EE / CprE / SE 492 - sddec18 - 21
Multi-Effect Sequencing Board
Biweekly Status Report 5

10/22/2018-11/5/2018
Client: Randall Geiger

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

<u>Summary:</u>
- App base functionality finished with only minor bugs persisting at this point
- Forward/Backward Looper added to software
- Buffers now dynamic, and has one per layer
- Flags to all loopers added
- Coordination of UI/UX meeting, still ongoing
- Significant improvements to ADC/DAC circuit quality

<u>Past Accomplishments of Last Two Weeks:</u>
- Calyn Gimse:
  - Added Forward/Backward Looper
  - Added various flags for loopers
    - Reference origin, layer 1 if layer 3, or last layer
    - Choosing to clear looper when rerecording vs recording over buffer
  - Dynamic buffers added (1 buffer available per layer, up to 3 total buffers
  - Uploading/Downloading/Deleting functionality added to app, full functionality effectively complete
  - Server code refactored to properly implement functionality and build into wavIO program
  - App updated to allow for looper flags and new effect
- Charles Rigsby:
  - UI/UX meeting coordination.
    - Meeting was canceled. Still waiting for a response will follow up on Monday 11/5
  - Waveform testing
- Derrick Lawrence:
  - Power rails implemented
  - Buffer at input to ensure low impedance improved quality of ADC samples
  - Research into Raspberry DSI port for display functionality

- Karla Beas-Gutierrez:
  - Parts list for physical pedal board
- Tyler McAnally:
  - UI/UX drag and drop prototype

Pending Issues:
- Small static in some effects on software
- Minor bug found in app functionality, will need to be resolved
- Input filters could be added in addition to buffer
- LP or BP filter could be added to output stage

Individual Contributions:

Name	Individual Contributions	Hours worked	Hours cumulative (this semester)
Calyn Gimse	Added Forward/Backward effect, Added final functionality to App, added flags to loopers on both software and app, added dynamic buffer use (1 per layer)	15	65
Charles Rigsby	UI/UX meeting, waveform testing	6	33
Derrick Lawrence	Regulator network to provide various voltage rails needed, input network improved slightly	6	40
Karla Beas-Gutierrez	Parts list for physical board	2	5
Tyler McAnally	Drag and drop functionality added to app	6	19

Plans for upcoming two weeks:
- Calyn Gimse:
  - Resolve minor bugs in software and App functionality
  - Add simplistic display to show current preset and other information necessary to user

- - ○ Assist with threading the ADC/DAC code
    - ○ Assist with App Styling
    - ○ Find a way for program to run reliably on boot
    - ○ Further experimentation with sounds/presets
- ● Charles Rigsby:
    - ○ UI/UX meeting
    - ○ Implementation of new ADC and test for increased performance
    - ○ True Bypass
    - ○ Parts list and fully dimensioned design of housing
    - ○ Multisim circuit Schematic with Ultiboard layout
- ● Derrick Lawrence:
    - ○ Help integrate 4 threads to handle reading, writing, DSP, and app config to improve latency
    - ○ Look into matching / filtering at output stage for various amp types
- ● Karla Beas-Gutierrez:
    - ○
- ● Tyler McAnally:
    - ○ Implement a grid layout for pedals to drop into place.

Summary of Advisor Meetings:
- ● Loopers hold a more significant focus in the project, since it is much more unique within the project
- ● Getting a physical board as soon as possible a priority