EE/CprE/SE 491 WEEKLY REPORT 2
2/7/2022 – 2/13/2022
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

- **Weekly Summary**

  As a group we tested some equipment that was sent to us by Mark in order to figure out how everything is working now. From these preliminary tests we came up with a few ideas and started to talk about the basic components we are going to need. We also finished a pros and cons list of microcontrollers and came up with the idea of designing the project around the wireless beaglebone black to figure out how many pins we need and transferring to a cheaper board in the future.

- **Past week accomplishments**

  Web UI - Stone

  - Worked on the start of a Web UI as we don't have much experience with this as a group.
  - Managed to get a very simple UI working that was able to control a Beaglebone Black's LEDs to make them turn on and off

  Trade Study - Rachel and Evan

  - We created a document to collectively research what is currently available on the market
  - We looked into other hobby level injection molding systems
  - Explored the different kinds of temperature control modules on the market
  - Looked into different types of potential displays
  - Came up with questions for our client about what he wanted out of our trade study and what price range we should aim for.

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

  Everyone - Evan had COVID this past week and had to attend all of the meetings on discord. This made some of our meetings hard as we were looking at hardware. Hopefully Evan will not be behind but even if he is, it shouldn't be too hard to catch him back up.

  Rachel and Evan - We had started working on what we thought Mr. Hansen wanted for a trade study, which turned out to be the wrong thing. This is a minor setback but the research we did may still prove to be useful

o **Individual contributions**

NAME	Individual Contributions *(Quick list of contributions. This should be short.)*	Hours this week	HOURS cumulative
Stone Widder	Working on the starts of a webUI	8	14
Rachel Teberg	Worked on trade study research	6	12
Joshua Baringer	Microcrontroller research, Provided food for a meeting.	6	12
Evan Pasero	Trade Study and Scheduling	6	6
Charles Sang	Controls research	6	6

o **Plans for the upcoming week**

Joshua: Help with block diagram and software description.

Stone: To start and finish the hardware diagram(hopefully with part numbers, but this will need to be discussed with the team). Transfer the Web UI to a more robust system and implement and API that our other code can talk to instead of controlling the microcontroller directly from the Web App as this lead to lots of problems already

Rachel: Help create Trade study for display choice and for microcontroller choice

Charles: Continuing research on control systems and going through different designs for thermocouple amplifier circuits.

Evan: Help create Trade study for display choice and for microcontroller choice, assist in block diagram creation if necessary.

o **Summary of weekly advisor meeting**

We presented a short slide show of our vision of what the project is. Professor Jones asked us to make a pros and cons list of each microcontroller, and take notes of our meeting with our client.