PROJECT SCOPE DOCUMENT

PROJECT TITLE: **SMART AGRICULTURE SYSTEM BASED ON IOT**
PROJECT KICKOFF DATE:15-05-2020

PROJECT SUMMARY:

IOT plays an essential role in smart agriculture. I have proposed an IOT and smart agriculture system using automation. This IOT based Agriculture monitoring system makes use of wireless sensor networks that collects data from different sensors deployed at various nodes and sends it through the wireless protocol. This smart agriculture using IOT system is powered by Arduino, it consists of Temperature sensor, Moisture sensor,humidity sensor etc.Based on all the parameters he can water his crop by controlling the motors using the mobile application.Even if the farmer is not present near his crop he can water his crop by controlling the motors using the mobile application from anywhere.The farmer can also get the real time weather forecasting data by using external platforms like Open Weather API.We are using the Online IoT simulator for getting the Temperature,Humidity and Soil Moisture values.

PROJECT REQUIREMENTS:

- Online IOT simulator
- Open weather APIs
- IBM Watson code platform
- NODERED
- Web app

TECHNICAL REQUIREMENTS:

- Windows64 bit /Linux operating System
- Python programming language

FUNCTIONAL REQUIREMENTS:

- It requires the real time numeric values as input like temperature,humidity,soil moisture etc.
- It produces the numeric output and informs it to the farmers.

PROJECT DELIVERABLES:

- This project uses Watson decision, which provides an agricultural platform in order to improve harvests,sustainability and quality of smart agriculture using modern technologies.
- Since this project is an IOT based,it uses Watson IOT platform.
- In this way, IBM leverages its experience,data to help farmers,make better decisions throughout the crop stages.
- This new innovate agricultural platform utilises IBM's most advanced facilities and capabilities in IOT and cloud computing to create high-tech resource that targets the complete ecosystem,from farm to fork.
- IOT simulator is connected to Watson IBM platform.
- Data from IBM platform and Open weather APIs are collected by NODERED.
- Finally, NODERED makes use of python code in order to operate MOTOR ON/OFF.
- In simple terms,it leads to creation of virtual app using NODERED platform and display various parameters the temperature,humidity and soil moisture parameters along with weather forecasting details.

PROJECT SCHEDULE:

The project schedule is as follows:

PROJECT PLANNING AND KICKOFF

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EXPLORE IBM CLOUD PLATFORM

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CONNECT THE IOT SIMULATOR TO THE WATSON IOT PLATFORM

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CONFIGURE THE NODERED TO GET THE DATA FROM IBM IOT PLATFORM AND OPEN WEATHER API

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BUILDING A WEB APP

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CONFIGURE THE DEVICE TO RECEIVE THE DATA FROM WEB APPLICATION AND CONTROL THE MOTORS.

PROJECT DURATION:

The project duration is from 15-05-2020 to 14-06-2020.

PROJECT TEAM:

G POOJITHA