

Senior Design 491 Weekly Report 7

Week 7 (10/12/15 – 10/18/15)

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

Jonathan Krueger – Key Concept Holder

Weekly Summary:

We focused our time this week on deciding between two routes that we could take in the design of our project. Our initial idea was to use an Arduino Due as the microcontroller board, but we found a new solution, the Intel Edison processing unit which would serve as a more powerful board that used less power. After discussing the pros and cons of each decision with Dr. Daniels, we have decided that we think the Intel Edison is the correct microcontroller for the project due to the fact that it has two cores and uses less power. Now that we have decided on our microcontroller, we can revise the project plan and the design document to match our decision and proceed to design the PCB.

Weekly Accomplishments:

1. Worked on first draft of project plan and had Dr. Daniels review it.
2. Decided on proceeding with the Intel Edison as our microcontroller
3. Started finalizing the three major system components (microcontroller, battery, and PCB)

Advisor Meeting (10/12/15):

Duration: 1 Hour

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

Notes: Dr. Daniels brought up a new design utilizing the new Intel Edison chip. Designs and plans were sketched out during the meeting for this to be implemented. More team discussions came to a solution as mentioned below in the Group meeting notes.

Group Meeting (10/16/15):

Duration: 1 Hours

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

Notes: During the group meeting we weighed the pros and cons of the Arduino Due and the Intel Edison chip. After discussing both ideas, we decided that the Intel Edison board would be the best to proceed with due to the multi-core design and the lower battery usage. The Intel Edison is also capable of using a more diverse battery type. We also discussed the PCB that we are designing and tried sketching out potential designs and finalizing the list of sensors needed.

Plans for Next Week:

1. Finalize the major components of the system including choosing a battery to use, finalizing the microcontroller selection, and finalizing each of the sensors on the PCB
2. Start working on data transmission ideas between the PCB and microcontroller (GPIO pins vs. USB bus)

Individual Contributions:

Niklas Jorve	Attended meetings, worked on design document, worked on weekly report, researched components
Yidong Liu	attended meetings and worked on design
Branden Sammons	Attended meetings and worked on design document.
Jonathan Krueger	Attended meetings, worked on design document, lead meetings
Xinian Bo	attended meetings, learned pcb design

Project Contributions:

Member	Project Time this week (hours)	Total Project Time (hours)
Niklas Jorve	4	21
Yidong Liu	2	15
Branden Sammons	5	16
Jonathan Krueger	6	20
Xinian Bo	3	13.5