

Journal Report 7

10/13/19 - 10/27/19

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Period 2, White

Daily Log

Tuesday October 15

Ran the `sudo apt-get update` & `sudo apt-get upgrade` commands on the Raspberry Pi. This ended up running for a couple of hours. In the remainder of the class period I researched ways to integrate code for the motors with the Raspberry Pi.

Thursday October 17

Continued the installation of OpenCV. I am installing the dependencies for OpenCV before unzipping and installing OpenCV itself (following tutorial from <https://www.pyimagesearch.com/2018/09/26/install-opencv-4-on-your-raspberry-pi/>). Got virtualenv up and ready and created a new Python3 OpenCV virtual environment to continue installing things onto in the future.

Monday October 21

Synced with Khushi in the printing of her chassis. Read and researched some articles on the wireless transmitting of information from the computer to the Raspberry Pi.

Tuesday October 22

Continued to install dependencies for OpenCV. Encountered a certificate verification error regarding the `piwheels.org` site, and looked up the reasons for this error. Tried a variety of different commands (i.e running the install with `-trusted-host`) but the problem didn't seem to be remedied.

Thursday October 24

In the beginning of class, I decided it would be more efficient to leave off the packages that suffered from the certificate verification error. I moved on with the install and was able to get OpenCV onto the Pi. During the second half of class, I synced with Dr. Gabor on our project. He mentioned that many other groups have similar research projects in the sense that they need to integrate cameras with motors with computers, and informed me of a couple of people I could reach out to.

Timeline

Date	Goal	Met
Today minus 2 weeks	Set up Raspi + begin to obtain a sequence of images taken from consistent angles to run my code through during testing phases	Yes, I completed setting up the Raspberry Pi and am working on the image sequence.
Today minus 1 week	Research and set up camera	Yes, I completed setup of the camera
Today	Install OpenCV and write basic program using camera	Yes, I completed the install of OpenCV, but didn't get the chance to write a program
Today plus 1 week	Wirelessly obtain video feed from phone to computer	
Today plus 2 weeks	Wirelessly send signal from computer to the Raspberry Pi	

Reflection

I completed the Raspberry Pi OpenCV install, but haven't had the chance to test the successful use of the program yet (finished installing after the end of the period). After speaking with Dr. Gabor, I have a better idea of how the final setup of the Perplexus Solver will look like with regards to the computer, camera, and Pi working in tangency. I plan to spend the next couple of weeks working to set up a interface between the Pi, Camera, and my own Computer that will allow data to be transmitted between the three. I updated Khushi on my conversation with Dr. Gabor and we hope to have our chassis printed in the upcoming weeks as well.