Group 19 LFMT

Automated Planter

Mason Trippel & Lucas Fox

Mason Trippel
Bio/Responsibilities

Major: Computer Engineering

Skills: Microcontroller Programming/Wiring, 3D Design, Circuit & PCB Design

Responsibilities: Budgeting, Hardware & Microcontroller Programming,

Lucas Fox
Bio/Responsibilities

Major: Computer Science

Skills: Software Engineering, Mobile App Development, Web Development, Full-stack

Responsibilities: Handle app development and UX

The problem

Stages of plant ownership

01

You spend $20-40 on a house plant. It looks nice and you try to take care of think it will never die under your watch.

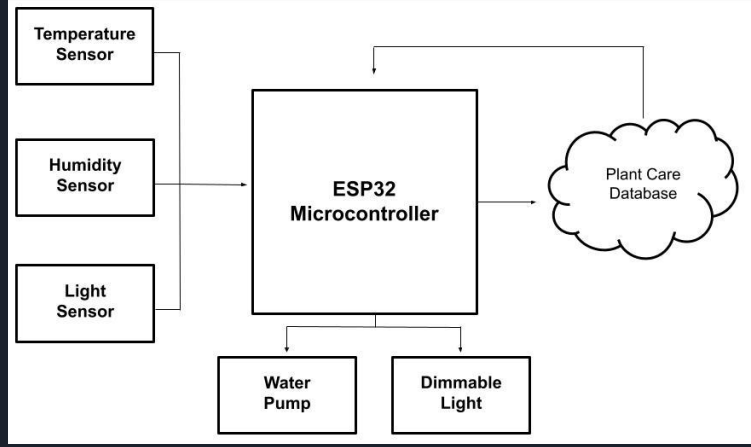
02

You forgot to water it for the last two weeks, but it’s still green…ish. You give it some water and expect it to come back to full health.

03

The plant is now beyond saving and in an effort to shield yourself from the responsibility you throw it outside to rot away.

Project objective



Design a device that can:

- Ensure plant health by varying the amount of light & water your your plant receives
- Measure important environmental factors
- Use measurements to optimize the environment for the plants health
- Report this data to the user
- Notify the user of any issues and when maintenance is required

Proposed Solution

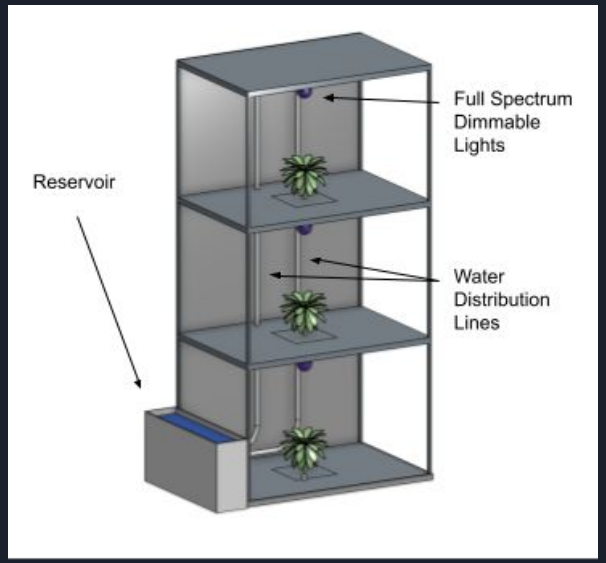
- IOT Device
- Dynamic Application
- Simple UI/UX
- 3D-Printable
- Open Source

Budget

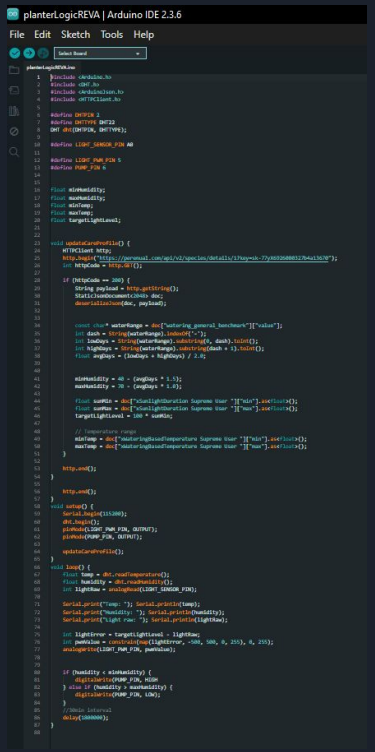
Item	Cost
ESP32 Microcontroller	$7.00
Water Pump	$6.00
Misc Sensors/ICs	$6.50
Misc Hardware	$25.00
Test Environment/Enclosure	$20.00
Total	$64.50

Progress to Date

3D Model



Microcontroller Program Outline



Plant Care API (Perenual)

Project Timeline