ECE496 Weekly Status Report
Team GA-5
2016-02-22

Meeting Leader: Michael Norcia

Previous Goals and Progress Toward Those Goals
- Test and integrate amplifier circuit with guitar's hexaphonic pickup output [Michael, Shane] – Tests were unsuccessful, but the issue was found as a wrong AC coupling capacitor component value in the circuit. New components have arrived and are to be integrated in.
- Set current limit on stepper driver [Duke, Michael] – Complete.
- Integrate Stepper Motor circuit with Raspberry Pi [Duke, Ryan] – Completed. Need to add multiplexers to reduce number of necessary GPIO pins.
- Design and test Tiva ADC. Use external power supply for testing [Jules] – Completed. Need to implement communication between the Raspberry Pi and Tiva (Possibly SPI?).
- Integrate all existing hardware to form a complete circuit for one string [All team members] – Not yet complete. Biggest priority for the future (Waiting for capacitor to be implemented in amplifier).
- Put the finishing touches on the Raspberry Pi C code to allow frequency read-ins [Ryan] – Not completed due to issues with amplification circuit. This will be done as soon as the amp is working.
- Update the motor control C code to actually move the stepper motor [Ryan] – Complete. Angle control for the motor is working successfully.

Goals for the Next Week
- Implement and test communication between the Tiva ADC and Raspberry Pi [Jules, Ryan].
- Use new capacitors to test the amplifier circuit [Shane, Michael]
- Measure voltage output from strings 2 and 3 and design amplifiers for those strings [Shane, Michael]
- Start designing PCB [Duke, Shane, Michael]
- Start building motor frame [Duke, Michael]
- Set up new motors with stepper drivers [Duke]
- Update motor control code for new motor step values and multiplexers [Ryan]

Unresolved Problems
- We need to figure out a suitable method to communicate a 192 bit buffer (6 32 bit numbers) between the Raspberry Pi and Tiva and implement it. Is SPI suitable for this? What are our options?

Questions
None.

Other information
None.