ECE496 Weekly Status Report
Team GA-5
2016-02-08

Meeting Leader: Jules Ebaa

Previous Goals and Progress Toward Those Goals

- Write preliminary report [highest priority; All team members] – Completed and submitted.
- Examine existing stepper motor and order more if necessary [Duke] – Ordered and received stepper motor.
- Order shaft coupler to mount stepper motor to tuning peg [Michael] – Completed and received.
- Contact TAs via group email to find out where to research Fast Fourier Transforms and how to work with Raspberry Pi [Jules] – Met with TA. The Pi is set up; we just need to install the Operating System once we get a screen.
- Determine final op amp circuit and order necessary op amp chips [Shane] – Design incomplete, Op amps on the way.
- Research Android Bluetooth API; implement and test software if feasible [Ryan] – Found official documentation on the Android Bluetooth API. Downloaded puTTY to use to for testing. However, the group decided to hold off on Bluetooth development so I can help Jules with frequency analysis, the Tiva, and the Raspberry Pi.
- Learn how to interface with the Tiva [Ryan] – Went to advanced Tiva tutorial and successfully interfaced basic flashing LED and Bluetooth programs with the Tiva.

Goals for the Next Week

- Mount hexaphonic pickup into guitar and restring it [Shane, Michael].
- Finalize amplifier circuit design [Shane, Michael].
- Connect motor to guitar head [Duke, Michael].
- Tune motor control for stepper motor [Duke, Michael].
- Design one channel of analog to digital converter for the Tiva [Ryan, Jules].
- Connect the Tiva to GPIO interface of the Raspberry Pi and show frequency plots from the string on the Pi's display [Ryan, Jules].

Unresolved Problems

- Jules and Ryan begin looking into frequency analysis (F.F.T.'s, Tiva, Raspberry Pi, etc.) by plugging one of Ryan's personal guitars into a USB recording interface and using Audacity to look at frequency spectrums on his computer. This data gave us a rough idea of where we are going, but we feel stuck on actually building anything until the pickup and amplification circuit is done. Jules is going to meet with the TA for additional information on data analysis.
- Need to get a HDMI display to program the Raspberry Pi with. Ryan will do this by Monday night.

Questions

None.

Other information

None.