EE 491 Weekly Report 9

Date: 11-1-16 -- 11-7-16

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:

Work continues on each piece of the board. We had our weekly planning meeting and our weekly group meetings. We all worked individually on the tasks we assigned ourselves.

Past Week Accomplishments

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| --- | --- | --- | --- |
| Name | Accomplishments | Time worked | Cumulative Time |
| Kyle Fischer | Contacted Atmel about not being able to connect my MCU. Wasn’t any help.  Switched boards with Michael and got constant strings to transmit via BLE to my phone. | 10  8 work sessions  2 meetings | 36 |
| Michael Linthicum | Diagnosed an SPI problem, the Slave select function given by Atmel is not working as I had originally thought it would.  Worked to implement my own slave select function and debug the program.  I can read data that looks like it is coming from the accelerometer, but it is very buggy and needs refining. | 6 | 41 |
| Daniel Shauger | Got data to read into the ADC and out through the PWM pins without anything getting stuck after finding a bug in Atmel’s driver code. | 4 | 33 |
| Sam Neff | Met with Dr. Tuttle, looked at power solution for our board. Chose battery. Met with Nick. Researched power switching devices. | 5 | 31 |
| Nick Juelsgaard | Finished the Design Documentation V1.0. Started a Utliboard/Multisim program for the PCB design. Worked on power schematic for the 2 boards. Talked with Sam about powering the device. | 7.5 | 34.5 |

Pending Issues:

* Kyle Fischer - I can’t load anything new on Michael’s board (my new one). I get a system exception.
* Michael Linthicum - Slave select function is not working as planned. ASF code is confusing and unnecessarily complex and includes far too much overhead for what we need it for. I am questioning whether or not my LSM9DS0 chip is functioning correctly.
* Daniel Shauger - None at the moment
* Sam Neff - Need dev board for the electrical engineers.
* Nick Juelsgaard - Need another board for us to dev with electrically. We can use an Xplained for now, because I haven’t found any board that we can use to pin out the controller to through-hole pins. Need to find out if we can dl to the device without a debugger.

Comments and extended discussion

Plan for coming week

* Kyle Fischer - Figure out how to change data transmitted at runtime.
* Michael Linthicum - Verify the LSM9DS0 chip is functioning correctly and then begin writing my own less complicated SPI drivers. I think this way I will have a better understanding on what the code is doing and it will be easier to debug and progress. I expect this to take a couple of weeks.
* Daniel Shauger - Work on getting multiple ADC inputs so we can get both axes of the joystick
* Sam Neff - Select power switching device, order parts. Begin to work towards building our alpha model.
* Nick Juelsgaard - Get another board on order, keep working on the PCB files

Summary of weekly advisor meeting:

Gave a status update. Talked about where we should be at the end of the semester. Asked for debugging help.