

MILESTONE II - PHASE II

SRS

B 22

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CONTENTS OF THE SLIDES

1. Problem Statement
2. SRS
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4. Status and further works

PROBLEM STATEMENT

- Farmers | Losses | Poor Decision Making
- Ancient Methods
- Crop Failure due to uninformed decisions
- No real time data of the soil

SOLUTION PLANNED

- ✓ Real time data of the soil
- ✓ Recommendations of crop and fertilizer
- ✓ Auto Irrigation System
- ✓ LORA for high area coverage
- ✓ Data on finger tips

SOFTWARE REQUIREMENT SPECIFICATION

Machine Learning Module



IoT Sensors Module



Automatic Irrigation System



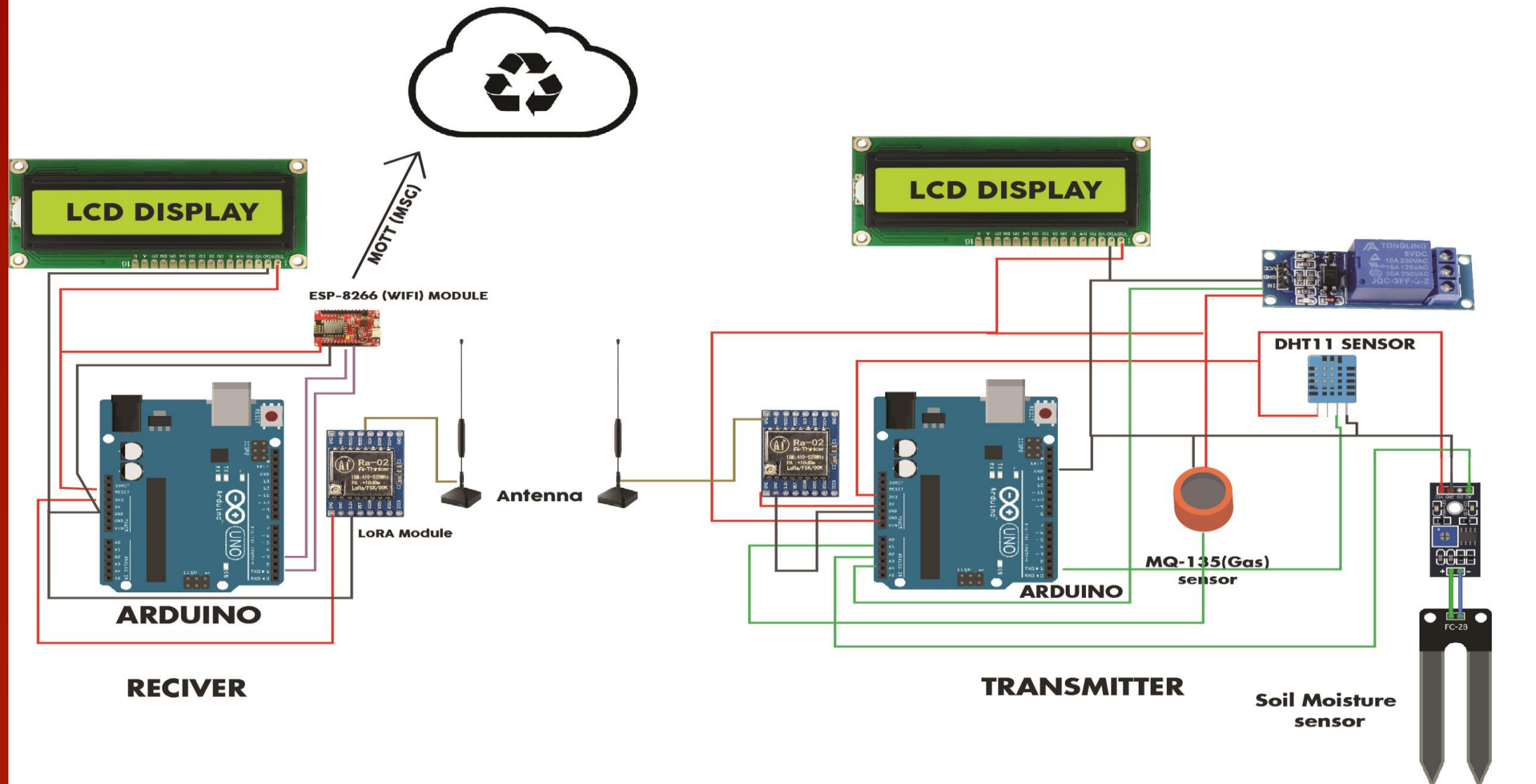
HARDWARE REQUIREMENTS

- Arduino Uno
- LoRa Module with Antenna
- ESP8266 Wi-Fi Module
- 16 Pin LCD Display
- LM252 Voltage Regulator
- MQ135 Gas Sensor
- DHT11 Temperature
- FC28 Soil moisture Sensor
- Single Channel Relay
- Basic Hardware

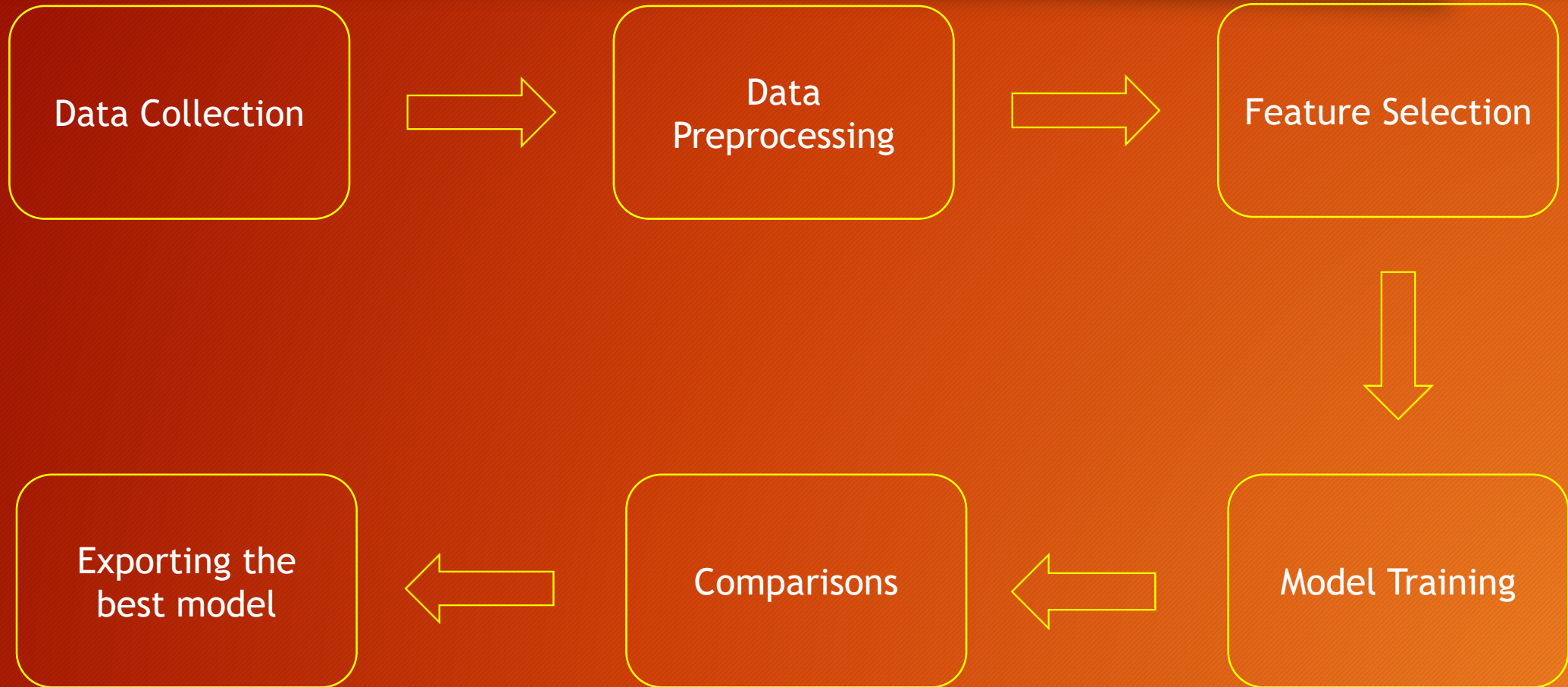
DESIGN DETAILS

- IoT Design
- ML model design
- System Architecture
- Sequence Diagram

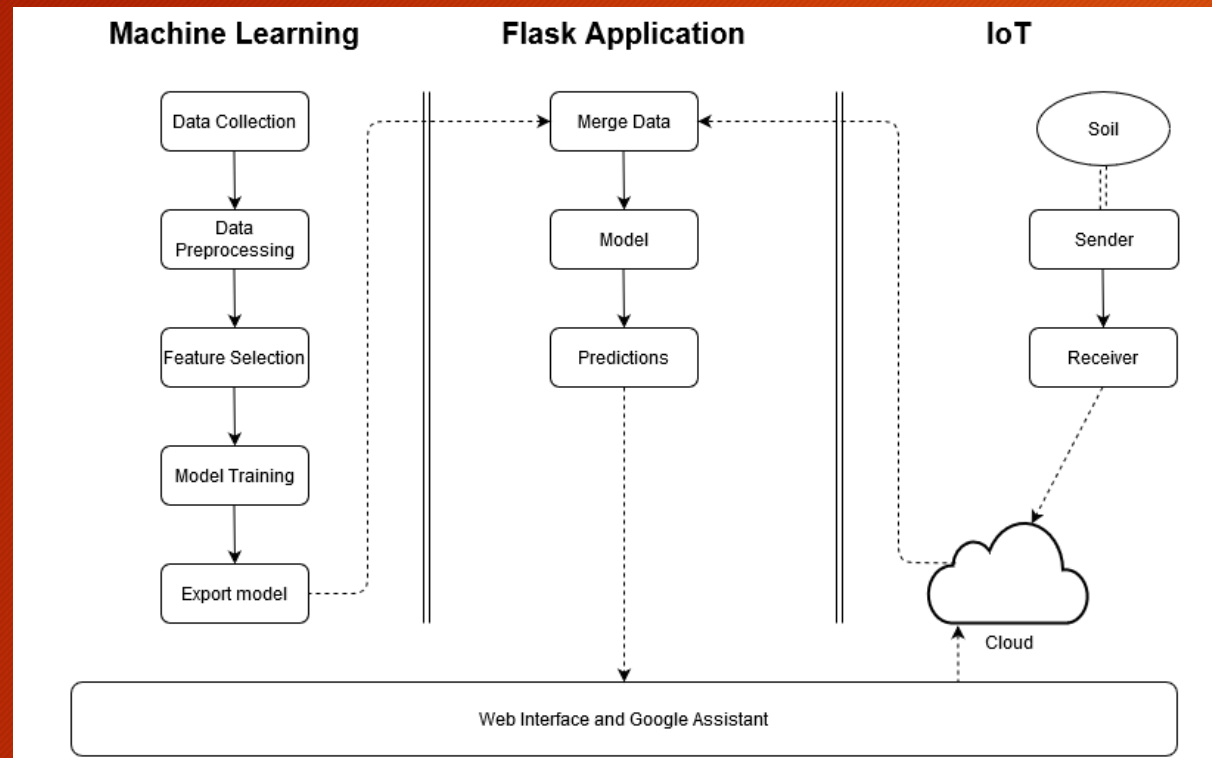
IoT DESIGN



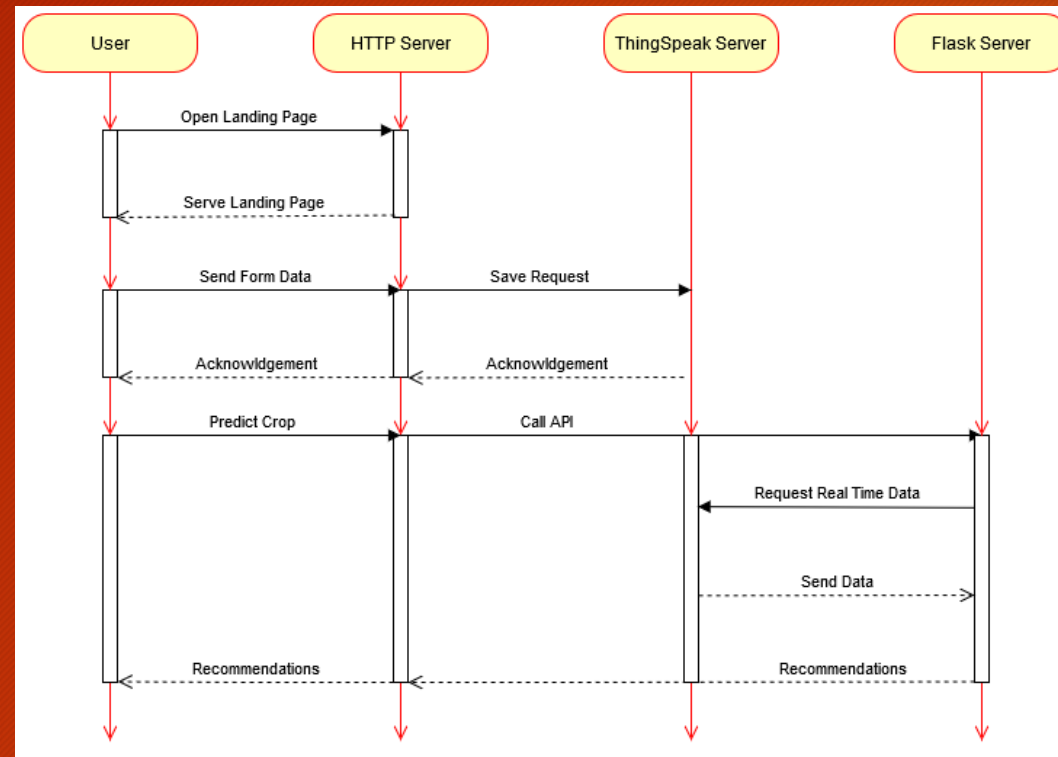
ML MODEL DESIGN



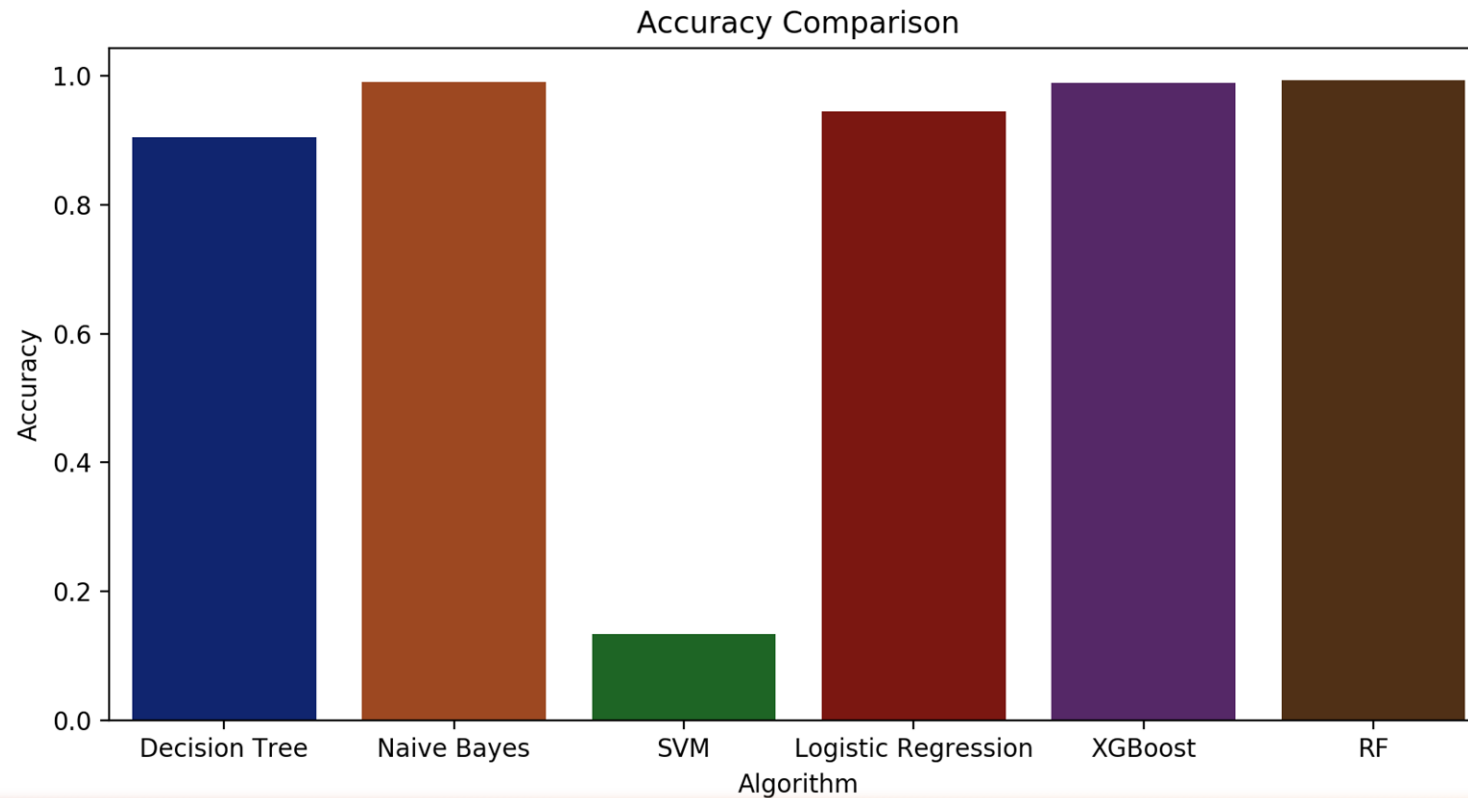
SYSTEM ARCHITECTURE



SEQUENCE DIAGRAM



COMPARISON OF ALGORITHMS



COMPARISON OF CHOSEN SOLUTION

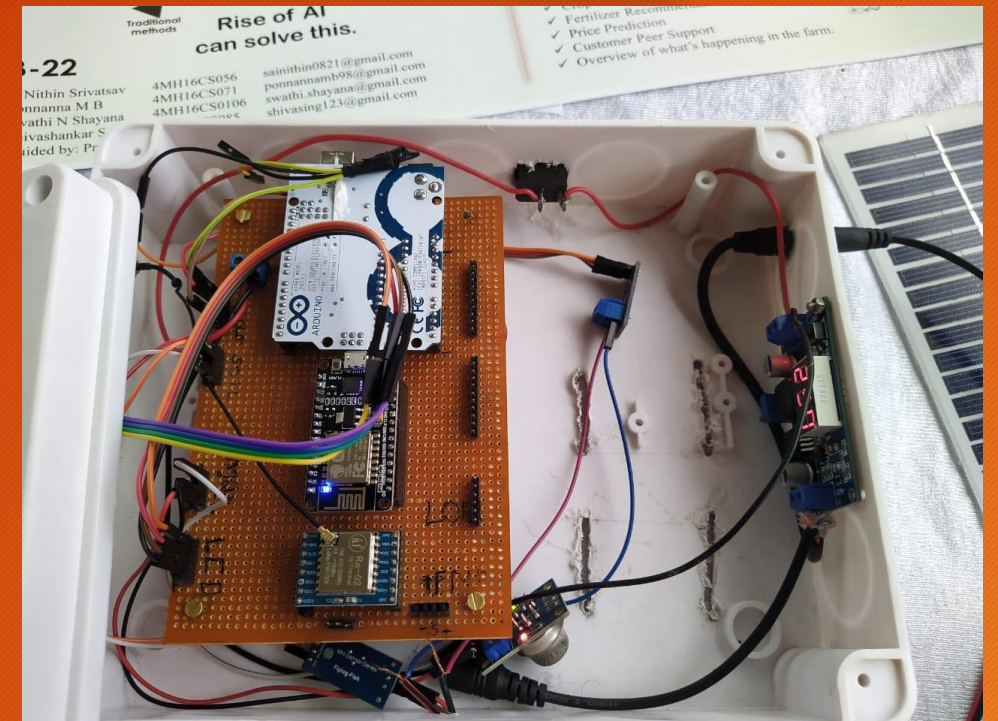
- IoT
 - LORA module vs ZigBee
 - Automatic Irrigation System
 - Battery Backup | Renewable Source of Energy
- Machine Learning
 - Many features
 - High Accuracy
- General
 - Integration of different modules
 - Complete package system for farmer

STATUS AND FURTHER WORKS

- ✓ Crop Recommendation
 - ✓ Real Time Soil Data
 - ✓ Web Page
 - ✓ Google Assistant
 - ✓ Automatic Irrigation System
 - ✓ Deployed everything onto cloud
- Fertilizer Recommendation
 - Integration of all APIs

DEMONSTRATION INFORMATION

- Sender in the quadrangle.
- Receiver at the presentation spot.
- Website deployed.



THANK YOU