EE 491 Weekly Report 5

Date: 10-11-16 -- 10-17-16

Group Number: May1735

Project Title: Cy-Mote

Advisor: Dr. Daniels

Team Members:

Kyle Fischer - Team Lead

Michael Linthicum - Communications Lead

Daniel Shauger - Concept Holder Lead

Sam Neff - Webmaster

Nick Juelsgaard - Schedule and Planning Lead

Summary of the Week:

This week we worked more with the MCUs. The three computer engineers on the team are each working on a component that will be a part of the final board. We also met to review and write up the final version of the project plan V 1.0.

Past Week Accomplishments

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| --- | --- | --- | --- |
| Name | Accomplishments | Time worked | Cumulative Time |
| Kyle Fischer | Made a data flow diagram for project plan  BLE:   * Found our MCU on a BLE sweeper app on my phone * Can change name of the MCU * Worked on passing data | 3  2 - home  1 - meeting meeting | 18 |
| Michael Linthicum | Collaborated with Daniel on the design portion of the project plan.  Spent time learning Atmel’s SPI library and began implementing it on the LSM9DS0 chip (9 degrees of freedom sensor). | 5 | 21 |
| Daniel Shauger | Collaborated with Michael on the design portion of the project plan.  Attempted to get signal to pass through audio codec chip - it’s possible the previous team burnt the chip out | 4 | 16 |
| Sam Neff | Looked through previous groups circuit design data, worked on website, work on pinout, worked on project plan diagram | 4 | 16 |
| Nick Juelsgaard | Worked on/completed/submitted Project Plan compilation and made a google calendar | 6 | 19.5 |

Pending Issues:

* Kyle Fischer - I don’t really understand the BLE protocol. Specifically the GATT part.
* Michael Linthicum - Need to find a more efficient way to debug. Possibly by sending serial data back to the PC and printing it out. Right now I’m using LEDs on the board and it’s not working too well.
* Daniel Shauger - Trying to configure the onboard ADC to read joystick data
* Sam Neff - Have been unable to open previous group’s cad files, will need to create/ reorganize the previous group’s pin layout
* Nick Juelsgaard - Sam and I need to work on the power management of the board

Comments and extended discussion

We are working through the documentation of the ATSAMB11. Buttons and joystick are getting taken care of quickly, the SPI interface between the MCU and the 9 degrees of freedom chip is a slower process but is proceeding well, we are a bit stuck on the BLE interface. Once buttons and joystick are taken care of, probably this week, we will have two members focus on BLE. Have worked on the project plan as a group and submitted the first version.

Plan for coming week

* Kyle Fischer - work on transferring static data via BLE to phone. Setup up a full team advisor meeting.
* Michael Linthicum - Successfully implement the accelerometer portion of the LSM9DS0. Use my arduino code from earlier weeks to help with this.
* Daniel Shauger - Research buttons and joystick, get data to be read by ATSAMB11 from them
* Sam Neff - Finish/upload website. Work on power management system with Nick.
* Nick Juelsgaard - Work with Sam on the power management and start the first draft of the design documentation

Summary of weekly advisor meeting:

Short meeting. Gave a status update of where we are to Dr. D.