TECHNOLOGY ARCHITECTURE

AGROTECH Hardware Model

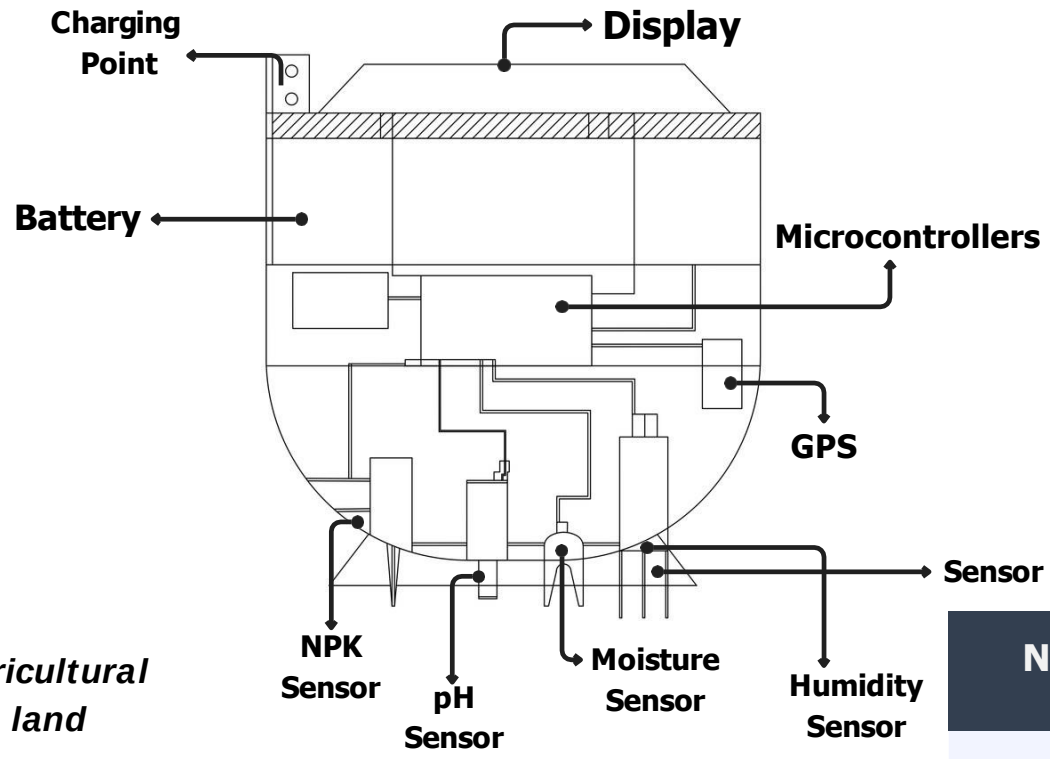
- Microcontroller(ESP-32)
- Sensors
  - Soil pH sensor
  - Moisture sensor
  - Humidity sensor
  - NPK sensor
- Display(Screen)
- Power Supply(LiPo battery)

ESP32(WIFI) MODULE

SOFTWARE INFRASTRUCTURE/ SOFTWARE ARCHITECT

- UI(User Interface)
- Data Visualization
- Alerts and Notifications
- Historical Data
- Recommendation of Crop

HARDWARE INFRASTRUCTURE



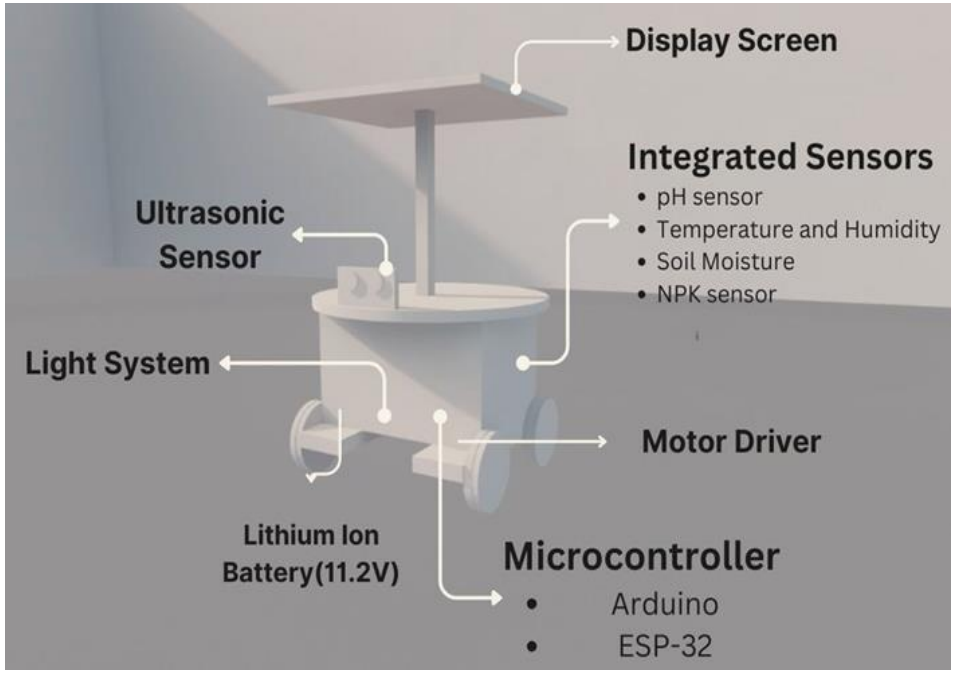
IOT FIRMWARE TRANSFER

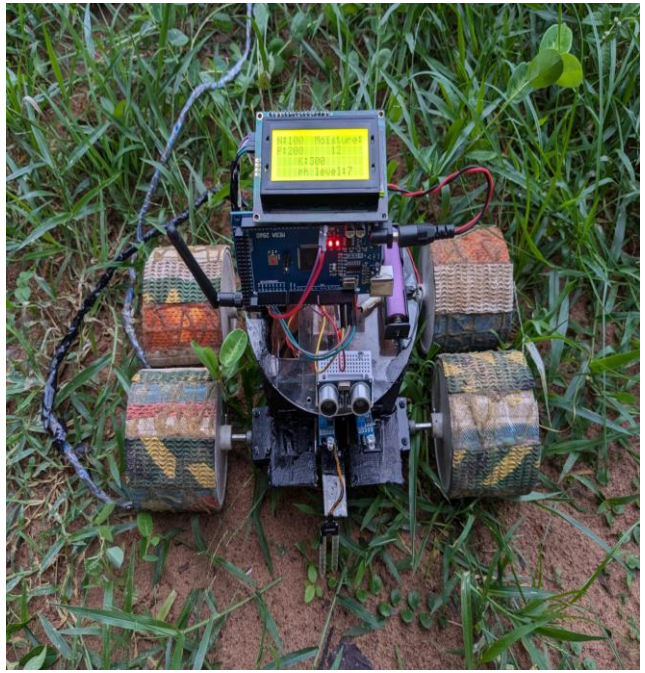
HTTP

NETWORK & COMMUNICATION CLOUD INFRASTRUCTURE

- Data Processing
- Machine Learning
- Real Time Analytics
- Data Storage(No SQL)

MVP Model (AgroTech)





AgroTech Optimize design to collect data of the land for agricultural yield.

- This innovative module integrates various sensors to collect real-time land data, including temperature, humidity, and other key parameters essential for crop growth. Using a Wi-Fi or radio frequency module, the data is transmitted to a mobile app for analysis and prediction.
- The app utilizes machine learning algorithms incorporating factors such as temperature, dew point, humidity, precipitation, wind conditions, and more to assess crop conditions and land fertility. Farmers receive actionable insights on crop health, potential yield, and optimal resource management directly on their smartphones, enabling informed decision-making for improved agricultural productivity and sustainability.
- Precision Agriculture
- IoT-enabled Crop Monitoring
- Real-time Sensor Data
- Weather Analytics