# SPRINT DELIVERY – 3

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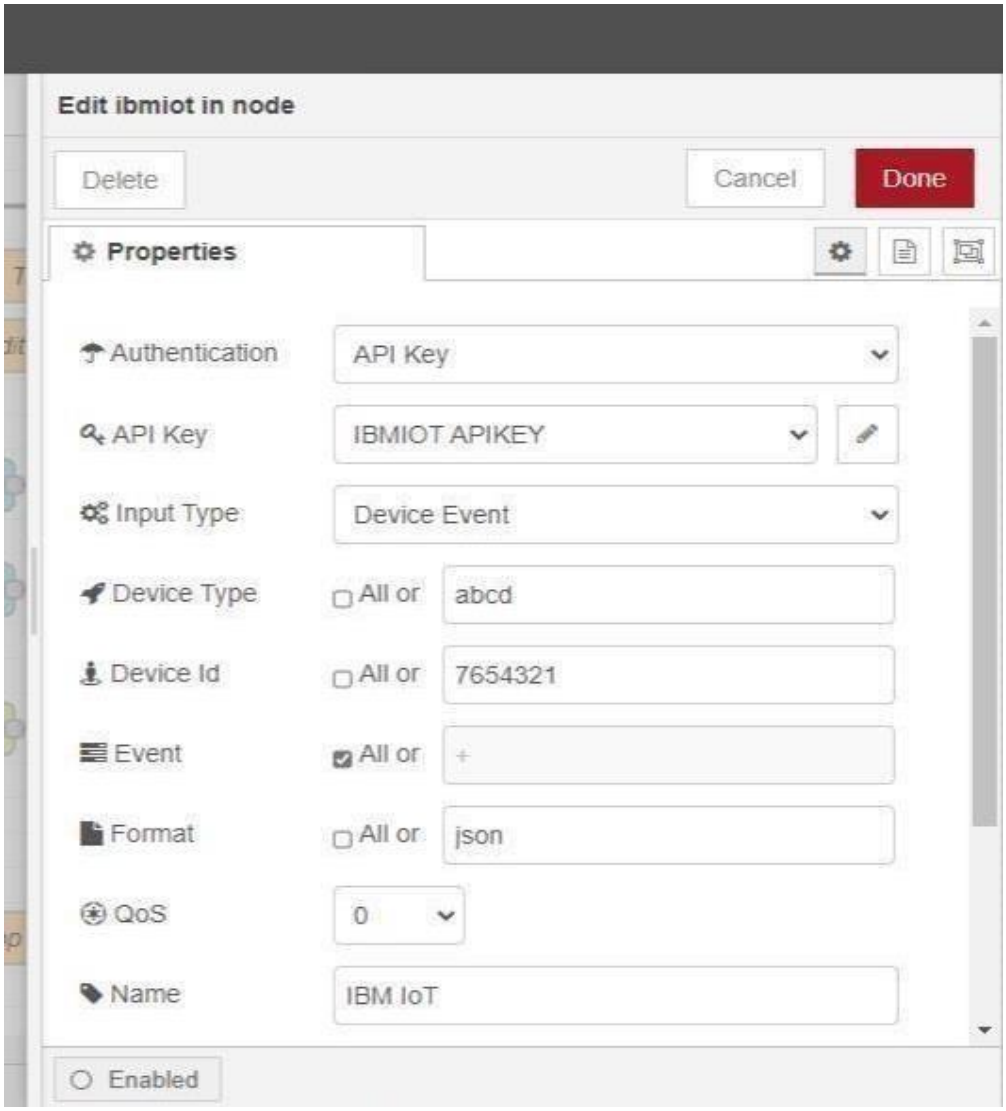
| **Team ID** | PNT2022TMID19668 |
| **Project Name** | IoT Enabled Smart Farming Application |
| **Date** | 12 November 2022 |

## Configuration of Node-Red to send commands to IBM cloud

IBM IOT out node I used to send data from Node-Red to IBM Watson device. So, after adding it tothe flow we need to configure it with credentials of our Watson device.

Here we add two buttons in UI



1 -> for motor on

2 -> for motor off

We used a function node toanalyses thedata received and assign command toeach number.

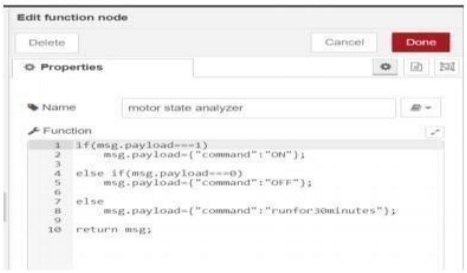
The Java script code for the analyses is:

```
if(msg.payload===1)

msg.payload={"command”: “ON"};

else if(msg.payload===0)

msg.payload={"command”: “OFF"};
```

Then we use another function node to parse the data and get the command and represent it visually with text node.

The Java script code for that function node is:

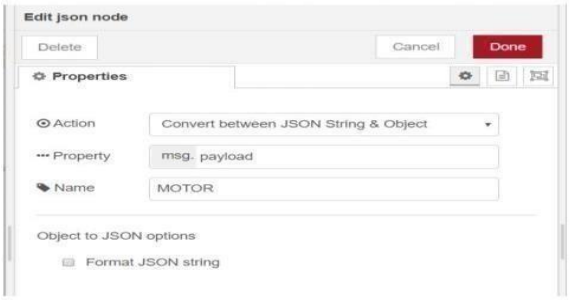
```
var state=msg.payload;
msg.payload = state.command;
return msg;
```



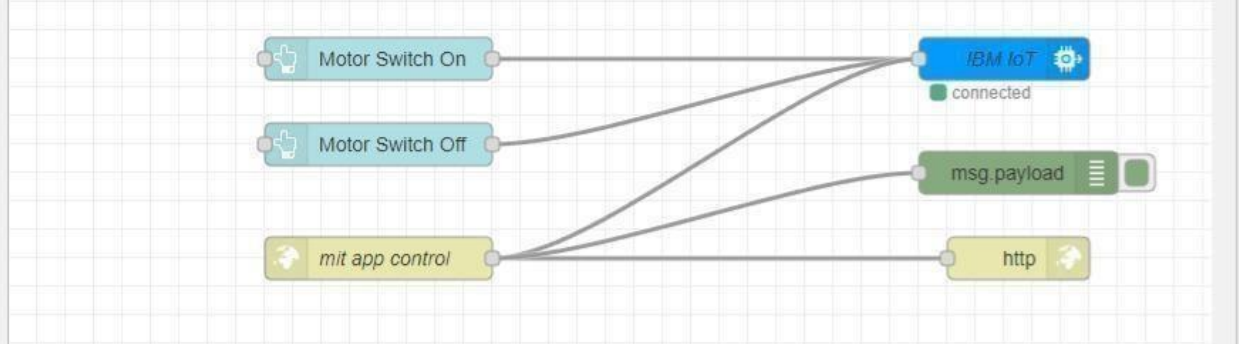


The above images show the java script codes of analyser and state function nodes.

Then we add edit Json node to the conversion between JSON string & object and finally connect it to IBM IoT Out.




Edit JSON node needs to be configured like this



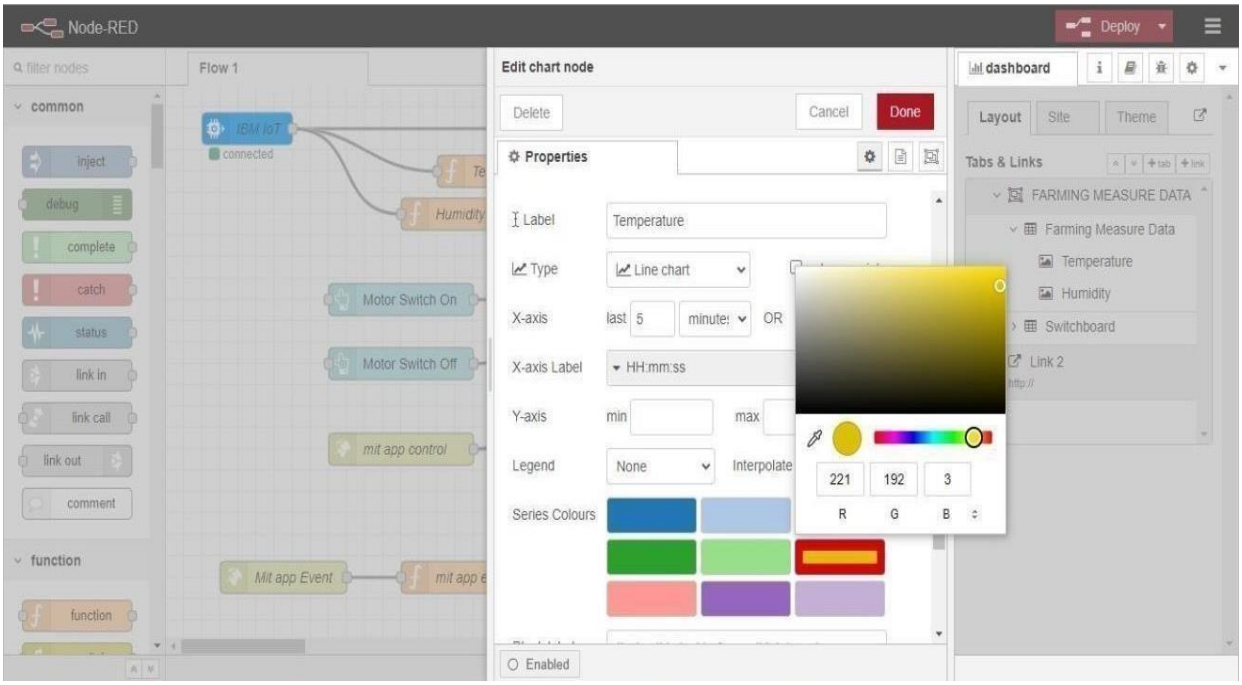

This is the program flow for sending commands to IBM cloud.

## Adjusting User Interface

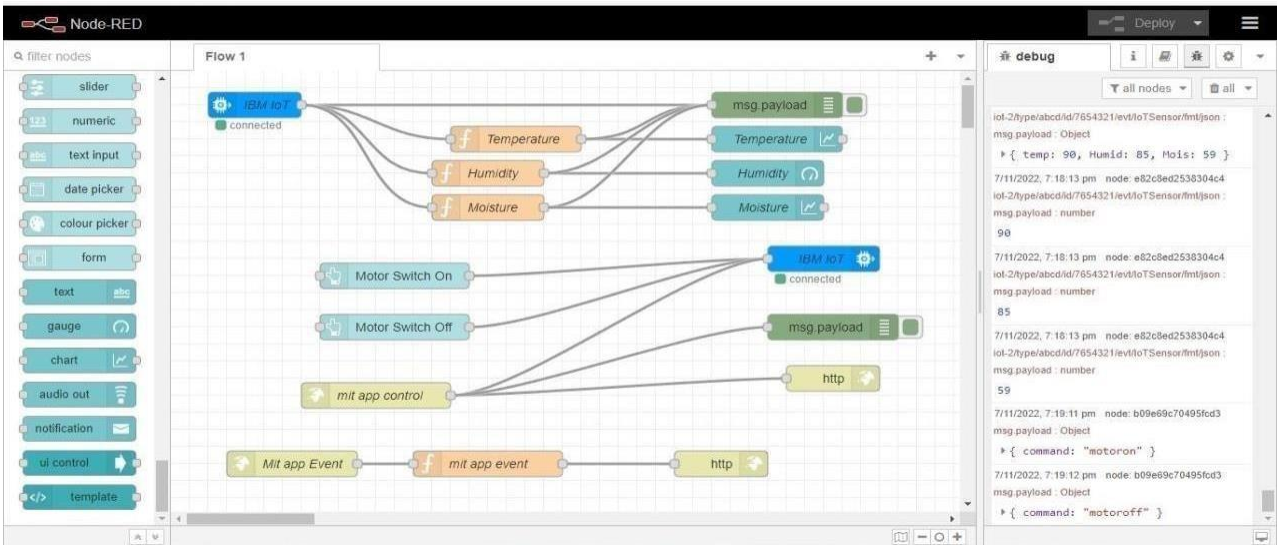
In order to display the parsed JSON data a Node-Red dashboard is created

Here we are using Gauges, text and button nodes to display in the UI and helps to monitortheparametersand control the farm equipment.

Below images are the Gauge, text and button node configurations.

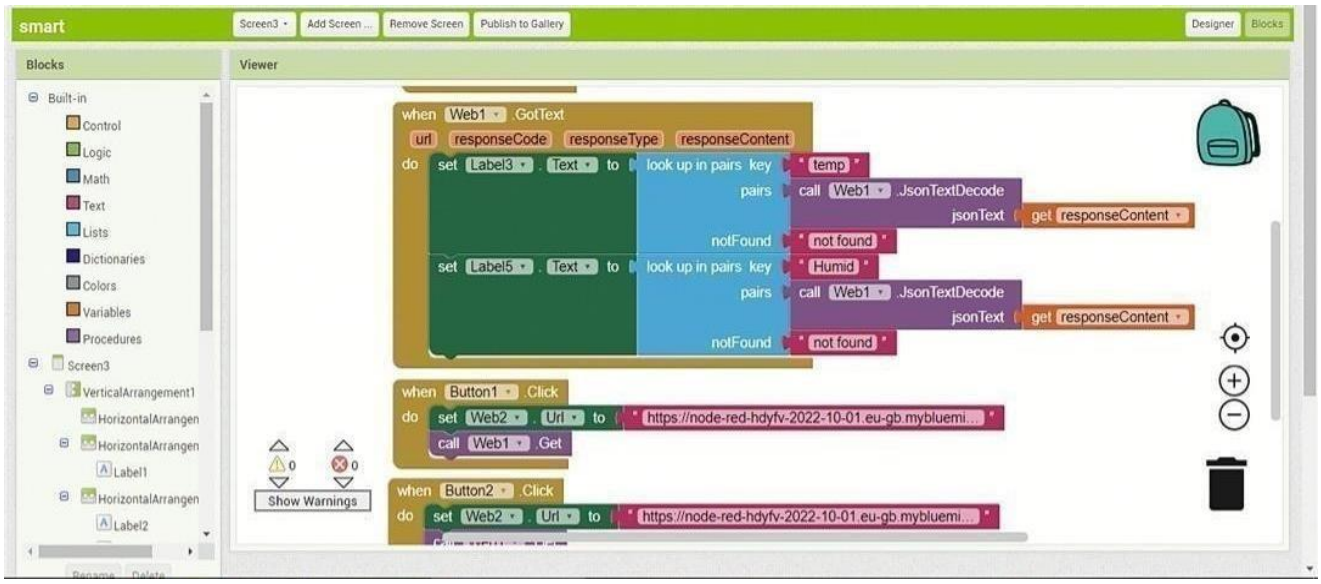


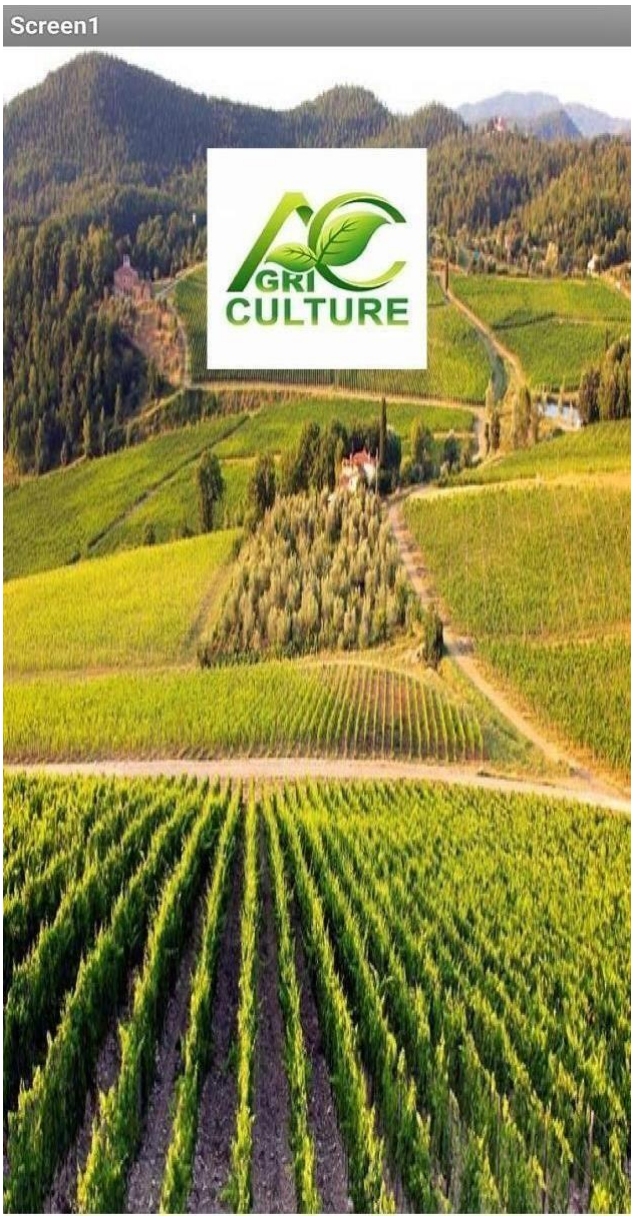
## Complete Program Flow



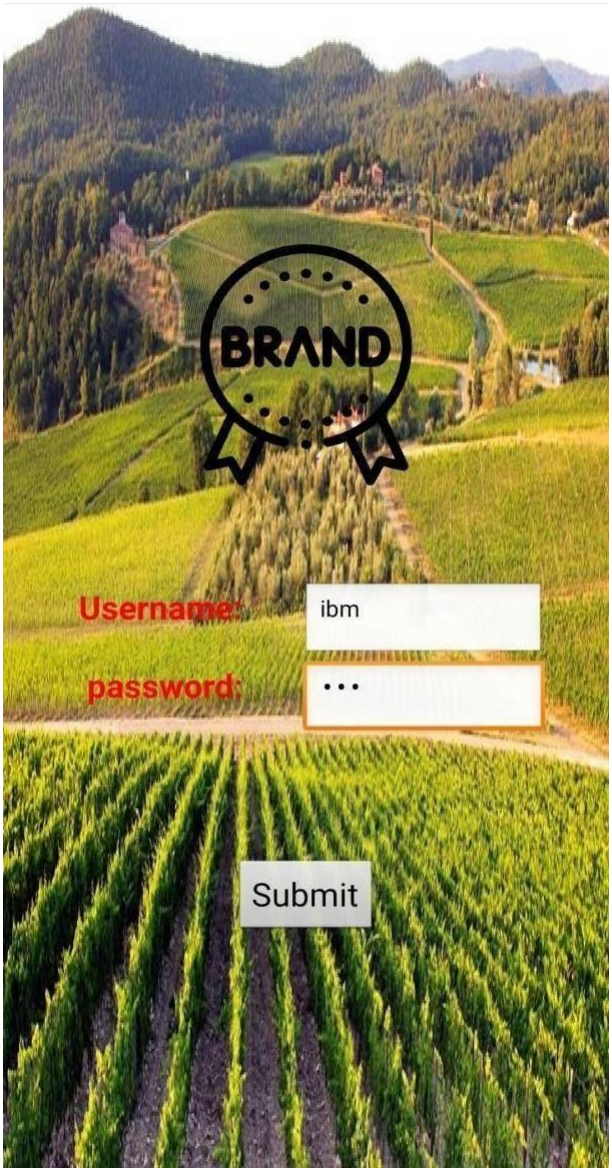

## MOBILE APP WEB :

## BLOCK DIAGRAM

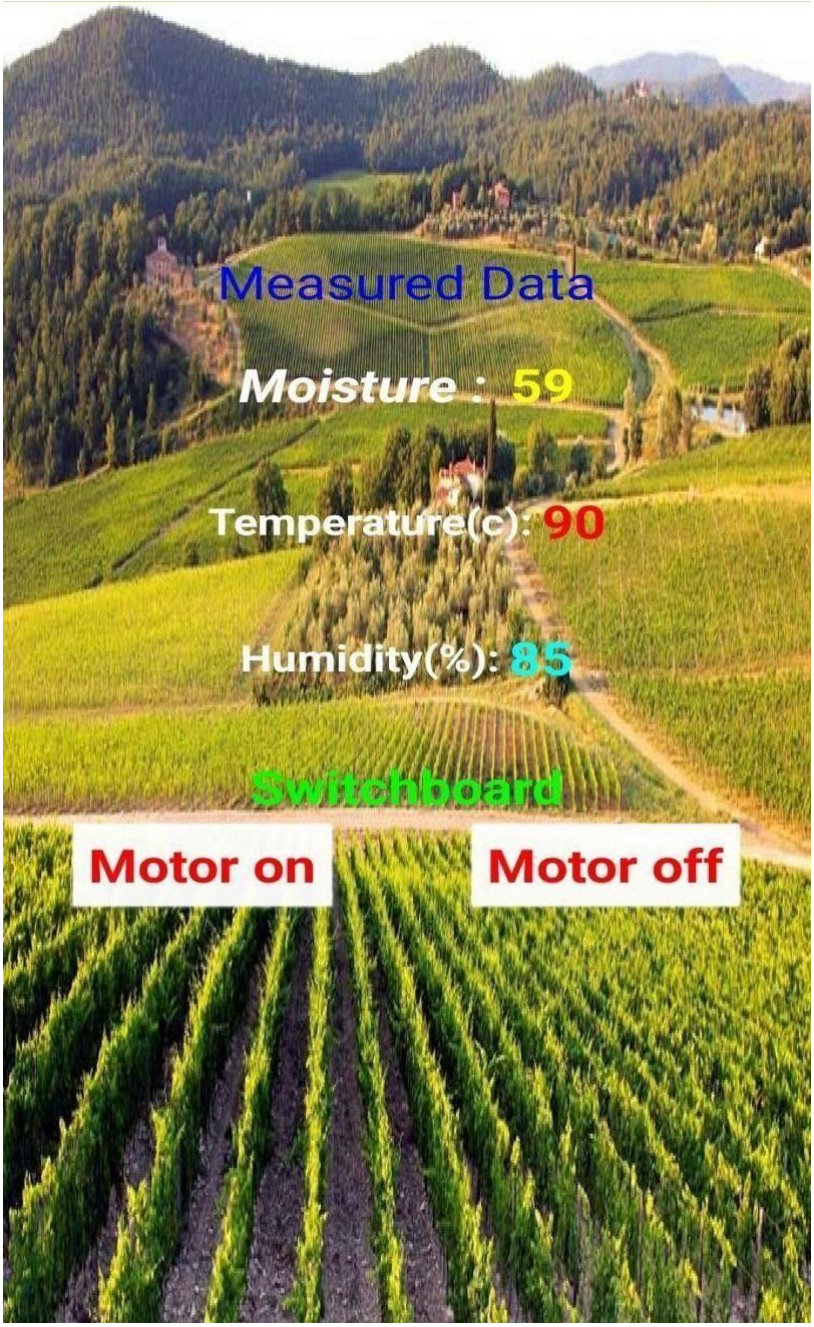





SCREEN – 1

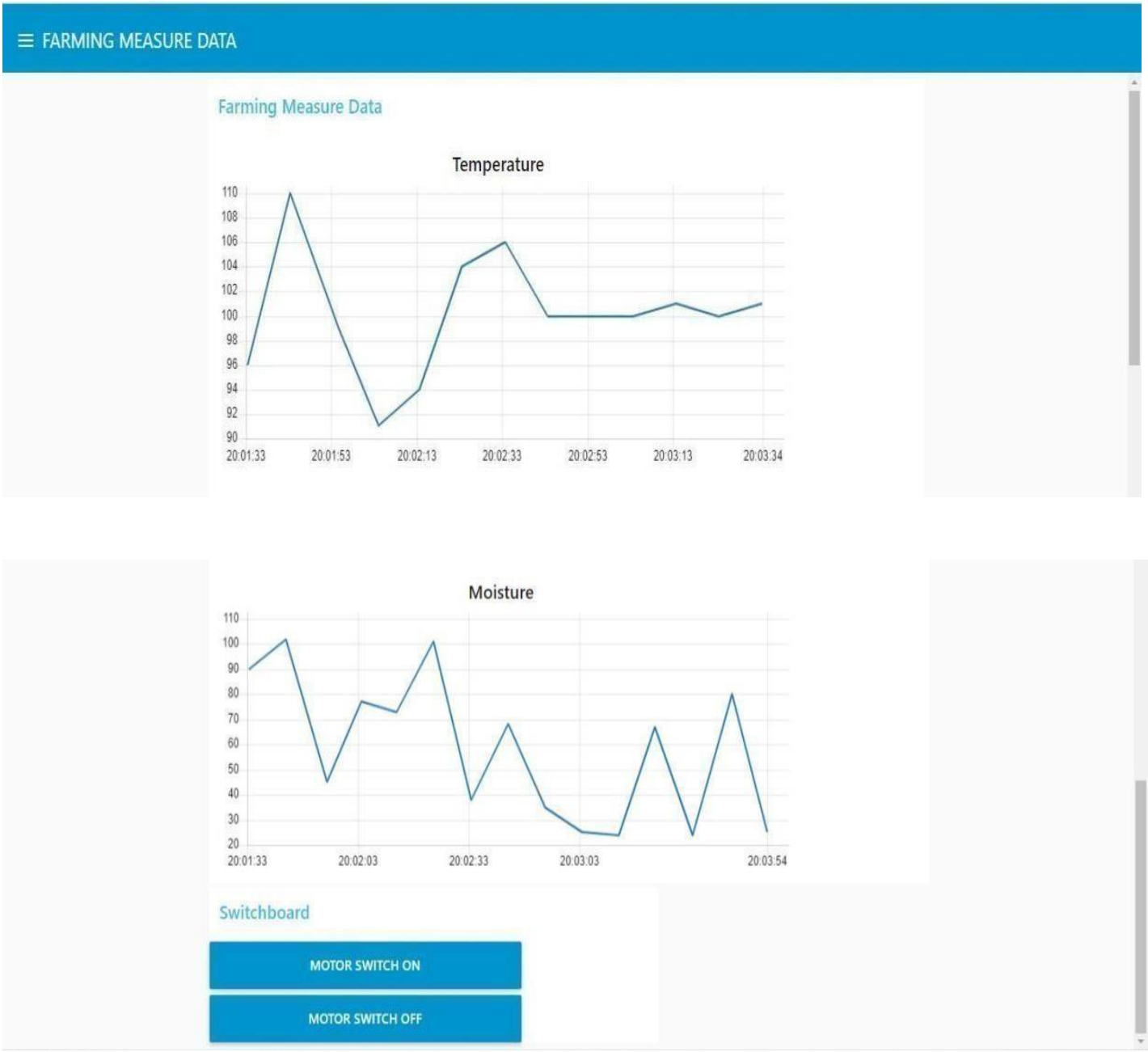


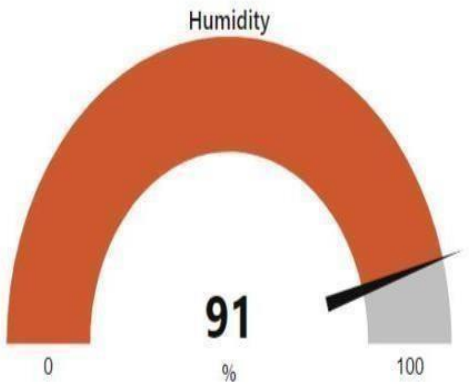

SCREEN - 2


Measured Data
Moisture : 59
Temperature(c): 90
Humidity(%): 85
Switchboard
Motor on
Motor off

**SCREEN - 3**

# Web APP UI Home Tab




Humidity
91
%
0
100