Week 3

We continued to watch Matlab videos on Udemy that were for free. However, we wanted a course that was longer than just an hour and a half. Therefore, we used YouTube. We thought we wouldn't find anything useful because there isn't a way to build up a foundation. We would constantly have to watch videos that only have to do with things that we want. In other words, no video is going to completely give us the results we want. We have to gain some knowledge first and apply that knowledge to alter some code that we watch on YouTube to have it output what we imagine it. Matlab is not as popular as other programming languages, but it's good enough to have some videos out there to use. Matlab is easy to adapt to and the features it has to make it such a wonderful programming language to learn. We can create bar graphs, manipulate images, create 3D plots, do some interesting things such as have it detect your fingers, or face. It can be used to help create a more secure system as it can be used as an alternative way to lock a device.

On Tuesday 11/14, we had the 3D cluster up and running, the bar graph, and the image manipulated. Not only did we get out a program to did we get the bar graph to display the original image, but we also got it to show up for the manipulated image. Underneath both those images, we had the bar graph displayed on both the original and manipulated images. What we did after that was we took both the original and the manipulated image and did some calculations to find the difference between the two graph results. With results of the differences, we created a separate bar graph showing the variation of the number of colors from the original to the manipulated. The difference values were absolute, meaning the chart does not graph below 0. It would just take the most significant amount of one of the graphs and subtract it from the other. Below the bar graphs, we included one 3D figure. The graph displays 100 pixels. It presents the results obtained from the difference.

Finally, on Wednesday, we met up with Professor Martin. We showed her out finished product for the image portion of our project. We showed her the image manipulated, the bar graphs, and the 3D graph. She told us what we should do from here on out. She mentioned that we should look into some API’s, have the code converted to JAVA, and to look into the app called Disney Animated. Just after we were about to leave, she gave us Arduino boards that we can use for our project after we get the video portion done.