sdmay19-32: Sound Effect Devices for Musicians

Week 7 Report

October 18 - October 25

Advisors: Dr. Gieger & 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

This week everyone started testing their modules in the lab. The amplifier has been updated and is currently being tested. The filter we are changing from a 4^{th} order to a 2^{nd} order to allow for a switch in the cut off frequency with potentiometers. We ordered the oscillators and are expecting them to show up next week. The white noise module is working in the lab. We all have an understanding of how all of our parts will be tuned to allow for the new digital user interface. New interface system has been started.

Pending Issues

- Waiting for the oscillators to arrive.
- Need to finish the design for the mixer.
- Need to test the mixer.
- Need to start the design for the envelope.

Plans for Upcoming Reporting Period

- Start testing oscillator.
- Finish design for mixer.
- Everyone continues to fully test their circuits.

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Tim Day	Soldered the white noise amplifier circuit. Tested its functionality. Started working through the design for the mixer. The objective is to have the output always be the line level of 2.5Vpp.	5	45
Eric Fischer	Determined resistor and capacitor values for the low pass filter so that the Q value is 0.707 which makes it Butterworth and the transfer function coefficient value is as close to the desired value. In the process of figuring out how to implement potentiometers in place of the resistors to make the cutoff frequency variable.	8.5	27
Francisco Alegria	Started new wireless interface using TouchOSC application. Wi-Fi communication has been established, data can be successfully sent from iPad to microcontroller. Figuring out how to send data back to iPad and how to interpret commands from iPad.	8	51.5
Blake Beyer	Helped test/design amplifier, designed and tested triangle to sine converter.	10	20
Travis Gillham	Talked with ETG about casing options that can be used for our project. Put together different circuits to test that could be used for the output amplifier.	13	32.5