PROJECT SCOPE

Project Title: Smart Agricultural System Based on IoT

Submitted By:

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Project Summary

- Smart Agriculture System based on IoT can monitor temperature, soil moisture and climatic conditions to grow and yield a good crop.
- The farmer can also get the real-time weather forecasting data by using external platforms like Open Weather API.
- Based on all the parameters he can water his crop by controlling the motors using the mobile application.
- Instead of physical devices we create devices in the IBM IOT platform and use them in our project.
- We connect our device to the IBM node in the Node-Red framework.
- We need to create Weather API account to configure weather API Platform.
- We then Configure our Node-red to get the weather forecasting data using http requests.
- We Build Web application to create buttons for front end and connect them to back end (IOT platform).
- Here we are using the Online IoT simulator for getting the Temperature, Humidity and Soil Moisture values.

Project Requirements

❖ Functional Requirements:

- Basic knowledge of IoT
- Basic knowledge of programming
- Display the sensor readings using Watson IOT sensor.

❖ Technical Requirements:

- IOT Simulator
- Basic idea about Node-Red and Git hub.
- Basic knowledge OF IBM Cloud and IBM Watson IoT platform.

❖ Software Requirements:

- IBM Cloud Account and IBM Watson IOT Platform to create device and sensor.
- Python IDE
- Node-Red
- Open weather API Platform
- GIT tool

Project Deliverables

- Configure the Node-red to get the data from IBM IOT Platform and Open Weather API.
- Building a Web App.
- Configure device to receive the data from the Web Application and Control Motors.
- A web app can monitor temperature, humidity, Soil moisture along with weather forecasting details and control motor.

- Control motor for watering the crop.

Project Team

- It's a single member project:

  Vatsal Gupta
  (Smart Agriculture system based on IoT - SB38462)

Project Schedule

Week 1:

- Preparing project plan.
- Setting up development environment.

Week 2:

- Creating account on IBM Cloud and exploring IBM cloud platform.
- Installing python IDE.
- Installing Node-Red Locally.
- Creating device on IBM Watson IoT platform.
- Connecting the IoT Simulator To Watson IOT Platform.

Week 3:

- Configuring the Node-red to get the data from IBM IOT Platform and Open Weather API.
- Building a Web App.

Week 4:

- Configuring the device to receive data from The Web Application and Control the Motor.
- Writing Project report.
- Uploading files on Git-hub.