TBD Gardening Project Name - Group 9

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UCF Senior Design Fall 2022 - Spring 2023

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1 Narrative

1.1 Problem

1.2 Narrative

1.3 Goals

2 Requirements

2.1 MCU

2.1.1 Minimum Viable Product

- Read local sensor data (e.g. sunlight, soil moisture, temperature)
- Adjust parameters of local modules (e.g. shade, water, nutrients)
- Interpret user settings and adjust parameters of modules accordingly
- Fulfill web requirements with at least two computers/controllers

2.1.2 Stretch

- Fulfill web requirements with one computer/controller
- Local user display (e.g. LCD, dot matrix, segmented)

2.2 Power

2.2.1 Minimum Viable Product

2.2.2 Stretch

2.3 Sensing

2.3.1 Minimum Viable Product

2.3.2 Stretch

2.4 Web

2.4.1 Minimum Viable Product

The web component of the project should:

- Attach to a weather API to receive:
  - Rain
  - Sun light
  - Temperature
  - Frost warnings
  - Humidity
- Alert users of conditions outside of automatic control (i.e. soil composition and frost)
- Change control parameters:
  - Sun light
  - Water
  - Soil parameters
- Have an intuitive user interface
- Communicate with the MCU

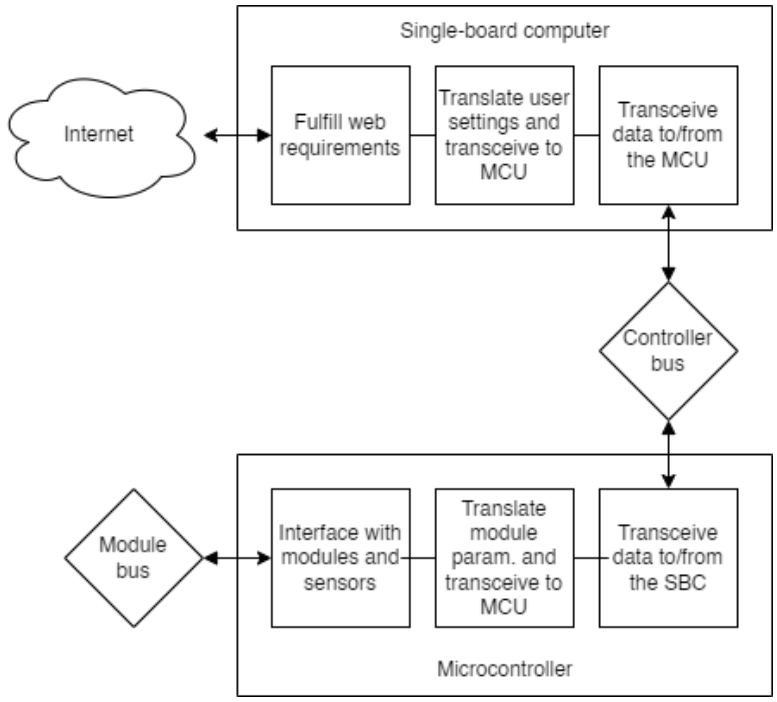
2.4.2 Stretch

It would be nice to have the web component:

- Set control parameters based on presets for plants
- Get plant data from the web to pass to MCU
- Communicate over secure channels

3 Block Diagrams

3.1 MCU

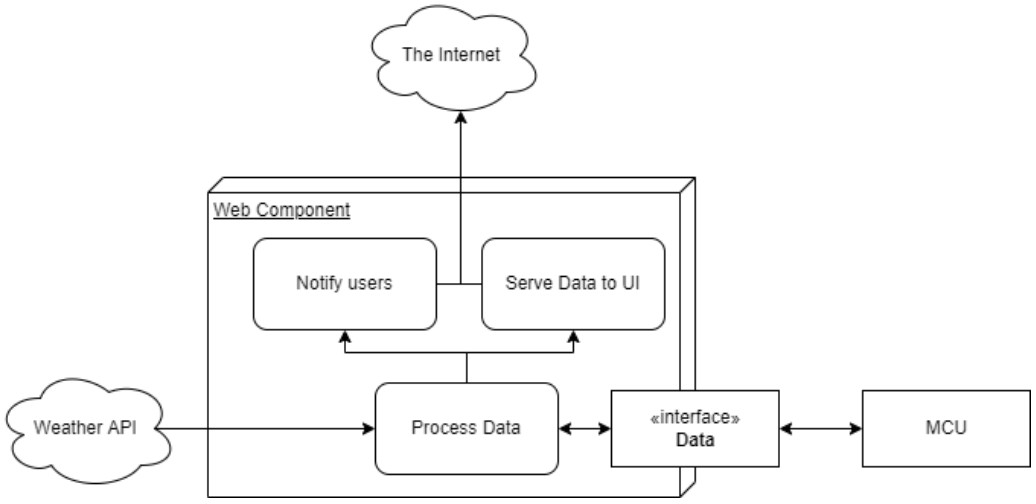


3.2 Power

3.3 Sensing

3.4 Web

Figure 1: Web component block diagram



4 Project Management

4.1 Budget

4.2 Finance

4.3 Milestones

4.3.1 Fall

4.3.2 Spring