

## Weekly Status Update - 10

### Team Members:

Calvin: Communication lead, meeting facilitator, and hardware/software dev  
Sam: Communicator, meeting facilitator, and Software Engineer  
Mitchell: Technical Lead  
Douglas: Hardware Lead

### Past Week Accomplishments:

Acquired Raspberry Pi Camera and Intel Compute-stick, as well as calculated approximate remaining budget. Marked parts for machining. Two of each PCBs have been soldered, excluding logic shifter PCB as only two chips were ordered and the board requires both of them, and finished construction on motor controllers for testing.

The Raspi camera was connected to the raspi. The neural network for classifying images is now up and running on the pi. The neural network uses the MobileNet\_V2 architecture that is already pre-trained on imagenet. Currently only stills of the camera are transmitted over websocket with the predicted object's names as text displayed alongside it. The decision was made to not stream full camera video at the moment because the Raspi is already running low on resources and the streaming would not help with that. Tensorflow also continues to be buggy on the raspi and will often segfault, a complete reinstall of the Raspbian OS may be needed. The intel movidius is also not compatible with any of the Keras image classification neural networks, several hours were put into getting it to work but ultimately did not work. We are considering moving away from the Raspi because we need more computational power.

### Individual Contributions:

Team Member	Contribution	Weekly Hours	Total Hours
Sam Westerlund	Finished working on the software for the part of this project. Got the neural network working on the pi and camera streaming	20	65
Calvin McBride	Finalized weekly reports and website	2	42

	updates for end of semester. Prepared to start machining and building rover chassis.		
Mitchell Freshour	Soldered Voltage Divider, Serial Splitter, and Logic Shifter PCBs. Assembled motor controller and motor for testing.	4	47
Douglas Kihlken	<i>[Douglas has not communicated his status for this week.]</i>		

Plans for Coming Week:

Calvin will get ready to start building the mars-rover chassis over winter break and focus on semester final presentation and documents.

Mitchell will test soldered PCBs and conduct calibration and testing on motor control units in accordance with provided JPL documentation.

Sam will work more on the software side. He will continue to make modifications to the software to try and make it more bug free. Sam will work on creating an architecture for autonomous navigation and a way to test its correctness and train it.