

Daily Log

Monday December 9

Took a picture of a face more directly viewed. Ran color extraction code on that picture. Realized the color masks don't work for some colors like white and green.

Tuesday December 10

Looked more into the issue, realized that the rgb color depends a lot on the lighting that the picture was taken in. Divided the colors into ranges better, so the color mask would work more often.

Thursday December 12

Found a way to automate filtering the rectangular boxes it draws based on size. This way, the only boxes it draws are around the square stickers on the cube. Originally, it also drew many really small boxes in random areas.

Timeline

Date	Goal	Met
Today minus 2 week	Finish implementing Hough Transform for Square Detection on the edge detected image, and be able to interpret the results of the output image	No, it was harder to translate the theory from pdf's into actual code.
Today minus 1 week	Finish implementing Hough Transform for Square Detection on the edge detected image, and be able to interpret the results of the output image	Yes, but didn't use hough transform and was able to draw rectangles around most of the stickers seen in a picture of the cube.
Today	Use this to find the coordinates of many points in each of the squares on the cube.	No, but was able to fix the code that drew rectangles around most of the stickers, so that it automatically filters out the too small and too large boxes, focusing only on the boxes around stickers on a cube.
Today plus 1 week	Use this to find the coordinates of many points in each of the squares on the cube. From these coordinates, find the colors of the stickers, and output the state of the cube in the data structure.	
Today plus 2 weeks	Combine this with the cube data structure T-display program to output as much of the state as possible in the T-display given an image of a cube.	

Reflection

This week, I was able to automate the rectangle drawing part of the program, so that it always drew only rectangles around squares on the cube. I faced some problems with the rgb color changing due to lighting in the pictures, but I dealt with them by changing the color ranges. This was necessary for the program to be more consistent than it was before. Now, I just need to identify the colors of the stickers in each of the boxes and translate that to the correct spot on the cube. This should be doable by identifying the top left corner of each box, and ordering them based on its coordinates.