To: Dr. Dean
From: Nicholas Thompson, Dustin Spencer, Avion Foreman, William Stewart, Jungihn Kim, Harrison Burch, Demetris Coleman
Subject: Weekly Status Report 4
Date: February 20, 2017

We are in the algorithm development stage. We are still working on getting the supercomputer to run training sessions. It has completed one training session using images of size 20x20. We tried to run a trial using 100x100 images, however the program seems to get stuck at a certain point. Therefore, we are now going to try a trial using 40x40 images.

Last week, on Monday, we worked on figuring out how to get power to the raspberry pi. Demetris and Dustin were trying to install the necessary software on the supercomputer in order to run the trials. On Wednesday: We believe we solved the raspberry pi power problem. We spliced a 5V wire that was supplying a simple coax to HDMI converter and ran the new splice to the raspberry pi pins. Before we were trying to power the pi by using a micro-usb cable. However, the cable caused a voltage drop of about 1.1 V, so we were only delivering about 3.7 V to the pi when it needs 4.8-5.2V to run properly. We tested the voltage drop and current delivered using a DC power supply and multi-meter. We will still need to make sure both components, pi and HDMI converter, can operate with the splice. We still need to solder the connections and shrink-wrap them. Also, Dustin and Demetris worked on getting the supercomputer to run our training program. We also took pictures of markers to use for one of the training trials. After we run some training trials we will compare them and choose the best one. We will need to go back to the aquatic center to record people swimming with markers on them. We will use these videos to see how our tracking algorithm works. We believe that using markers as the object for tracking will increase the accuracy of our tracker.

In the past week, we figured out how we are going to power the raspberry pi. We were able to get the supercomputer to create one .xml file, however it was the same trial we ran on Dustin's computer. We need to get the supercomputer to create an .xml file using larger images for our tracker to be more accurate.