EE 491 Weekly Report 10

Date: 3-20-17 -- 3-27-17

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:

Continued work on the board, wrapper, and BLE. We received the new LSM9DS1 breakout board and began work revising the old LSM9DS0 code to work with it. The hardware team revised their design of the PCB and sent in an order for the next iteration. We began to discuss planning and preparing for the final presentations and reports.

Past Week Accomplishments

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| --- | --- | --- | --- |
| Name | Accomplishments | Time worked | Cumulative Time |
| Kyle Fischer | Redid how the atsamb11 sets up the BLE stack. I couldn’t define the service UUID so now using a different method setup everything. | 8 | 47 |
| Michael Linthicum | Implemented accelerometer read using a new bit banged version of my code for the LSM9DS1. Successful accelerometer data transfer was achieved. | 8 | 45 |
| Daniel Shauger | Finished formatting of wrapper, started working on trying to get BLE notifications working instead of polling mode | 7 | 32 |
| Sam Neff | Talked with Lee on desoldering techniques and ways to fix the PCB without manufacturing a new one. Jerry-rigged a board to bypass the voltage regulator. | 5 | 49 |
| Nick Juelsgaard | Had a major problem with the board design. The datasheet for the ATSAMB was backward regarding the pinout. Spent one night this week scrambling and re-designing the entire board. Also incorporated some more changes to the silkscreen and the | 14 | 66.5 |

Pending Issues:

* Kyle Fischer - Doesn’t seem to be getting past ble\_init. Didn’t change this method not sure why it is getting blocked.
* Michael Linthicum - None.
* Daniel Shauger - BLE transfer rate is slow, BLE notifications may need additional stuff on sender side to be set up
* Sam Neff - We need new boards and Nick and my schedules aren’t lining up.
* Nick Juelsgaard - Pinout for datasheet was incorrect. Have to wait for new boards

Comments and extended discussion

Plan for coming week

* Kyle Fischer - figure out why Atmel’s library method isn’t working
* Michael Linthicum - Extend accelerometer arduino code to ATSAMB11. Begin work on extending to gyroscope and magnetometer.
* Daniel Shauger - Investigate notifications and speeding up BLE transfer
* Sam Neff - Assemble new boards.
* Nick Juelsgaard - Assemble new board as soon as they come in

Summary of weekly advisor meeting:

No meeting.