

sdmay19-32: Sound Effect Devices for Musicians

Week 5 Report

February 21 – February 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 week, each module got closer to being complete. The mixer circuit was redesigned, the code was rewritten. The noise data w. Work was made on creating the notch and filter and finishing the algorithm for the filter. The GUI along with documentation of the GUI/code for the team. The analog digital converter was found and code has started on making it be able to tune the oscillators. The ADSR code has been placed on the Arduino, which will modify the volume control of the circuit.

Pending Issues

- Need to test the system with all the modules placed together.
- Need the digi-pods for the filter and amplifier.
- All the code needs to be placed onto one device to track memory.
- All the algorithms need to be tested.

Plans for Upcoming Reporting Period

- Test some modules placed together.
- Better represent the data from the noise generator.
- Have the code written for the analog digital converter.
- Have the filter code complete.

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Tim Day	Modified the mixer circuit. I found that I highly overdesigned the mixer and went above its functionality. Redid the algorithm to accommodate for this. Began sampling data to analyze noise.	10	50
Eric Fischer	Soldered two digipots on breakout boards so they can be tested on the breadboards. Built notch filter circuit with both highpass and lowpass filter and attempted to test the circuit. Continued finishing up filter algorithm.	10	45.5
Francisco Alegria	Helped debug/brainstorm circuits for other modules. Updated GUI. Continued working on the main code for the WiFi micro controller. Also in the process of making supporting documentation for the GUI/code for the team to use. Documentation lists GUI controls, labels for controls, their behavior, etc.	10	32
Blake Beyer	Found ADC (analog digital converter). Developed ADC code.	6	41.5
Travis Gillham	Worked on output amp. circuit. Typed code in Arduino for ADSR and volume control.	7	36.5