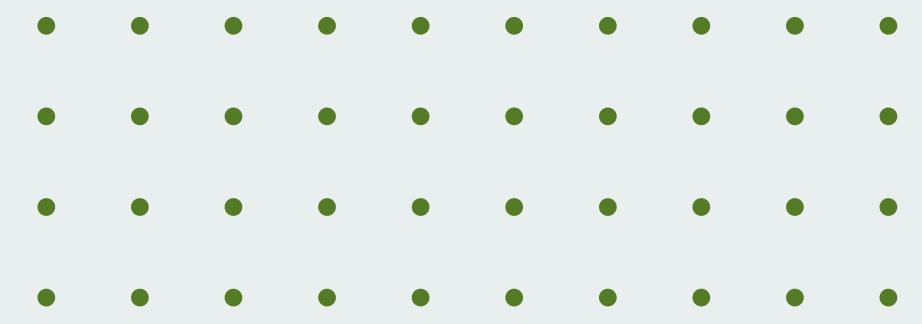




NutriTech Pot

Growing made simple

EN - 1190 ENGINEERING DESIGN PROJECT
Group Power On



01.

PROBLEM VS SOLUTION

Why people struggle with gardening?

02.

PRODUCT

The NutriTech Pot

03.

TECHNICAL FEASIBILITY

The components we use

04.

PRODUCT ARCHITECTURE

The circuit and enclosure designs

05.

MARKETING AND SALES

How we reach the audience

06.

OUR BUDGET

The expenditures and the product price

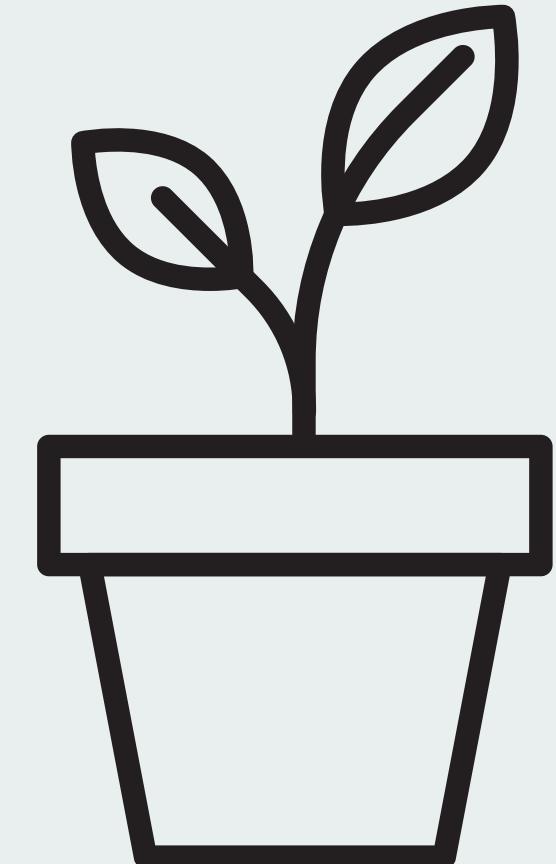


TABLE OF CONTENT

Problem

vs

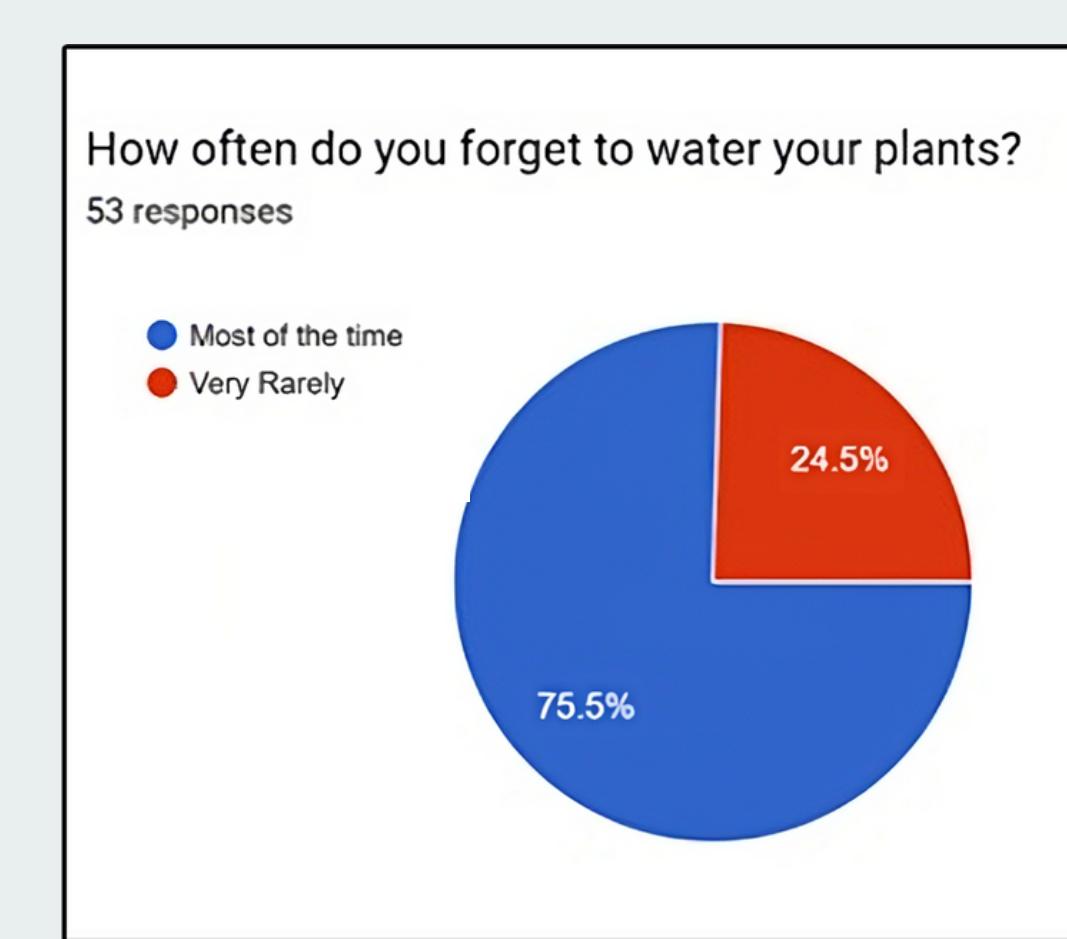
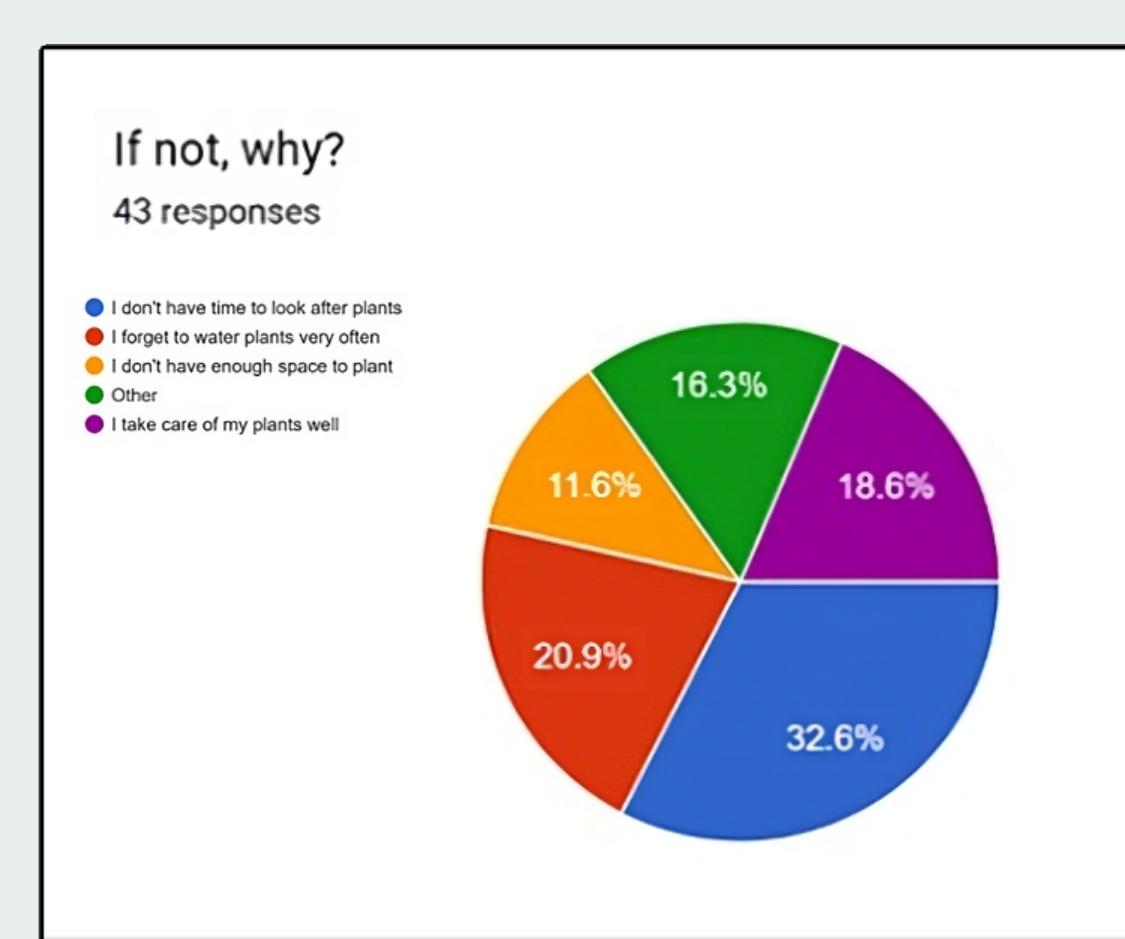
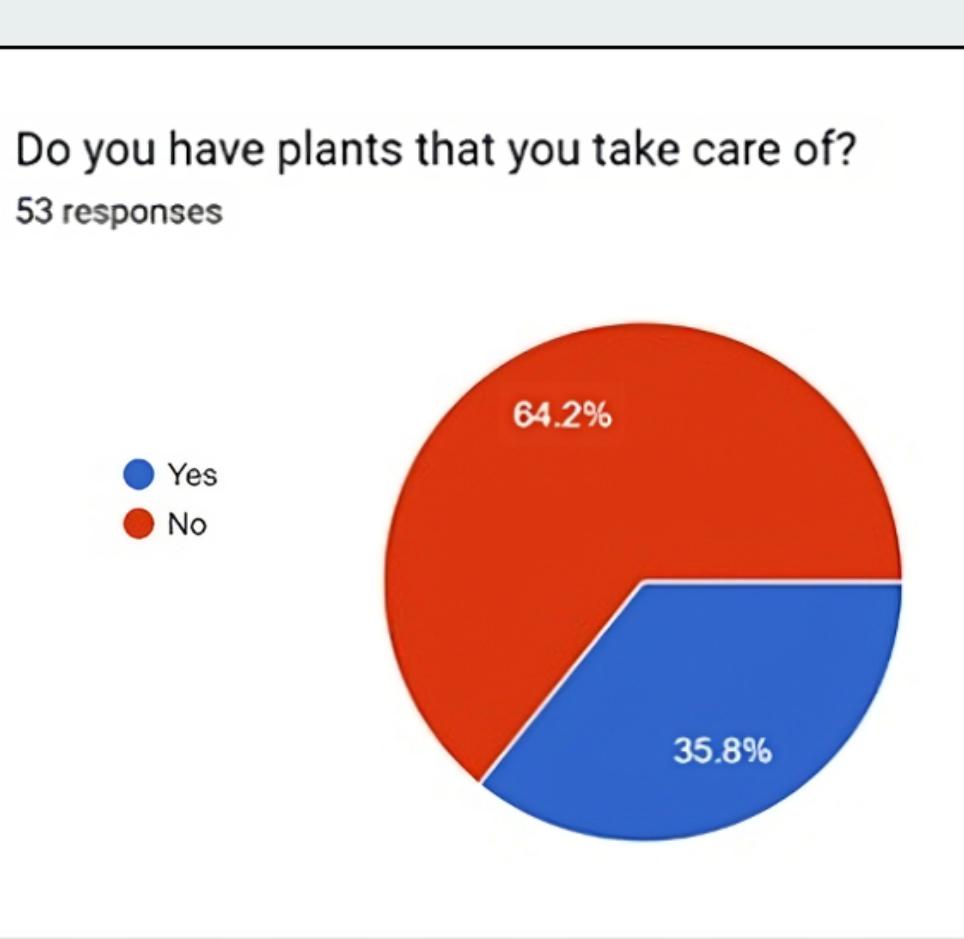
Solution



Problem

Many people struggle with keeping their plants alive due to inconsistent watering.

For busy individuals or those without a green thumb, this can be a frustrating and costly problem.



Solution



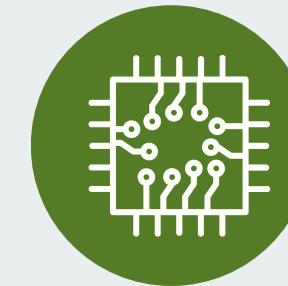
NutriTech Pot

The project aims to address this issue by creating a smart plant pot that automatically waters plants when the soil moisture level is low to ensure optimal growing conditions.

By providing a solution to this common problem, we hope to make plant care more accessible and enjoyable for everyone.

TECHNICAL

FEASIBILITY



Hardware

- Atmega328p microcontroller
- capacitive soil moisture sensor
- DC water pump
- Water level detector



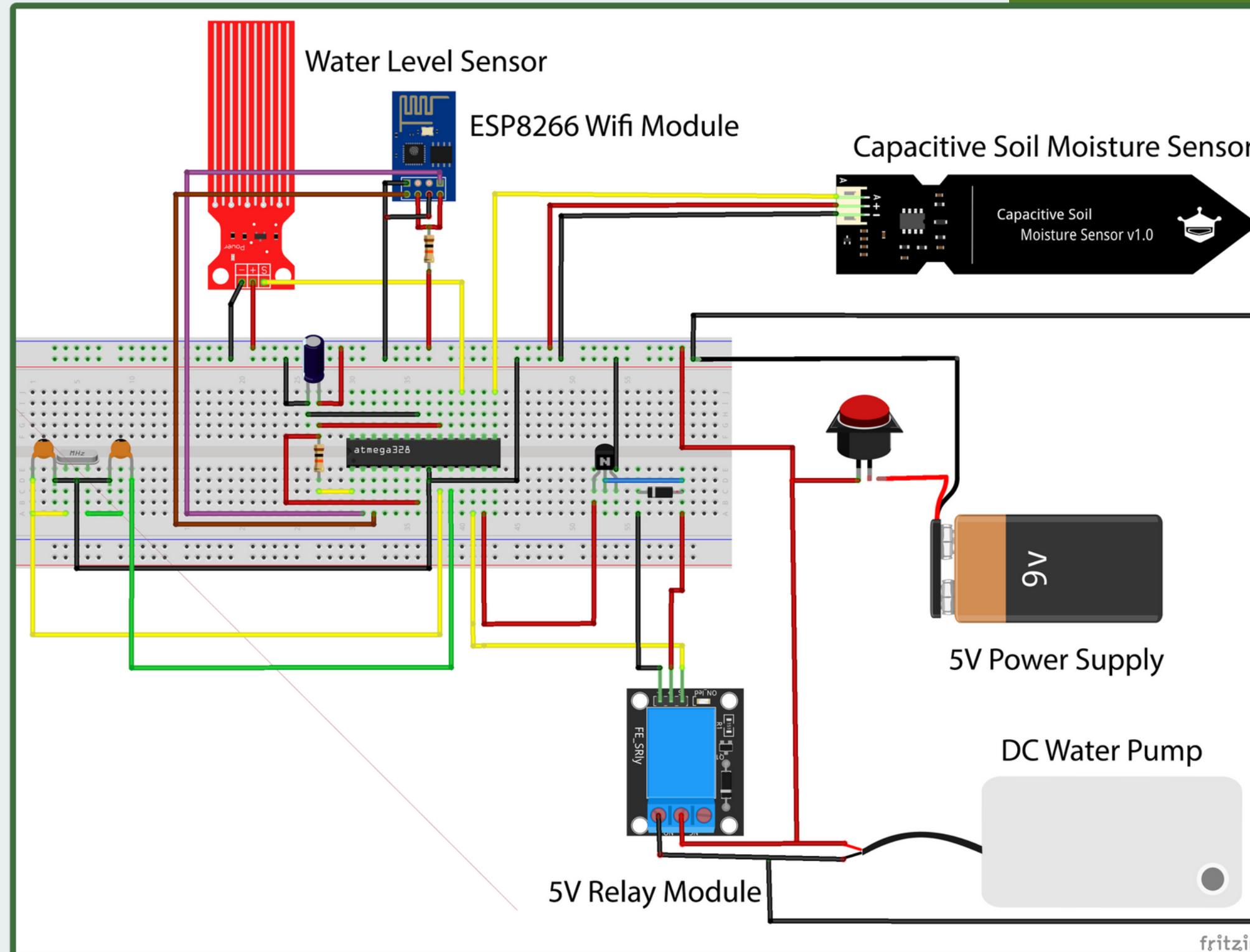
Software

- Arduino IDE
- Android Studio
- Altium Designer
- Solidworks



Circuit and Enclosure

Product Architecture



Main Circuit

- Measuring the water level
- Detecting the soil moisture level
- Getting the sunlight measurement
- Activating the water pump

Nutritech App

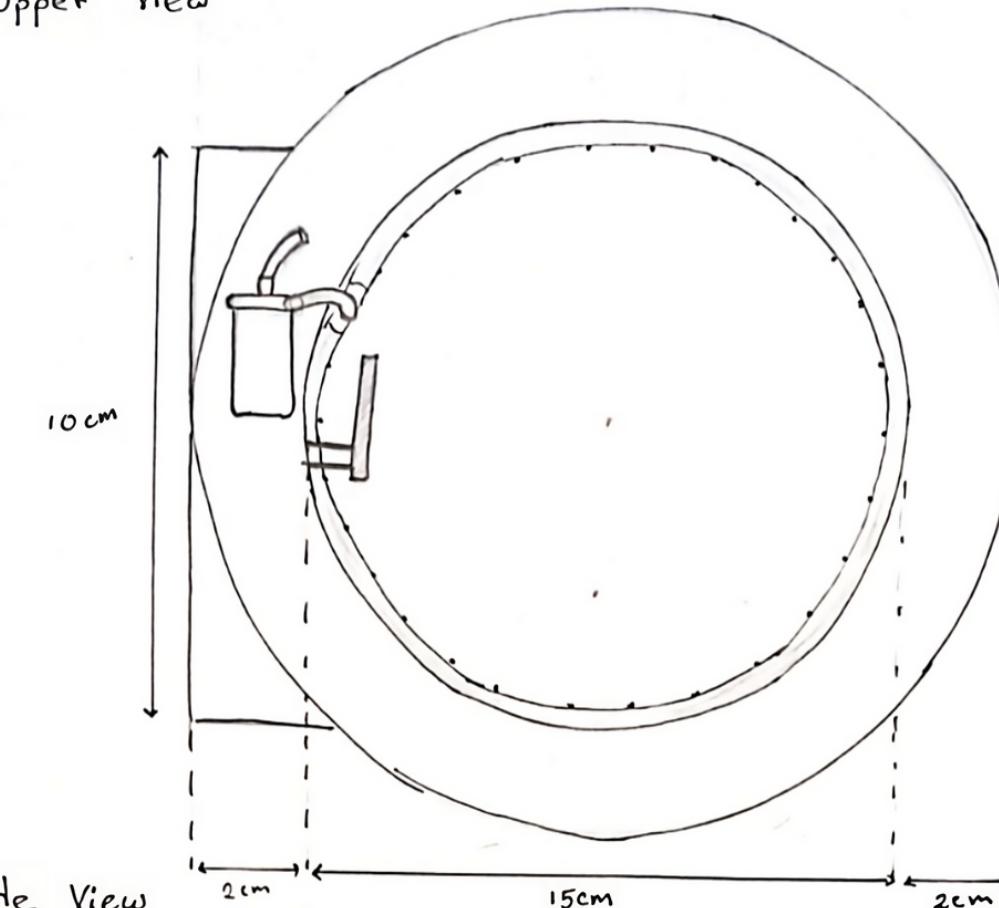
- Monitors the water level in the tank and the soil moisture level
- Alerts user when the water level in the tank is low

Final

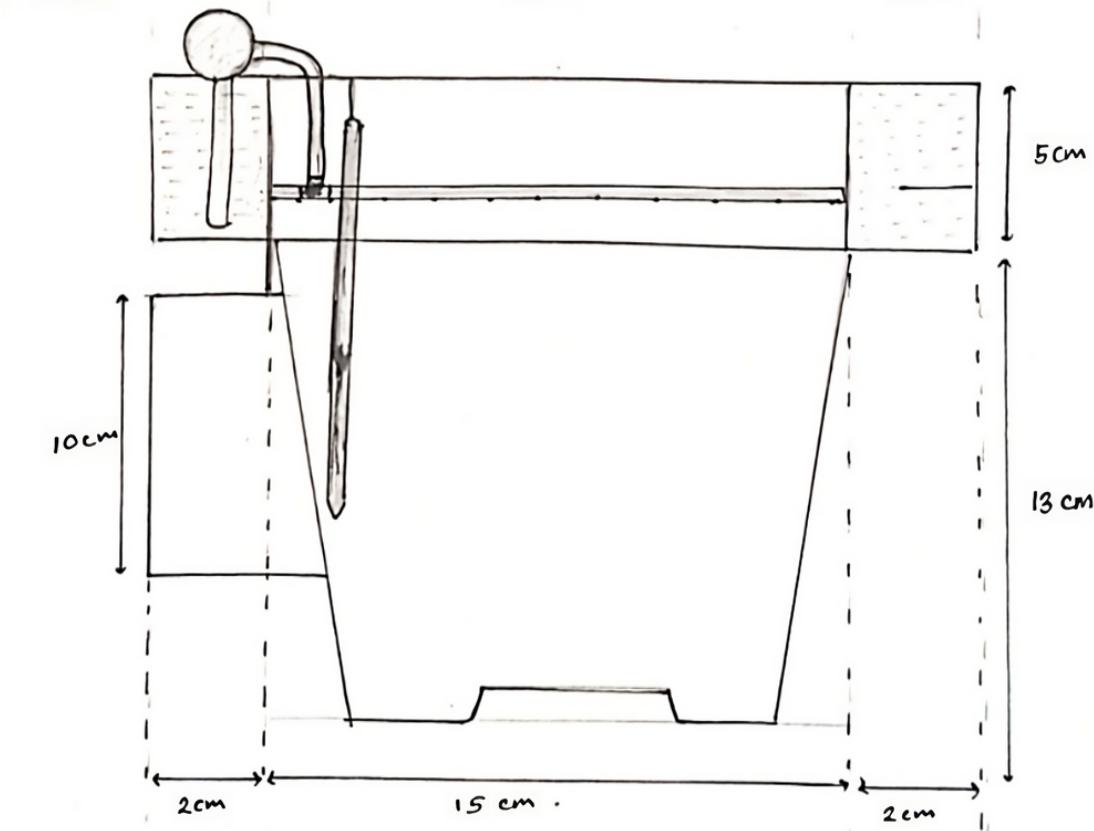
Sketch

**Material - PLA filament
Color - Matte Black**

Upper View



Side View

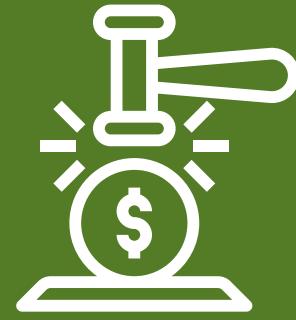


Marketing



Competitive Forces

Product quality, pricing, support, and marketing affects the competitive forces



Economic Forces:

We will have to adjust pricing and marketing according to inflation, market growth, and disposable income.



Target Markets

people who care about gardening and sustainability, especially those living in urban areas



Product Packaging

The product packaging will be made of recycled materials



Warranty Terms

We are planning to offer a 6 months warranty period with 10 months service period



Marketing Strategies:

Sales



Marketplaces



Online Marketplaces



E-Commerce Websites



Retail Stores



After Sales Service

A customer support hotline, which is easily accessible and responsive to ensure customer satisfaction.



Maintenance and Repair

- Clear instructions for cleaning and upkeep to ensure the product lasts for a long time
- Offer repair services for any damages or malfunctions that occur during the warranty and service period.

Product

Budget

Total production cost
Rs 3000

Market Price
Rs 3600

Manufacturing Quantities
50

| Component | Qty | Unit Price (LKR) | Price (LKR) |
|---|-----|------------------|----------------|
| atmega328p Micro Controller | 1 | 1400.00 | 1400.00 |
| Capacitive Soil Moisture sensor(MD0247) | 1 | 400.00 | 400.00 |
| ESP 8266 Wifi Module | 1 | 480.00 | 480.00 |
| DC water pump(RB0031) | 1 | 380.00 | 380.00 |
| 9V Battery | 1 | 200.00 | 200.00 |
| Water Level Detector(MD0207) | 1 | 220.00 | 220.00 |
| 16MHz Crystal Oscillator | 1 | 40.00 | 40.00 |
| Resistors (1 kOhm - 1, 10 kOhm - 1) | 2 | 3.00 | 6.00 |
| BC 547 npn Transistor | 1 | 5.00 | 5.00 |
| IN 4007 Diode | 1 | 5.00 | 5.00 |
| Push Button Switch | 1 | 30.00 | 30.00 |
| 5V Relay Module | 1 | 100.00 | 100.00 |
| Capacitors (10 micro F - 1, 22 pF - 2) | 3 | 5.00 | 15.00 |
| Total | | | 3281.00 |

Meet Our Team



Mihiruth Sehara



Jaliya Nimantha



Uvindu Kodikara



Start Growing

With Us!

Thank You!