Final Project
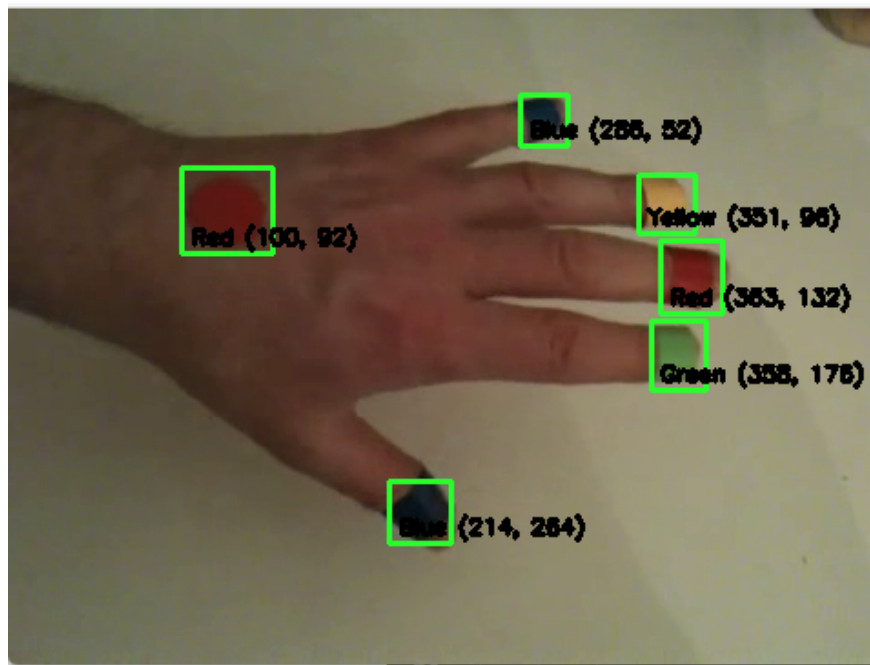Matthew Langlois - 7731813
Dec 3

Goal

As seen in the lab manual the goal of this project is to track multiple objects in a video by using their color, shape and movement information.

Procedure

1) Place all mp4 videos in the `videos` directory.

2) Run the program using `python3 project.py`

3) Videos from the videos directory will begin running through the motion tracking.

Output

When the procedure is followed the output video will be displayed in a frame on the screen. The output will be similar to:

Notes

This project required making use of multiple labs. In the first few labs we analyzed static images for isolating specific colors. This helped me isolate the individual items using masks (such is a the colors on the fingers). Next I needed to be able to isolate using the hue of an object, lab 4 made this really easy since in lab 4 I had implemented a threshold slider to identify hue ranges for specific colors. Finally in lab 5 we needed to isolate specific objects based on their shape. This allowed me to isolate and draw a square around the objects.

To assist me in this project I made use of https://www.pyimagesearch.com/2015/09/14/ball-tracking-with-opencv/ which was a tutorial demonstrating how to track an object using contours in OpenCV 2.