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CS 330

For this project, I used the reference of a window AC unit sitting next to a wooden frame. This was a very natural scene with no special or complicated lighting, just general ambiance. I think the real star of the scene is the AC which is composed of multiple shapes assembled together. We used cones for the AC dials, a box for the actual machine, and multiple shapes stacked on top of each other to represent the vents. The wooden planks were meant to reflect the reference photos 'casing' of the ac, for this i just long boxes and applied a wooden texture. For the actual AC box I imported a plastic texture. I think these were really good and accurate reflections of the material in the real world. As such I think the lighting diffuses appropriately against what it touches.

To navigate the scene there are multiple controls, wasd moves the camera, as well as q and e. Scrolling on the mouse wheel accelerates the camera's movement, and general movement of the mouse affects the camera on the scene. You can view the box and the wooden supports in a 3d scene, and how light and shadow reflect off of them based on the plane the light hits the objects.

To keep the code scalable and reusable a lot of the functions in the code generate individual pieces of the scene, the shapes, lightning, texture, camera are all separate parts, so you can edit and refine one section without damaging other unintended aspects. Even within these subsections, our AC is one section of code, the vents are another, the dials on them are another, so each piece of the puzzle connects but isn't reliant on another. The wooden planks are also

individual creations in lines of code. This allows them to be tested individually and was used a lot in rendering the scene desired. For instance you would align one wooden plank, then tweak the height, width, and position of the other to make them connect properly. You could completely change the second plank without affecting the other at all, and this is simply just good code practice that could be further implemented in future projects or more within the same project.