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Before I could start creating a 3D scene, I had to find a reference picture to recreate. I looked for a room on Wikimedia Commons and found a computer lab. A desk, computer, chair, and a trashcan are all placed next to each other and so were the most convenient choice for showing off my OpenGL abilities.

The scene was first created during the third milestone which consisted of cubes that formed the shape of a desk. The cubes were generated by creating a vert and indices array. The indices were put into a buffer and rendered onto the screen using GL’s draw elements. This method proved effective for a mesh with colors but will be replaced with alternative methods for the textures and lighting. It was around this time I encountered a problem with how I was going to keep track of the shapes in the scene. The tutorial throughout the class only considers of one mesh while the final project will need multiple meshes. I decided to use a vector of meshes and to render them through a loop which was easy to implement at the time.

User Input were completed during milestone four and not touched upon ever since. The virtual camera used is created by “LearnOpenGL.com” which handles the creation and movement of the camera. Implementing it into the milestone required binding OpenGL to local functions that read the input and ran the process input through the camera. Other than that, the scroll wheel had to be changed to affect the movement speed and not the field-of-view.

Back to updating the desk, milestone five foresaw the textures. Although a simple task, this replaced a lot of the cube creation code as it then became rendered through draw arrays. There weren’t many changes to my render function as a simple loop seemed to suffice.

The lights of milestone six were where everything came crashing down. I had to rethink my whole render function and how I want to create shapes. Seeing as the final project happens next week, I coded like a true barbarian and rammed a lighting system into my texture system and called it a day. By messing around with every part of code, I felt like I started to understand the previous milestones a lot better.

Ever since milestone four, I assumed I was going to build upon a system and create the final project with it. Rereading my milestone six, however, made me rethink how redundant and unoptimized the code has become. My C++ skills has improved a lot and with that, my understanding on variable names and syntax style. The final project would be a refactored version of module six using all the knowledge I built up along the way. Before then, I only had a desk built. The other three objects would be created, textured, and placed into the 3D scene for this milestone. I created two local functions for this milestone, add counter and create texture. Create texture was created since each object will use their own texture that would be saved onto the mesh data that is in the mesh vector. Add counter is for a circular loop used in my cylinder calculation as I wanted to generate each shape using draw arrays. Because following the circumference of a circle circles back to the original point, add counter was used to now overflow the array.