
EE 491 Weekly Report (Group 22)

November 10 -- November 17 Week 11

(11/10/14-11/17/14)

Advisors: *Timothy A Bigelow*

Client:

Members (roles): Aaron Tainter (Programming Lead), Haoyu Wang (Presentations & Documents), Jingyu Xie (Scheduler & Documents)

Project Title:

Programming ultrasound functional brain imaging system

Weekly Summary

This week, we finally got the NI system functional and the analog PCB test board developed. Aaron spent time talking to NI engineers about problems with the PXI controller, while Haoyu and Jingyu developed the PCB test boards. In our meeting with Professor Bigelow, we talked about the changes that will be made to our project goals because of the issues with TI being unable to deliver the custom hardware. Our new goal for the end of the year will be to redesign the system with our own amplifier circuits and beamformer.

Meeting notes:

11/3 Group Meeting with Dr. Bigelow

Duration: *1 hour*

Members Present: Aaron Tainter, Haoyu Wang, Jingyu Xie

Purpose and Goals:

Our weekly meeting with Group members and Dr. Bigelow. Dr. Bigelow explained our new tasks and checked in on progress.

Achievements:

We talked about issues with TI and the department's lack of funding. New design goals were mentioned and we talked about the plans for development next semester. More focus will be placed on the EE PCB development as we will create our own amplifier and beamformer circuits in conjunction with transmitting and receiving hardware acquired from TI. With the NI system functional, we can experiment with the number of analog/digital channels that can be run in parallel on the machine. The original plan was to use 512 channels in parallel, but we may be limited to one card at a time (16 channels).

Pending issues

1. Fabricate PCB boards.
2. Test NI 5752 sample programs and compile FPGA.
3. Develop a simple I/O program to test them.
4. Test parallel channels.

Plans for next week

1. NI system and labVIEW work. (Aaron)
2. Fabricate PCB. (Jingyu Xie)
3. Develop digital PCB test board. (Haoyu Wang)

Individual Contributions(this week)

1. Aaron Tainter(NI Troubleshooting 2hr, PXI work 3 hr, meeting with group - 1 hour)
2. Haoyu Wang(develop PCB board with digital connector 3 hr, meeting with group 1hr)
3. Jingyu Xie(Developing PCB board with analog connector - 3hr, meeting with group 1hr)