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Project 5: Render Your Scene with Primitives

CST – 310 MWF320A

Project 5: Render Your Scene with Primitives

New Objects Rendered to Add Realism:

1. Fan Reflection on TV:
   1. This helps the tv look more like the original because before it was just a black screen when the original picture was not.
2. Chair and Table in Bottom Left Corner:
   1. This makes the picture seem more realistic because of the perspective on them, they appear as though they exist outside of the picture. Like they extend outside the image.
3. Plant:
   1. This make the picture seem more realistic because the plant’s shape is more organic than anything else in the image.

Transformations:

I did not have to add any transformations because of the technique I used in rendering my objects.

Mathematical Characteristics and Approach to Rendering:

1. TV:
   1. The TV was mainly just OpenGL QUADS overlapping each other.
2. TV Stand:
   1. The TV was also just OpenGL QUADS in different ways to make the frame. The inside of each shelf was more complex but to achieve those I used OpenGL POLYGON shapes to create the shape of each shadow.
3. Box on top of TV Stand:
   1. The box on top the tv stand was simple. This was just a few QUADS and POLYGON’s in different ways.
4. Box on First Left Shelf:
   1. This object was lighter color than the others, so it needed some organic and bigger looking shadows. To achieve this, I used POLYGONS.
5. Box on First Right Shelf:
   1. This box was difficult because there is a design on it that required a very complex POLYGON shape that I never actually made perfectly match the original picture.
6. Box on the Second Left Shelf:
   1. This object was mainly QUADS shapes
7. Lamp on the Second Right Shelf:
   1. This was my favorite object to code; it looks the best. To create it I used a combination of QUADS and POLYGON’s.
8. Box on the Last Left Shelf:
   1. This box was similar to the one on the second left shelf. To create it I just mainly used QUADS.
9. Boxes on the Last Right Shelf:
   1. These were a little more difficult to create because their colors were dark, and one has a unique shape. But to create these I used QUADS and POLYGON’s.
10. Books/DVD’s on Middle Left Shelf:
    1. These were complicated only because there were so many of them to create. But because they are books/DVD’s, it was easy to create them with QUADS.
11. Fan Reflection on TV:
    1. The reflection was difficult because the shapes are very “eye-balled” from the original picture. To make this easier I created these shapes with sharper edges and corners than in the original image.
12. Chair and Table:
    1. These were really easy objects to add. All the shapes were made using QUADS and POLYGON’s.
13. Plant:
    1. This was the most tedious object to create because it’s the most organic looking. To create it I used POLYGON shapes and layered a ton of them until it looked like foliage.

Explanation of Shaders:

I did not use shaders in this project. I didn’t because my project isn’t actually rendered in 3D. Which means shaders wouldn’t have done anything to my project.

Camera:

The camera is looking dead on the original picture. Because of how I created it the camera can’t move because there is nothing beyond it, meaning there isn’t really a diagram for it.

Screen Shots:

A close up of a screen

Description automatically generated



A flat screen tv sitting on top of a television

Description automatically generated