

IOWA STATE UNIVERSITY

Senior Design Weekly Report

Weekly Report 5

Group: May-06

Group member: Chongli Cai, Qiaoya Cui, David Hoffman, Andrew Kom, Ailing Mei

Client: Garmin International

Advisor: Dr. Colin Christy

Period: 9/24/2012-9/30/2012

Date: 9/30/2012

Goals to Meet

This week was all about planning our project. We had the goal to developing a timeline for when to accomplish our goals for the week. This involved determining the overarching goals for the first set of weeks. We also received the evaluation board from Steve at Garmin, allowing us to do live testing when we are ready.

Weekly Progress

On Tuesday, Andrew and David met with Dr. Christy and Steve to receive the evaluation board, and get an explanation of it. We got them caught up with the progress in the project, including the basic goals we have to accomplish. We also met on Thursday to develop a timeline and create task goals that each side of the project must complete. We then compiled the entire project plan and emailed it out on Friday. We also met this Sunday and determined our goals for this week.

Future Planning

For this next week, we will divide into two groups. One group will focus on finding a way to make a current measuring circuit that doesn't use a sense resistor. The other group will focus on understanding the use of the ADC and the general way to write a program for the PIC chip to use. Our long term goals were defined to be, by October 30, we would like to be able to give a constant voltage value to an ADC pin on the PIC, and have it read and interpret the data, and send it out to the SD card as a CSV file. On the hardware end, we would like to have a working simulation of the current sensor circuits and the voltage range conversion circuits. This way, we can start getting a list of parts to order to start testing our design in November.

Pending Issues

We still seem to have some communication issues, as in many cases, we are working on different things, and get together and spend all of our time catching up on what the other team members have decided on. There needs to be better communication between us so everyone is on the same page and can act as a cohesive unit. Once again, this is a high priority fix that needs to be made.

Individual Contributions

Andrew:

- Wrote the Weekly Progress Report 5
- Met with Steve and Dr. Christy to bring them up to speed on our progress
- Procured the evaluation board for the PIC chip
- Finished the Schedule portion of the Project Plan

Chongli:

- Completed project plan parts: Need Statement, Concept Sketch, System Description, Operating System and User Interface Description
- Compiled the Project Plan parts
- Continued to study the voltage and current sensor designs

Ailing:

Completed project plan parts: Requirements statement, Functional requirement, Non-functional requirement, Market

Qiaoya:

Completed project plan parts: Work Plan Description

Researched how to design analog circuits and the principles that go along with the design

David:

Met with Steve and Dr. Christy to bring them up to speed on our progress

Read through the PIC datasheet to gain understanding of the interface with the MCU