

Project Scope Document:

Project Summary:

Agriculture plays a crucial role in the life of an economy. It is the backbone of our economic system, so improving the quality and way of production is crucial. Here comes the Smart Irrigation system.

Smart irrigation helps in automated farming, collection of data from the field and then analyses it so that the farmer can make accurate decisions in order to grow high quality crops.

IoT based Smart Irrigation also improves the entire Irrigation system by monitoring the field in real-time. With the help of sensors and interconnectivity, the Internet of Things in Irrigation has not only saved the time of the farmers but has also reduced the extravagant use of resources such as Water and Electricity.

So in this project I have developed a mobile application using which a farmer can monitor the temperature, humidity and soil moisture parameters along with weather forecasting details. Based on these details he can water the crops by controlling the motors through the app.

Project Requirements:

- Github and slack accounts
- IBM account
- Node-RED
- Python
- Open Weather API
- MIT app inventor

Functional Requirements:

1. Farmers must be able to receive the weather forecast every hour.
2. The mobile app must be user friendly to the farmer
3. Farmers must be able to monitor the temperature, humidity and soil moisture parameters along with weather forecasting details.
4. Based on the forecast parameters he must be able to control the motor if needed.

Technical Requirements:

- The farmer must have a mobile to use the app.
- He must have basic knowledge to operate the app.
- The app must be user friendly.
- The app must be reliable and efficient.

Software Requirements:

- IBM cloud Account
- Node-RED
- Watson IoT platform
- python

- IoT simulator
- Open Weather API
- Fast2SMS API

Project Deliverables:

An efficient and reliable app to monitor the temperature, humidity, soil moisture and control the motors to turn water on/off if needed.

Project Team:

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Project Tasks:

- creating all the accounts needed
- installing required software
- connecting to IoT simulator and installing required nodes
- setting up Open Weather API
- Building a Web App
- Configuring device and controlling motor
- Report making