SMART INDIA HACKATHON 2023

Basic Details of the Team and Problem Statement

Ministry/Organization Name/Student Innovation: AICTE

PS Code: SIH1475

Problem Statement Title: Student Innovation

Team Name: InnoTech Elites

Team Leader Name: Manmath Pradhan

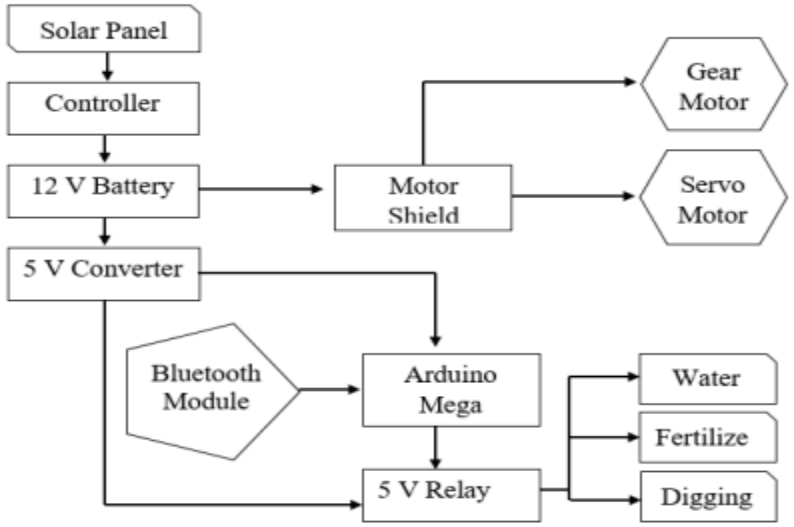
Institute Code (AISHE): C-30127

Institute Name: INDIRA GANDHI INSTITUTE OF TECHNOLOGY

Theme Name: Robotics and Drones

Idea/Approach Details

- We want to create a completely autonomous and interconnected crop monitoring system. It uses various sensors, algorithms, databases and IOT based technologies to collect real time data on the plants' growth and development at an individual level and use those data points effectively to generate useful insight and predictions.
- The raw data is collected by a diverse array of sensors which is then collated with a database. The generated data is analyzed and a report is generated. The report provides recommendations to the farmer on the status of the plants.



Technology stack:

- NodeMCU ESP8266
- Soil Moisture Sensor
- Temperature and Humidity Sensor
- Relay Module
- Water Pump
- Camera
- PH Sensor
- Arduino IDE
- Solar Panel

Idea/Approach Details

Use Cases

- Smart Plant Monitoring Systems provide real-time information about the conditions of your plants, including temperature, humidity, light levels, and soil moisture. User can access the system's data and control features from anywhere remotely through app.
- By maintaining ideal conditions, it can promote plant health and boost productivity for crops.
- These systems can be valuable tools for educational purposes and scientific research by providing data for plant studies and experiments.
- The state of humidity, temperature, and luminosity can easily be maintained in greenhouses, through the help of IoT devices making it less complicated.

Dependencies / Show stopper

- Like any other technology this can also experience failures or issues if not maintained properly, like power failures, sensor failures, connectivity problems.
- If the manufacturer or service provider discontinues support it may difficult to address and receive updates.
- The resourcefulness of every user will not be the same. This will require personalized troubleshooting.
- The intricacy of the system will make installation slightly tedious. However once installed, maintenance will be minimum.

Team Member Details

Team Leader Name: MANMATH PRADHAN

Branch : Btech Stream : CSE Year : III

Team Member 1 Name: NISHANT KUMAR BEHERA

Branch : Btech Stream : CSE Year : III

Team Member 2 Name: B. SATIVKA

Branch : Btech Stream : ME Year : III

Team Member 3 Name: SATYAM SHREE MAHANTA

Branch : Btech Stream : ME Year : III

Team Member 4 Name: KS SMRUTI SANJIT

Branch : Btech Stream : ETC Year : III

Team Member 5 Name: DEBASIS BADA

Branch : Btech Stream : CSE Year : III

Team Mentor 1 Name: Type Your Name Here

Category (Academic/Industry): Expertise (AI/ML/Blockchain etc): Domain Experience (in years):

Team Mentor 2 Name: Type Your Name Here

Category (Academic/Industry): Expertise (AI/ML/Blockchain etc): Domain Experience (in years):