SMART AGRICULTURE SYSTEM USING IOT

PROJECT SCOPE & KICKOFF

PROJECT SUMMARY:

The main purpose of this web app is to develop and provide a user - friendly interface for farmers to yield their crops. To provide essential data about the temperature, humidity and moisture of the soil. To water their crops by knowing the weather conditions with an inclusive weather forecast feature, so that they can also make precautionary steps to their field in case of bad weather conditions among other scenarios. This helps farmers monitor their fields more easily and efficiently just by sitting in their home. The objective of this project is to help farmers increase their crop productivity and improve the living standard of farmers in the society by giving them guidance to appropriate use of modern features and other available technology stacks.

PROJECT SCOPE:

The agricultural sector provides livelihood to two-third of the population. Agriculture also accounts for 15 percent of the total earnings and provides raw to most industries. Agriculture is regarded as the backbone of India.

This project will help in the development of agriculture by helping farmers in their work. The web application provides data about soil moisture, temperature and humidity in their land. The weather forecast will also be included to help them in watering crops in suitable times. They can also control the motor to turn on and turn off so they can water their crops when required.

The Web app will be an easy interface for farmers to interact with the cloud and monitor their crops from anywhere. This saves a substantial amount of time and reduces human power. In future, crop details can also be added so that they can cultivate crops according to climatic conditions.

PROJECT REQUIREMENTS:

An IOT simulator to create virtual sensors readings.

Open Weather API to obtain the weather forecast of the region.

An information source to provide details about the various crops that can be cultivated in different seasons and other useful details will be provided for the betterment of the farmer.

PROJECT DELIVERABLES:

To configure and create a simple and easy interface to collect the data from the IBM Cloud which is associated with the IOT Watson platform.
Store the data on the IBM cloud for future analysis.
Notify the user about the conditions of the soil and weather, and to perform any actions if required.
To water the crops by controlling the motor using the web app from anywhere.

PROJECT TEAM:

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PROJECT SCHEDULE:

The Smart Agriculture system using IOT was developed in the following schedule:

May 23, 2020 - Project Planning and Kickoff. Planning and writing the project requirements, software and technical requirements along with the project scope and summary.
Completed on: May 23th Evening, 2020.

May 24, 2020 - Create a GitHub account and sign into the slack channel to communicate and start working the ZOHO writer regarding the project report.
Completed on: May 24th Evening, 2020.

May 25, 2020 - Create an IBM account to access its cloud and IBM Watson platform and get started with the IBM cloud and interface.
Completed on: May 25th Evening, 2020.

May 26, 2020 - Install Node Red on the PC/Laptop and explore the IBM Watson IOT platform to work with simulators in the project. Install Python IDE to code the web app and Node - Red platform.
Completed on: May 27th Evening, 2020.

May 28, 2020 - Configure and set the IOT simulator and the IBM Watson platform with the help of Node red and start to connect them via Node Red.
Completed on: May 29th Evening, 2020.

May 30, 2020 - Install required nodes to the Node Red to get the data from the IBM Cloud and Open weather API. Connect the IOT simulator with the IBM Watson platform to collect and store the data.
Completed on: May 31st Evening, 2020.

June 1, 2020 - Create an account in Open weather API and generate a reference link to the weather forecast information for the selected region.
Completed on: June 2nd Evening, 2020.

June 3, 2020 - Configure Node - Red that gathers data from the Open weather API and sends it to the IBM Platform to access it from the web app.
Completed on: June 5th Evening, 2020.

June 6, 2020 - Connect the Node - Red to display the weather parameters and the data from the simulators to get displayed in the web application.
Completed on: June 8th Evening, 2020.

June 9, 2020 - Start to build the web application with necessary buttons and icons to send and receive data from the cloud at the client end.
Completed on: June 11th Evening, 2020.

June 12, 2020 - To develop a python code using the IDE that subscribes to the IBM platform to get the required data from the IBM cloud and respond accordingly to the commands given by the client.
Completed on: June 13th Evening, 2020.