

## **Project summary**

In this project, we have made a web application based on IoT from which a farmer can monitor his fields in real time and see the weather forecasts. He can also control his motors with the application.

We will create a device in the Watson IoT platform and connect it to the IoT sensor simulator. After this, we will use node-red to get the individual data parameters sent by the simulator.

This will be followed by getting data from the Open Weather API and getting its individual parameters. We will then create a second device in the Watson IoT Platform, which will act as a motor. We will configure motor's on and off buttons.

Also, we will configure the second device in node-red to send a notification to the python code when the buttons are pressed.

Finally, we will add dashboard nodes in the node-red to show data in the web application.

## **Project requirements**

## Functional requirements

- Open Weather API Account:- This will provide us a URL, by which we can use the HTTP request method to get the weather data.
- IBM Cloud Account:- This account will give us access to the IBM cloud platform, where we can store our data and sync it across various devices.
- IBM Watson IoT Platform:- This will enable us to create devices through which we can exchange data.

## Technical requirements

The technical requirements in this project are:-

- Python:- Its knowledge will be required to write and run a code which will show notifications whenever the motor buttons are pressed.
- Node-Red:- A good knowledge of working with node red will be required because we will connect all the system on this platform.

## **Software Requirements**

- Nodered locally installed:- We will need the node-red locally installed so that it can provide us the URL where we can assemble and connect our nodes.
- Python IDLE:- The python code by which we will connect the motor to receive button notifications, will be written in this software.

## **Project Deliverables**

It will provide the real time data such as temperature and humidity. It will also provide the weather forecast data such as wind speed.

In the application, the farmer will also be able to control the motor using the motor buttons provided in the web applications.

## **Project Team**

This project was made individually.

## **Project Schedule**

This project was completed in 4 weeks.

