Project Planning & Kickoff

PROJECT PLANNING

PROJECT KICKOFF

Project Manager: Rahul Pandurang Bhere

Project Name: Smart Agriculture system based on IoT - SB48131
Project ID: SPS_PRO_101

PROJECT SCOPE

Project Scope:

Agriculture plays vital role in the development of agricultural country. In India about 70% of population depends upon farming and one third of the nation's capital comes from farming. Issues concerning agriculture have been always hindering the development of the country.The only solution to this problem is smart agriculture by modernizing the current traditional methods of agriculture. Hence the project aims at making agriculture smart using automation and IoT technologies.The highlighting features of this project includes smart GPS based remote controlled robot to perform tasks like live tempreture,soil moisture,humidity parameteralso realtime weather forecasting data by using externals platforms like Open Weather API.

In this Smart Agriculture System based on IoT can monitor soil moisture and climatic condition to grow and yiel a good crop.Also farmers are provided a mobile app using app they also monitor the temperature,humidity and soil moisture parameters along with weather forecasting details.Based on parameters they can water there crop by controlling the motor using mobile application.

Project Summary:

We intend to apply IOT in agriculture specially in Indian Farming as India still tends to use primitive methods of farming which are quite inefficient and require a lot of man-power.IOT serves as a powerful, reliable and cost effective technology to implement the idea of "Smart Village" that aims to empowerment of villages with advance connectivity through web service, measurement of environment factors like

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Soil moisture, temperature, humidity and implementing cloud computing along with real time monitoring using GSM system.

Project Requirements:

Python,IBM Cloud,IBM Waston

Functional Requirements:

IBM Cloud

Technical Requirements:

Python,Waston AI,ML

Software Requirements:

Waston IOT,Node Red,Python IDLE,Weather API

Project Deliverables:

Our project involves json and IOT technology. We made our project user friendly keeping in mind that our main customers are farmers who are not so educated. First of all we have to teach them and show them how our project works and how they will be benefited.Also a technician for our project is to be placed in every village so that they can help them in any queries or problems.

Cloud Establishment

1. Creating a IoT device using IBM IoT platform
2. Connection Establishment between IoT Sensor Simulator and IoT device
3. Graphical Visualisation of the data recieved in IBM Cloud

Node Red Configuration

4. Connection establishment between NodeRed and IBM IoT platform
5. Data representation in UI (Temperature, Humidity, Object Temperature)

OpenWeather Configuration

6. OpenWeather API Configuration
7. OpenWeather API Integration with NodeRed

GUI Integration

8. Motor Control Development
9. Building a Web App
10. GUI Development
11. Connection Establishment Between GUI and IBM IoT Platform

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Project Team:

RB(Rahul Bhere)

Project Schedule:

1.Project Planning & Kickoff (1 Days)

a.Project Scope, Schedule, Team & Deliverables(1 Days)

b.Setup The Development Environment(1 Days)

2.Explore IBM cloud platform (1 Days)

a.Create IBM Cloud Account(0.5 Days)

b.Install The Nodered Locally.(1 Days)

c.IBM Watson IoT Platform.(0.2 Hrs)

d.Install Python IDE(1 Days)

3.Connect The IOT Simulator To Watson IOT Platform (0.5 Hrs)

4.Configure The Nodered To Get The Data From IBM IOT Platform And Open Weather API.(1 Day)

a.Install The Required Nodes In Your Nodered.(1 Hrs)

b.Connect To Your IBM IOT Device To Get The Simulator Data.(2 Hrs)

c.Create An Account In Open Weather API And Configure Your Open Weather API Platform.(1 Hrs)

d.Configure Your Nodered To Get The Weather Forecasting Data Using Http Requests.(1 Hrs)

5.Building A Web App

a.Configure The Nodes To Display The Weather Parameters Which We Got Form IOT Simulator And Open Weather API In UI(3 Hrs)

b.Configure The Nodes For Creating Buttons And Sending Commands To IOT Platform.(1 Hrs)

6.Configure Your Device To Receive The Data From The Web Application And Control Your Motors(1 Day)

a.Write A Python Code To Subscribe To IBM IOT Platform And Get The Commands(2 Hrs)

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