EE/CprE/SE 491 WEEKLY REPORT 4
2/21/2022 – 2/27/2022
Group number: SDDEC22-01
Project title: Plastic Machine Embedded IOT Controller
Client &/Advisor: Mark Hansen & Dr. Jones

Team Members/Role:
Stone Widder - Technical Lead
Joshua Baringer - Microcontroller Lead
Rachel Teberg - Historian/Reporter
Evan Pasero - Project Manager
Charles Sang - Controls Lead

o **Weekly Summary**

This week we focused on completing our block diagrams and software descriptions. We spoke with the client and discussed additional components to consider when building our system like indicator lights, voltage delay circuit for safe shutdowns/startups. Evan and Rachel are working on completing the trade study. Stone is currently working on the group project website. Josh produced a high level technical breakdown of the beaglebone software description and the case of cold junction compensation was settled with agreement to use industry produced chip.

o **Past week accomplishments**

- Thermocouple circuit design/Research done and decision on the temp chip from analog devices AD8495 - Charles, Evan, Rachel
- Software Description completed. Josh researched the different displays needed for the project. Stone worked on web UI and group website - Josh and Stone
- Trade Studies - Rachel and Evan
  - Finishing working on the trade study analysis that Mark asked for. Continued research of potential options.
- Sprint Backlog for git - everybody
  - Went through all the major tasks for the project and put them on a board in git. Everyone was able to pick their section and started working on pressing details first then next week proceed to client deliverables for March 10.

o **Pending issues** *(If applicable: Were there any unexpected complications? Please elaborate.)*

o **Individual contributions**

NAME	Individual Contributions *(Quick list of contributions. This should be short.)*	Hours this week	HOURS cumulative
Stone Widder	Server Research/ Leaning CSS	4	24
Rachel Teberg	Continued working on Microcontroller trade study- Researching and scoring	4	22
Joshua Baringer	Presented Software Description to client, Display Sketches, Bought food for meeting	4	22
Evan Pasero	Microcontroller trade Study, scheduled meeting with client, Organized workflow	4	22
Charles Sang	Controls research Building thermocouple circuit Research and Design voltage delay circuit	6	22

o **Plans for the upcoming week**

Joshua: Set up the server on BBB.

Stone: Start working on a demo of controlling the relay and using a thermo-couple to control it.

Rachel: Finish the trade studies, assist with thermocouple circuit research/design/prototyping

Charles: Design and breadboard a thermocouple amplifier to be tested at our client meeting in two weeks. Also, research voltage delay circuits and decide if its better software implemented.

Evan: Finish trade studies, begin mapping out high level board design with Charles and Rachel. Continue to work on project management.

o **Summary of weekly advisor meeting**

At this week's advisor meeting we discussed thermocouple circuit design and decided to use industry chips for temperature sensing. Also, we looked at the block diagram details and how it would look like in the box once PCB is produced. We talked about the need for pictures of the

current set up so as to help us decide how to best design our project to look professional while showing all the necessary details. Lastly, Josh talked about software description in detail and showed screen rough sketch models on what we are hoping to achieve with our design while considering the clients and users who will be interacting with the equipment.