

Senior Design 492 Weekly Report 17

Week 17 (1/26/16 – 1/31/16)

May1624 -- Programmable Wireless Sensor Package for CprE Education

Advisor/Client: Dr. Thomas Daniels

Team Members -- Roles:

Yidong Liu – Team Leader

Xinian Bo – Team Webmaster

Niklas Jorve – Team Communication Leader

Branden Sammons – Key Concept Holder, Secretary

Jonathan Krueger – Key Concept Holder, Manager

Weekly Summary:

During the week of January 26 to the 31st we explored the intricacies of bluetooth and SPI communication on Intel Edisons. We had many issues during the week, but at the end of the week we have a clear direction of what we need to pursue. We are also constructing PCB designs, which we currently plan to send out for prototyping in a month and a half.

Weekly Accomplishments:

1. Read some type of data from sensors
2. Researched sensor communication
3. Got two edisons to connect to each other
4. Progressed in PCB design

Advisor Meeting (1/26/16):

Duration: 1.5 Hours

Members Attending: Niklas Jorve, Yidong Liu, Jonathan Krueger, Branden Sammons, Xinian Bo

Notes: Met with Dr. Daniels and discussed placement of components in our case. We also discussed the idea of using more free form batteries to fill in the bottom of our device, and provide more power. Coming from this meeting we knew we would need to get sensors communicating, bluetooth working, and PCB designs.

Group Lab Meeting (1/27/16):

Duration: 3 Hours

Members Attending: Niklas Jorve, Yidong Liu, Jonathan Krueger, Branden Sammons, Xinian Bo

Notes: Niklas and Branden worked on getting SPI to work with a sensor, trying to use a sample program to communicate with our 9 degrees of freedom sensor. Jonathan was working on bluetooth between two Intel Edisons. Xinian and Yidong were working on the PCB designs. We left this meeting with concerns about the SPI communication, and issues with Edison bluetooth permissions.

Teacher Meeting (1/28/16):

Duration: .75 Hours

Members Attending: Niklas Jorve, Yidong Liu, Jonathan Krueger, Branden Sammons, Xinian Bo

Notes: Met with George to discuss our project in an informal presentation.

Advisor Help Session (1/28/16):

Duration: 2 Hours

Members Attending: Niklas Jorve, Yidong Liu, Jonathan Krueger, Branden Sammons, Xinian Bo

Notes: Sat down with Dr. Daniels to investigate the SPI issues. Using Dr. Daniel's knowledge of SPI and hardware concepts we tried to diagnose our issues getting SPI to work. Adjourning we were closing to discovering the issue, and had many leads to explore. Members who needed to leave early due to prior engagements did.

Plans for Next Week:

1. Get SPI working - Niklas and Branden
2. Get bluetooth connected and simple communication - Jonathan
3. Program the Student API - Branden and Jonathan
4. Work on Eagle Designs - Yidong and Xinian

Individual Contributions:

Niklas Jorve	Attended team meetings, worked on SPI connection
Yidong Liu	Team meetings, pcb connection

Branden Sammons	Attended meetings, and worked on SPI interface
Jonathan Krueger	Attended meetings, worked on bluetooth, worked on SPI interface, worked on API, worked with Dr. Daniels, wrote up a report from help session for others, arranged meetings managed team and assigned work.
Xinian Bo	Attended meetings, designed Voltage regulator circuit.

Project Contributions:

Member	Project Time this week (hours)	Total Project Time (hours)
Niklas Jorve	8	83
Yidong Liu	8	80
Branden Sammons	5	66
Jonathan Krueger	20	92
Xinian Bo	7	63