"Smart Agriculture System Based On IoT"

Project Discription:

In this project, we use the IBM IoT Watson Platform and Node red to make a User Interface(UI) on Node red dashboard to have an environment based on IoT which can smartly help us in agriculture. By using the IBM Cloud service we make a device compatible for IoT platform. Then by using Node red we make a user interface which will show us how is the weather outside and if it is good for agriculture or not. On the user interface there will be buttons which will turn on or turn off the motor from the user interface.

Typically, a farmer has to do farming manually but this project will help them and make them smart. They can access there machines from anywhere without any problem. The physical conditions like pressure , humidity and temperature are very difficult for farmers to predict, this project will make them smart .

We also used the python code to run the motor. The device is first run on node red followed by another device which is run using python code. The IBM watson Iot platform provides the necessary nodes. Another platform which is being used here open weather API , which helps us to access the weather of any area around the globe. By making our own API and using https requests we get the data of the physical conditions of a particular area. This data is displayed on the user interface and the we can switch on or switch off the motor accordingly.

By using the python code, we walk you through a working example of web app that utilizes multiple functions of Watson IoT platform to create a smart agricultural experience.

In summary this project will:
• Create two devices in IBM Cloud.
• Use open weather API to access weather conditions of a particular area.
• Use Node red to make a User Interface (UI) which will help to access the motor and get the weather conditions.

Project Requirements:

▸ Functional Requirements:

1) IBM CLOUD
2) IBM Watson IoT Platform
3) Node Red
4) Open Weather API

▸ Technical Requirements:

• Python IDLE

▸ Project Deliverables:

The project will provide excellent results for doing agriculture smartly. The User interface will give the weather conditions and give access to use the motor.

▸ Project Schedule:

• 4 Weeks