that this specific mesh will act as the cutting board for the scene. I did this because otherwise you would have to scroll to the end of that code block to see what mesh was being drawn and would have to assume what it was being used for. By commenting the object at the beginning, this clarified for the reader what object was being created, as well as what kind of parameters that object contains.