

**sdmay19-30: EE 448 Stroboscope**

Week 11 Report

April 8 - April 14

**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) worked on adjusting the mount because the previous model did not allow for adjustments by making a template of the sensor mount. Seth tested the Faraday cage, and designed, implemented, and tested a low-pass filter for the AC motor. He also did system level tests to ensure the tachometer works on the AC motor. The software team (Meghna and Jessica) made the GUI into an executable file that can be stored and run on the lab computers.

**Pending Issues**

Need to test version 3 of the fork mount for stability and placement on the DC motor. We also need to do official, system level testing on the tachometer. We are waiting for our parts to arrive, which we need by next week because we need to set up the in-class testing on Thursday.

**Plans for Upcoming Reporting Period**

The hardware team (Katrina and Kyle) is going to work on adjusting the Arduino mount. The testing team (Seth, Meghna, and Jessica) are going to do system level tests on both motors. Also the software team (Meghna and Jessica) is going to start working on the poster and documentation. The entire team will finalize the poster together.

**Individual Contributions**

| Team Member           | Contribution   | Weekly Hours | Total Hours |
|-----------------------|--|--------------|-------------|
| Katrina Choong        | I worked with Kyle to adjust the sensor fork mount again. The previous model didn't allow for the sensor to fully fit. We made sure we were measuring the adjustments more properly by making a template of the sensor fork mount. I worked a bit with Seth to implement and design a low pass filter to help mitigate the AC noise. | 7            | 71.5        |
| Meghna Chandrasekaran | Worked with Jessica and Seth to figure out how to make an executable file out of our GUI made in python. We tried using py2exe but that didn't work for the python version we had, so we decided to use pyinstaller, which worked out for us. We were able to get an .exe file created and checked if it                             | 6            | 70          |

|               |  |    |    |
|---------------|--|----|----|
|               | would run on the SD lab computers. Now, as long as the Arduino has the code on it, the GUI should function properly.   |    |    |
| Seth Noel     | I tested a small bit of shielding to make a Faraday cage, and found it would not work. Then I designed, improved, and tested a low-pass filter. I also did system level tests on the system to determine that it would work on the AC circuit from a system level.   | 11 | 84 |
| Kyle Zelnio   | Printed V2 of the mount_mount and design error had us running into a similar issue of the sensor not fitting between the two mounts. Redesigning to v3 and adding extra adjustment for a better fit between all the stations. Printing it currently. Helped software install pip software for the exe exporting  | 6  | 74 |
| Jessica Bader | Researched and wrote the code to make the executable file for the GUI. We now have a program that can be installed onto all the computers, which will pull up the GUI. This is all that will be needed for users to run the program, as long as the Arduino is connected to the computer. Started working on redoing the design documentation as well as preparing to start the poster | 8  | 74 |

### Gitlab Activity Summary

No pushes

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