Weekly Report 4

Sddec24\_04

**Weekly Summary**: This week we focused on developing a better understanding of how we and our device will communicate with the existing Sukup board. To do this we made a block diagram and reviewed different aspects of the MAX38165 chip.

**Past week accomplishments**

**Team Member 1(Justin):** I worked on making a high level block diagram for how our device will be connected to Sukup’s existing board. I also continued discussion with the team about different components we will eventually need to get.

**Team Member 2(Tony):** This week I worked on the high level block diagram with other team members that was requested from our advisor. I also started work on learning how to code in python and a brief touch up on c+.

**Team Member 3(Sam):** This week I worked on the block diagram as well as with other team members. We were able to create a block diagram that was presented with our advisor and received feedback. I looked at using a breakout board for our MCU rather than setting up one on our own.

**Team member 4(Michael):** Compared microcontrollers and determined the recommended MSP430 family will be used. Began working on list of components needed to set up and interface with it.

**Pending issues**

**Team Member 1(Justin):** I Need to figure out how the MAX chip is actually determining the resistance of the RTD and therefore measured temperature. I also need to re-read some of the data sheets to understand better how the existing board is communicating with itself.

**Team Member 2(Tony):** Touch up more on c+ coding and continue learning python. Hook up RTD board to power and take some measurements. Talk with ETG about ordering a USB to RS485 converter so we can communicate with the board.

**Team Member 3(Sam):**

**Team Member 4(Michael):** Narrow down requirements of I/O and other connections to microcontroller that our board will need to determine specific microcontroller to design for. Begin setting up an Altium workspace for when we are ready to design.

**Individual contributions:**

| **Name** | **Hours this week** | **Hours Cumulative** |
| --- | --- | --- |
| **Tony Haberkorn** | **3** | **12** |
| **Samuel Estrada** | **3** | **12** |
| **Justin Garden** | **3** | **12** |
| **Michael Hurley** | **2** | **11** |

**Comments and extended discussion**

**Plans for the upcoming week:**

The plan for this upcoming week is to refine our block diagram and figure out the fine details about the MAX chip. After speaking with our advisor we realized that this would be the key into forcing an accurate reading. We will also begin to order the usb communication so we can test with Sukups RTD.

**Summary of weekly advisor meeting:**

With Dr. Neihart we reviewed the block diagram we had made and some changes we can make to it. We also talked about how the max chip is determining the temperature from the resistance of the RTDs as well as some options for microcontrollers we might want to use in the design of our testing device.