Dwight Look College of
ENGINEERING
TEXAS A&M UNIVERSITY

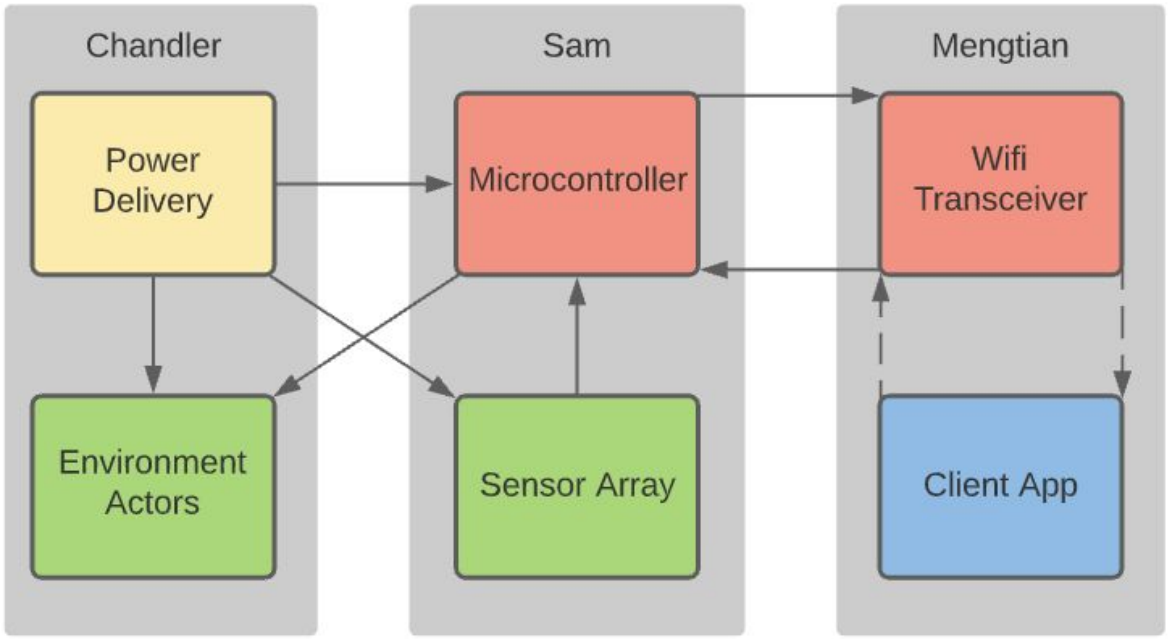
Team 29: Automated Greenhouse
Bi-Weekly Update 2

Chandler Kramer, Samuel Erickson, Mengtian Ke
Sponsor: Kevin Nowka
TA: Skyelar Head

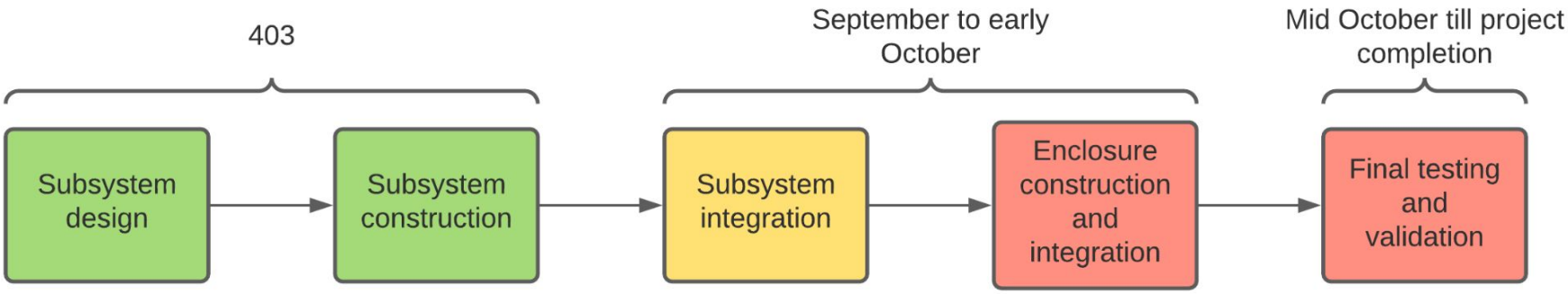
Project Summary

- Traditional gardening, even with a greenhouse, is a very manual process that can be very time consuming and plants are still vulnerable to the elements.
- The automatic greenhouse attempts to alleviate this problem by automating water delivery, temperature regulation, and airflow according to remotely set values by the user.

Subsystem Overview



Project Timeline



Power Subsystem

Owner: Chandler Kramer

Accomplishments since last update 10 hrs of effort	Ongoing progress/problems and plans until the next presentation
- Ordered Fans for the greenhouse enclosure - Ordered and received buck converter components for MCU - Ordered and received updated power supply for Solenoids.	- Configuring and testing the buck converter (temporary configuration) - Soldering main buck converter piece to the breakout board

MCU and Sensor Subsystem

Owner: Samuel Erickson

Accomplishments since last update 10 hrs of effort	Ongoing progress/problems and plans until the next presentation
- Getting the MCU side of the MCU <-> wifi connection successfully configured in preparation for full data stream integration - Driving relay board with MCU to integrate with solenoids and fan	- Integrating solenoids + fans with relay board - Send wifi board sensor data - Create control algorithm framework

Client Interface Subsystem

Owner: Mengtian Ke

Accomplishments since last update 10 hrs of effort	Ongoing progress/problems and plans until the next presentation
- Build a connection between the MCU and the Photon board. - Fixed the Website app issue.	- Expand communication between the MCU and Photon board - Display the MCU sensor data

Power Subsystem

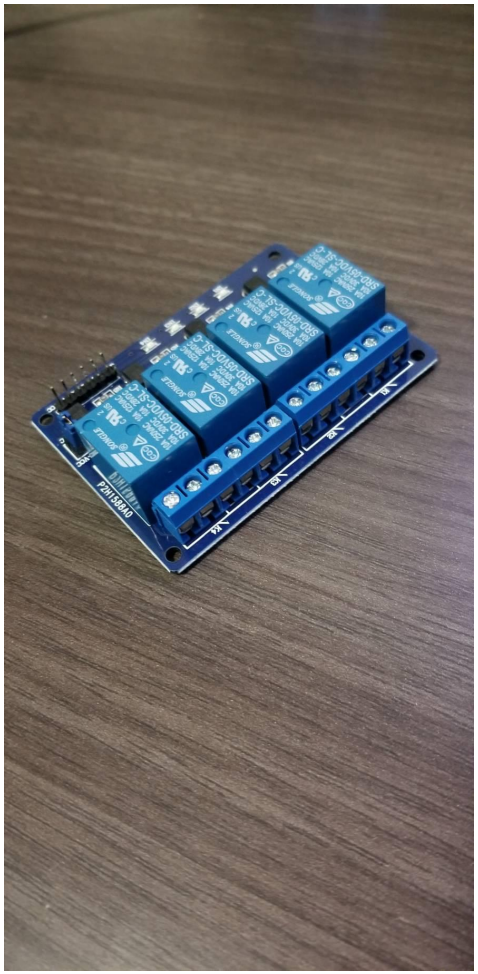
Owner: Chandler Kramer

- Fan(s)
- Power supply
- Buck converter components

MCU and Sensor Subsystem

Owner: Samuel Erickson

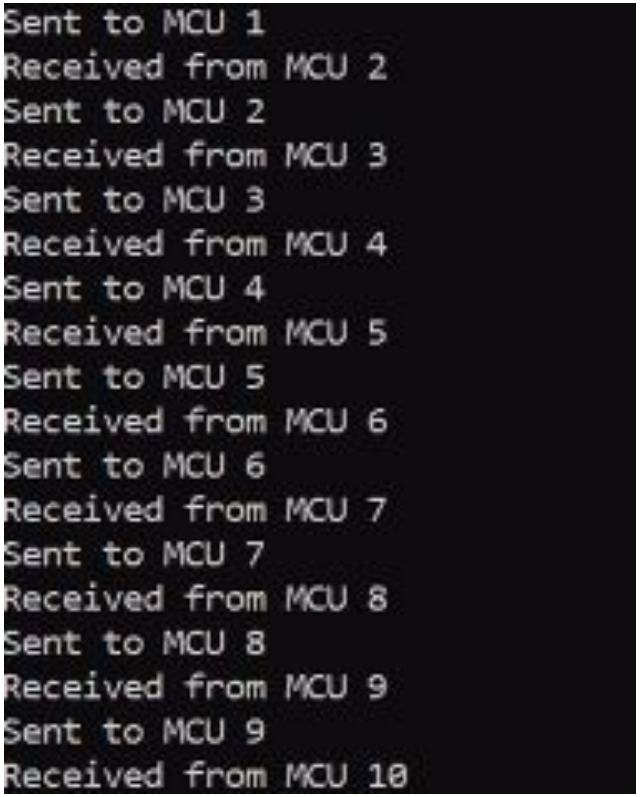
- Main efforts towards getting the MCU and wifi board bidirectional connection established
  - Results in next slide



Client Interface Subsystem

Owner: Mengtian Ke

- The Photon communicates with the MCU and transfer data between them.



Misc. Update

- Greenhouse has been purchased and constructed courtesy of our sponsor
- Mister and dripper system purchased, to arrive on 10/4
- Silicon caulk for electronics waterproofing purchased
- Decided on plant to grow: cherry belle radish

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Execution Plan

Thank you!
Any Questions?