EE / CprE / SE 492 - sddec18 - 21
Multi-Effect Sequencing Board
Biweekly Status Report 2

9/10/2018-9/24/2018
Client: Randall Geiger

Team Members:
Calyn Gimse
Charles Rigsby
Derrick Lawrence
Karla Beas-Gutierrez
Tyler McAnally

Summary:

- ADC/DAC now being used, albeit with minor issues to be resolved soon
- Bluetooth service on app now stable, progress on app configuration methods made
- Switch circuits are now a high priority, will be worked on being implemented soon

Past Accomplishments of Last Two Weeks:

- Calyn Gimse:
    - ADC audio input code added
        - Refining configurations still ongoing
    - Bluetooth server app refined to be more stable
    - Bluetooth Service on Android persists through all activities
    - Effect configuration activity added
        - Layout simplistic
        - File accessing implemented
    - Assisted with getting PWM/DAC working
- Charles Rigsby:
    - SPI implementation and waveform testing
    - LED switch circuit
- Derrick Lawrence:
    - SPI bus now effectively interfacing with both ADC and DAC simultaneously
        - Scope traces show a need for additional filters
    - Switch circuitry has moved to top priority
        - Latch needs to reset when a new sequence is selected
- Karla Beas-Gutierrez:
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- Tyler McAnally:
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Pending Issues:

- Configuration of ADC/DAC setup has a lot of interference
    - Could be a hardware/software/circuit error
    - Test with a simple signal to determine the source of the error
- Circuit setup vulnerable to outside effects
    - Might require some form of shielding?
- Looking at Flip-flops for latching switch effects

Individual Contributions:

Name	Individual Contributions	Hours worked	Hours cumulative (this semester)
Calyn Gimse	Added ADC input code, Made considerable progress on Android Application	15	22
Charles Rigsby	SPI testing and effect switch	8	11
Derrick Lawrence	Focused on SPI protocol and implementing the code for receive and transmit commands between ADC - Pi - DAC	12	16
Karla Beas-Gutierrez			3
Tyler McAnally			4

Plans for upcoming two weeks:

- Calyn Gimse:
    - Look into modifying how DSP is being handled
        - Allow for more customized types of effects
    - Continue implementing the effect configuration activity on Android App
- Charles Rigsby:
    - Test switch circuit
    - Research/implement circuit protection
- Derrick Lawrence:
    - Find root cause of interference in the analog signal coming out
    - Refamiliarize with flip-flops and latch reset functionalities
- Karla Beas-Gutierrez:
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- Tyler McAnally:
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Summary of Advisor Meetings:

- Issues with circuit likely due to hardware errors
- Important to fully understand every protocol within the system
- Some reformations of the Effect Mux system need to be done
    - Allow source sounds to be brought in anywhere on the system