EE/CprE/SE 491 WEEKLY REPORT 10
8/22/2022 - 9/12/2022
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 - Software Lead
Rachel Teberg – Team Lead / Recorder
Evan Pasero – Technical Support
Charles Sang - Controls Lead

- ○ **Weekly Summary**

  During the first week of the class we determined the schedule of tasks that we need to get done and started working. Currently Charles is testing out a solution to provide the BBB with enough power so that it is able to turn on properly. Evan is working on new circuits that we are implementing while also researching better components to use for them. Rachel is researching PID autotune algorithms and implementing one in python. Josh is working on connecting the GUI to the command line interface. Stone had built PCBs for everybody to test out their respective parts. He is now researching more efficient relays to use.

- ○ **Past week accomplishments**
  - Found Issue with current relays – Stone
  - Created testing PCBs – Stone
    - Power Testing PCB
    - Start of a display testing PCB
  - Battery Recharging Circuit - Evan
    - options researched
    - parts ordered
    - tests planned while parts are out
  - Gentle shutdown circuit redesign – Evan + Stone
  - Parts research for gentle shutdown circuit - Evan
  - Created team channel and organized meetings - Rachel
  - PID autotune - Rachel
    - Researched algorithms and programs
    - Started working on writing program - Rachel
  - Connected GUI to command line interface – Josh
  - Debugged and optimized code – Josh
  - Working on the voltage regulator and beaglebone boot – Charles

- o **Pending issues** *(If applicable: Were there any unexpected complications? Please elaborate.)*
  - Waiting on parts
  - BBB booting issue still not confirmed

- o **Individual contributions**

NAME	Individual Contributions *(Quick list of contributions. This should be short.)*	Hours this week	HOURS cumulative
Stone Widder	Test PCBs, PCB debugging	6	12
Rachel Teberg	Researched PID Autotune, Created Teams channel and organized meetings	6	12
Joshua Baringer	GUI implementation	6	12
Evan Pasero	Parts researched for battery recharging circuit + parts purchased + gentle shutdown re-designed.	6	12
Charles Sang	Debugging thermocouple and shutdown circuit	6	12

- o **Plans for the upcoming week**

Joshua: Continue work on the GUI implementation and test display connection to PCB.

Stone: Relay research and stating next revision of PCB

Rachel: Continue working on writing PID autotune program

Charles: Install capacitors and run tests on BBB to pinpoint booting issue, figure out how to get necessary items.

Evan: Test LIPO recharge chip, recharging circuit design finalized, transistor research for Gentle Shutdown Circuit.

- **Summary of weekly advisor meeting**

During out weekly advisor meeting we informed Dr. Jones about all of the tasks we are trying to accomplish in this sprint. He asked us to provide him with a slide show for the next meeting so that we can talk about our goals and timeline for the semester.