Peyton Somerville

HW3 Report

This program is available to view online with the following link:

https://peyton-somerville.github.io/CompGraphicsHW3/index.html

Overall the assignment wasn't very difficult, but it was very tedious and time-consuming. Figuring out how to rotate and scale a shape was pretty easy, but it took a while to implement that for all five shapes. The hardest part to figure out was how to erase the previous shape. For some reason when we draw shapes with HTML canvas, the program doesn't actually know there is a shape there, it only knows that the pixels are a different color. So when I want to erase the previous shapes, I have to just redraw the shape with all of the same properties, except with the color white, which is the same color as the background so it looks like the shape was removed. This looked weird when there were other shapes around, because if I scaled one shape up enough to cover another shape, then when I scale the shape back down, it erases the other shape that got covered. I just fixed this by only displaying one shape at a time.

The other thing that was difficult to figure out was the translation. First I needed to find out a way to know if a certain x-y coordinate is inside a shape, so the shape can be selected by clicking on it. Then I need to know when the user clicks again and where they clicked, so I can move the shape there. The translation itself was easy and just involved adding or subtracting to each point in the shape, but it was a pain to deal with all of the coordinate stuff.

Extra credit features: Users can rotate both left and right, as well as choose a rotation degree. The users can also scale both up and down. Users can also reset the canvas.