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Final Project Report

My final project is built using the files and code from project 6, with adjustments to some

other files such as TexturePrject.h and .cpp. The inspiration for my final project is my very own

living room but with some additional objects to make it more esthetically attractive. There are

many objects in my living room, and implementing them would take too much time, so I

selectively choose what would make the project looks nice. I successfully implemented a black

L-shaped sofa, speakers, TV, coffee table, cup, teapot, display cabinet, multiple drawers,

Roomba, and many paintings. To make the walls, I simply use 2 triangles and put textures on

them. Most of my objects are made using custom triangle stips and 4 triangles on top and bottom

to make a 1-by-1 square. That 1-by-1 square allows me to shape many of my objects, such as the

base of the sofa (2 rectangular boxes), the back of the sofa (2 stretched rectangular boxes), and

the rest of the cushions are made using flat-out cylinders with added textures. The rest of the

objects are made in a similar way, with specific coordinates to look good.

One new feature that I implemented was the polygon offset so that I can place the 4

paintings directly onto the wall without it having to deal with anti-aliasing. Originally I was only

planning to make objects and add in polygon offset as part of my requirement, however, as I

worked on the project new Ideas came into my head and I ended up adding 2 new features,

controllable Roomba and changing channel TV. For the Roomba, I added 4 new cases that can

change the viewing and moving direction of the Roomba. Pressing the key "Y" will move and

face the Roomba forward, "G" will make the Roomba face and go left, "H" will make the

Roomba face the viewer and go backward (toward the viewer), and "J" makes the Roomba face

and go right. As for the TV, I made the key "L" into a random number generator that generates a

number between 7 to 11, and that will feed into a global variable that changes the texture displayed on the TV. The key "K" will turn off the TV, since the texture is set to the number 100 which doesn't exist so it turns black. I also changed the button to zoom in and zoom out to "." and ",". I changed the lighting a bit to make it look better with my project and besides that everything should be the same as project 6.

I basically implemented all the ideas that I wanted on my object, except that the coffee table in my living room is S-shaped, not oval shape. I spent nearly 15 hours on this project, so I didn't want to overwork so instead, I made it into an oval shape to save time. I find all of my texture maps on google, by googling the specific image that I'm looking for. I also googled professor Sam Buss so that I can put him on the TV. I also added a little easter egg from Project 6 of professor Sam Buss's face onto a ball.