To: Dr. Dean
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Subject: Weekly Status Report 8
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We have decided on our tracking and control algorithms, but we are still tweaking the codes to improve their functionality. We are beginning to start on the hardware integration aspect of the project. We got the shop to install the raspberry pi into the cart and we are working on installing the PVC camera arm assembly.

Last week we got the raspberry pi installed in the cart and also tested the entire system. Testing in the senior design room (without the robot on the tracks), we were able to get it running as desired. We used a monitor to see what is being tracked and also the values that are being sent to the motor. We modified to the tracking algorithm to get rid of some of the false positives we were getting in the frame. We did this by creating a variable for the minimum radius of the tracking circle. Currently, we have the minimum radius set at 20 pixels. (This will probably need to be modified once we obtain the pink belts from Wendi). This has increased the accuracy of our tracking. Last week we also tested the entire system on the track. We were able to get it to track a shirt up and down the hallway while walking slowly. However, the cart would oscillate while it was tracking. We will need to tweak the speed range and motor values to try and solve this problem.

Last week we made big strides in the project. Getting it to track a pink shirt, albeit slowly, was major progress. We ran into a problem when we ran the picamera cable through the steel pipe into the cart. The steel pipe was causing interference in our cameras picture. We covered the picamera cable with electrical tape to try and insulate it from the steel pipe. This seems to be working. As mentioned before, we will continue to tweak the tracking and control algorithms until the system runs optimally.