sdmay19-30: EE 448 Stroboscope
Week 7 Report
March 4 - March 10

Team Members
Katrina Choong — *Chief Hardware Engineer/Timeline Manager*
Meghna Chandrasekaran — *Meeting Facilitator/Chief Software Engineer*
Seth Noel — *Chief Hardware Engineer*
Kyle Zelnio — *Project Manager*
Jessica Bader — *Scribe/Communication Manager/Chief Software Engineer*

Summary of Progress this Report
The hardware team (Katrina and Kyle) readjusted the design for the mount in CAD and worked on printing the new mount. They also researched stroboscope possibilities to incorporate the stroboscope back into the design. Finally, they took measurements in the lab of the different machines. The software team (Meghna, Jessica, and Seth) worked to debug the system. They found that there was much more error than previously measured, and worked to find the sources of the error. Jessica also rewrote the software code to use interrupts.

Pending Issues
We were not able to decisively find the new source of error in the system or why it was so much less accurate than we found the previous week. Also the system level testing is being delayed due to issues printing the mounts.

Plans for Upcoming Reporting Period
The hardware team (Katrina and Kyle) are planning to test the new mount with the stroboscope and test the OEM stroboscope to see if it will work for a stroboscope mount. They will try a square wave with the OEM stroboscope. The software team (Meghna, Seth, and Jessica) is going to test the new software code and attempt to isolate the components of the system to find the errors.

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Katrina Choong	I helped readjusted the mounts for the sensor and the arduino in CAD. Kyle and I discussed the possiblity of using the OEM stroboscope or our custom stroboscope to mount. We did research on interfacing with the OEM stroboscope for now. Although we did plan a mock up design of our stroboscope we designed and built last semseter as a second.	6	42
Meghna Chandrasekaran	Worked with Jessie and Seth to test the software side more, but we found that something in the system changed from the last time and so we did a lot of troubleshooting and trying to figure out where our issue was. We came to the conclusion	6	42

	that we should change our code to use interrupts and that we should do indivual software testing before testing it as a whole system.		
Seth Noel	Worked with Jessie and Meghna to test the software. We found that the system was much less accurate and attempted to find the source of the new error. We decided to redo the code to use interrupts, as we believe that would be better.	6	43
Kyle Zelnio	Redesigned mount for sensor and modeled mount for arduino. Started researching interfacing with original stroboscope for visual aid. Tested it's output with oscilliscope. Measured with Katrina space to mount either custom strobe or oem strobe	6	43
Jessica Bader	We tested the system to see if it could measure accurately, and were able to figure out where the problem was and determine that the solution was to 1: rewrite the code to use interrupts instead and 2) not use the stroboscope and tachometer at the same time. I also researched and rewrote the software for the Arduino to use interrupts instead	7	43

Gitlab Activity Summary
4 push to branch Software from Meghna, Seth, and Jessica
- Pushing merge conflicts from earlier code changes
- Small edits to fix the code
- Change of the code to implement from interrupts