PROJECT NAME : SMART AGRICULTURE SYSTEM BASED ON IOT

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PROJECT SCOPE

Project Summary:

Internet of Things (IoT) is present and future of every field impacting everyone's life by making everything intelligent. It is a network of different devices which make a self-configuring network. The new developments of Smart Farming with use of IoT, by day turning the face of conventional agriculture methods by not only making it optimal but also making it cost efficient for farmers and reducing crop wastage. In this project we create a smart IoT based agriculture monitoring system to continuously monitor the weather and soil conditions. This will be accomplished by using the IBM Watson IoT platform and Openweather API. We use Python language to interact with the system. The eye-catching features of this project include smart irrigation with smart control based on real time field data. Secondly temperature maintenance, humidity maintenance and other environmental parameters. And finally the recommendation to farmers for smart agriculture. Temperature, humidity and soil moisture sensors are used to obtain the necessary information and push them to the cloud platform. Further we create a web page which is accessed by the farmers to monitor their crop.

Project Requirements:

A smart IoT based agriculture system is developed using the IBM IoT platform where the required devices are created. The simulation is done in the watson IOT sensor simulator. The sensors take reading every minute and upload to the cloud. Node-red is used to wire together the hardware, online services and APIs. To simulate weather information , we create an account in Openweather.org and provide through the sensors. Later, these are used through a web interface to control the motor.

Software Requirements:

IBM cloud, Watson IBM IoT platform, Node-Red, Openweather.org, IoT sensor simulator, Python idle

Project Deliverable:

The project is to provide the farmers with the data regarding the weather and soil conditions through a web app. This makes farming profitable and prevents the damage of the crop as well as increase the production.

Project Team:

Individual project.

Project Schedule:

The project is to be completed in 1 month and work for at least 5 days a week. The project can be divided into two phases, one is retrieving data from iot sensor simulator to node-red and the other is for displaying data in UI.

Future Scope:

The project can be further extended to enabling the usage of AI in the agriculture ecosystem. We can also integrate the system using solar panels which replace the conventional electricity methods. We can suggest crops based on the climatic conditions of the data. Based on the water level, we can alert the farmer or automatically turn the motor off.