PROJECT REPORT

1.INTRODUCTION :-

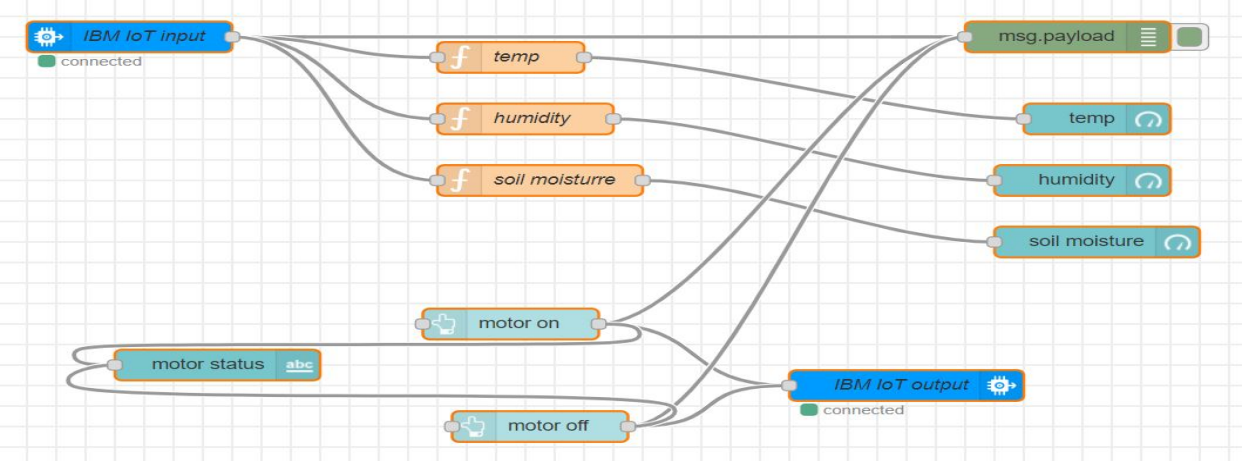
Basically the project is about crreating a smart web application using IOT. The main motive for this project is to help the farmers to yeild good because farmers are losing their money for bad climatic conditions. so ,this web application provides the exact conditions in the field and weather conditions of their location.so that farmers can act according to the climate by means of controlling the motor to maintain exact soil moisture.

2.PROJECT REQUIREMENTS:

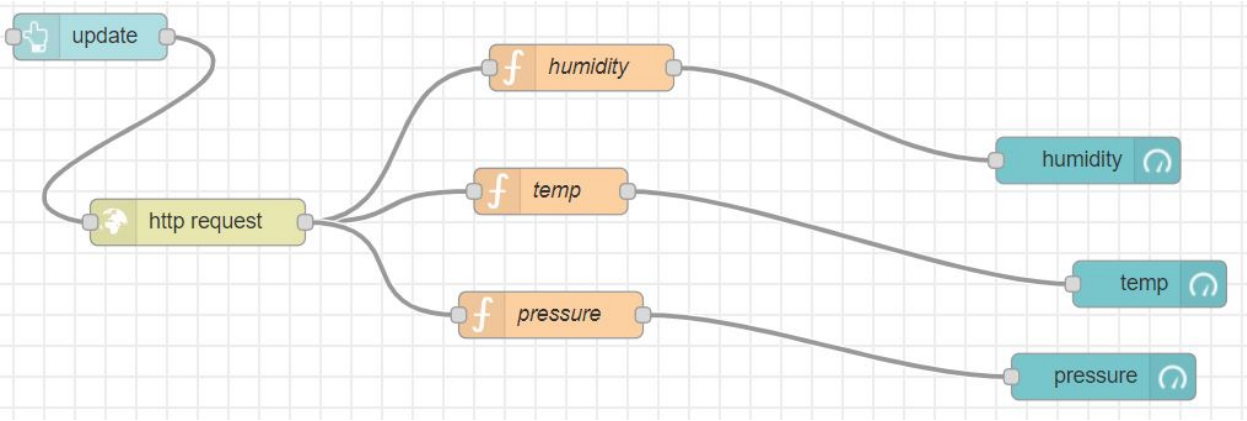
- IBM cloud account
- Bluemix account in cloud
- NodeRED deployment
- Python coding
- IOT simulator
- Open Weather API

2.PROJECT PROCEDURE:-

- Firstly, we have to create IBM cloud account and create IBM watson IOT service and create bluemix account in IOT platform.
- In the field we have to obtain values of temperature,humidity and soil moisture.
- We are virtually simulating these values using IBM IOT simulator.
- In IOT platform we have to create a device to get values from IOT simulator.
- We prepare 3 cards for temperture, humidity and soil moisture.
- We have to create an API .
- Connect the created device to IBM IOT simulator to get the data.
- Create another device to controlling the motor.
- We can continuosly simulate the data in platform itself using simulator.
- Now we have to build the dashboard using nodered.
- We have to install nodered locally and to build dashboard we have to install nodered dashboard using manage pallete.
- We have to install IBM nodes to connect through IBM cloud.
- We have to connect IBM input node to first device and IBM output node to motor controlling device.

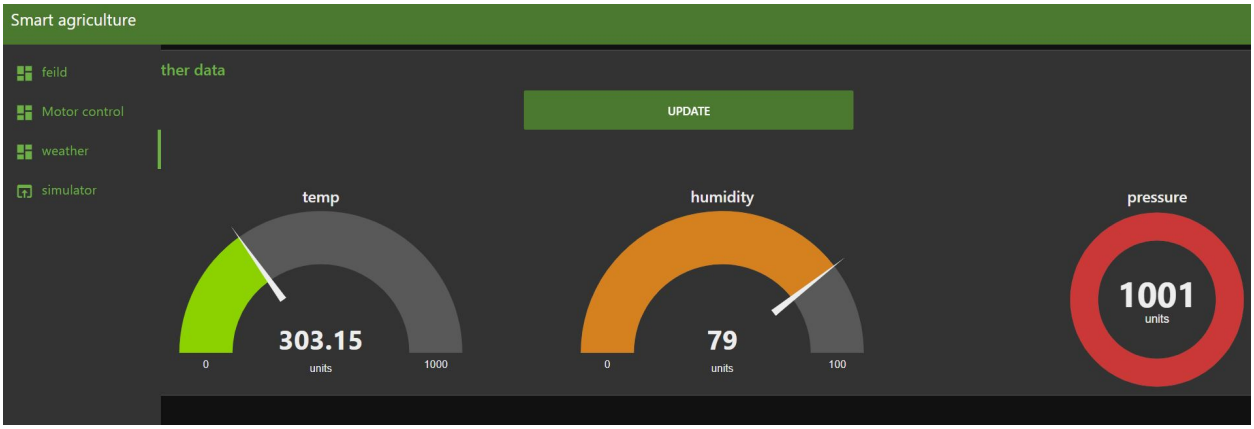


- The above nodered flow shows the dashboard for feild conditions.
- Now we have to get the weather conditions of the location.so we have to create an account in open weather API.
- We have to get the url which has weather conditions of the location.
- Below nodered flow represents the dashboard for weather conditions.



- The data transfer from IOT simulator to cloud device is based on MQTT .
- Data transfer from open weather API to nodered is based HTTP.

3.FINAL DELIVERABLE(web application):-


Smart agriculture
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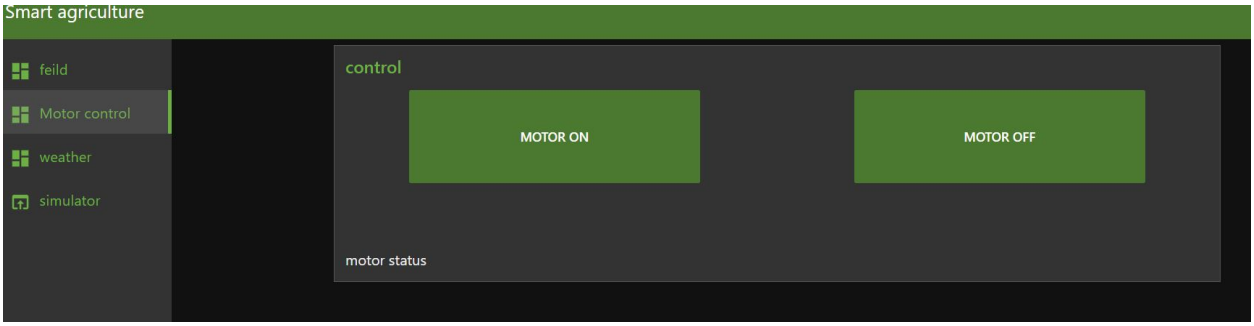
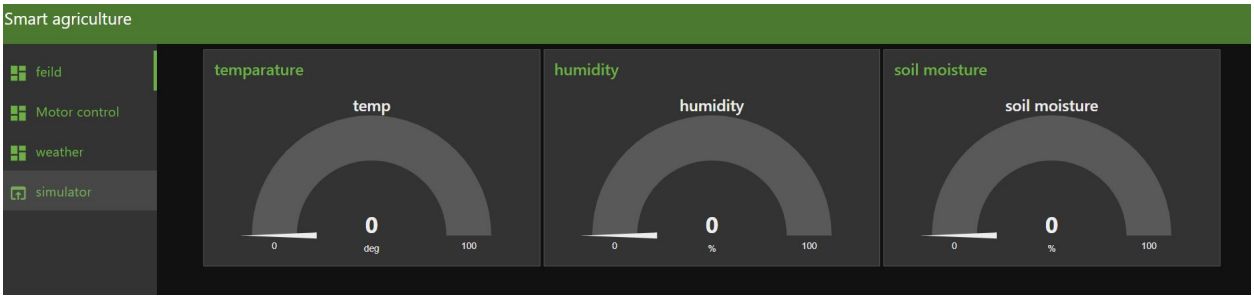

Smart agriculture
feild
Motor control
weather
simulator
control
MOTOR ON
MOTOR OFF
motor status


Smart agriculture
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