sdmay19-32: Sound Effect Devices for Musicians

Week 7 Report

March 14 – March 28

Advisors: Dr. Geiger & Dr. Chen

Team Members

Tim Day   — *Analog Engineer*
Eric Fischer — *Test Engineer*
Francisco Alegria — *Chief/ Musical Engineer*
Blake Beyer — *Digital Engineer*
Travis Gillham — *Integration Engineer*

Summary of Progress this Report

During this time four perf boards were designed that will be used as replacements if the PCB design fails. They will be tested the following week. An algorithm was created that will turn the linear pot into a logarithmic pot. This will be used in the ADC and the filters. The output amplifier has been tested and has provided confirmation that the logarithmic algorithm works. The code for the entire system is still being debugged.

Pending Issues

- ➢ Need to combine all of the modules together
- ➢ Need to put all the code onto a single Arduino
- ➢ Need to find a way to manage the power
- ➢ Need to finish filter.

Plans for Upcoming Reporting Period

- ➢ Filter will be complete
- ➢ Output amplifier will be complete
- ➢ Need to find a box for the circuit.
- ➢ Soldering will start on each module
- ➢ PCB Designs started

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Tim Day	Got the material and soldered 3 perf boards for the noise generator. Soldered 1 perf board for the mixer. Did testing on the mixer to ensure there were no cold joints.	12	72
Eric Fischer	Helped Travis test and convert a linear pot to control logarithmically. Finished the filter algorithm with some help from Travis. The filters are ready to be tested with the code and digipots.	10	64.5
Francisco Alegria	Writing and debugging code for entire system.	10	50
Blake Beyer	Helped write linear to log pot algorithm.	4	60.5
Travis Gillham	Finished testing the amplifier circuit on the breadboard. Implemented the logarithm aspect for volume control with a linear potentiometer with the help of other group members. Helped Eric out with the code for the filter.	10.5	57.5