

COSC 4370 Homework 4

Sydney Pospesch PSID: 1872314

November 10, 2022

1 Problem

The assignment required the application of our knowledge of OpenGL to practice texture mapping to create an image as such:



2 Method

I started by setting the camera in camera.h. I did that the exact same way that I did for the last assignment. I then went through and worked on setting the `glPosition` correctly to make the cube at least appear. Then went over and set the color in texture.frag. Then I went through every to-do listed within main.cpp. I utilized the attached resource from the homework instructions pdf, and it was very helpful.

3 Implementation

3.1 Main.cpp

In main.cpp I began with setting the project matrix. I did this the exact same way that I did in the previous assignment. The trickiest part of the assignment was within main.cpp and was figuring out where to put what functions and calls. I knew what I needed, but finding the where took me hours to figure out. Originally I kept my call to `glEnableVertexAttribArray` where I was setting up my UV buffer. This means that I only had one line of code within my texture

binding; however, I went back and read through the OpenGL documentation provided on the instructions pdf and noticed that they placed theirs by the binding so I went back and moved it over, thus providing my finished results. Originally before I moved the statements, I was getting an ugly texture smeared cube, all of the numbers were distorted and there were spots of grey on it randomly.

3.2 Texture.vs

For this function, I started by setting my glPosition to the exact same thing that I set it for the previous homework, and then used the same syntax for the position of the cube and used it for the UV vertex.

3.3 Texture.frag

This function was the easiest out of every function we needed to edit. For this I followed the OpenGL tutorial and set my color equal to texture(myTextureSampler, 1-UV). The 1-UV provides a flip in the orientation of the numbers to match the sample we were given on the instructions pdf.

4 Results

