

# Smart Farmer - IoT Enabled Smart Farming Application

## SPRINT - 4

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**To make the user to interact with software:**

**Receiving commands from IBM cloud using Python program:**

```
import wiotp.sdk.device
import time
import os
import datetime
import random

myConfig = { "identity":{
"orgId": "04gt4e",
"typeId": "NodeMCU",
"deviceId": "12345"
},
"auth": {
"token": "123456789" }
}

client = wiotp.sdk.device.DeviceClient(config=myConfig,
logHandlers=None)
```

```
client.connect ()

def myCommandCallback (cmd) :

    print ("Message received from IBM IoT Platform: %s" %
cmd.data['command'])

    m=cmd.data['command']

    if(m=="motoron"):

        print ("Motor is switched on")

    elif(m=="motoroff"):

        print ("Motor is switched OFF")

    print(" ")

while True:

    soil=random.randint(10,100)

    temp=random.randint(-20, 125)

    hum=random.randint(0, 100)

    myData={'soil_moisture': soil, 'temperature':temp,
'humidity':hum}

    client.publishEvent (eventId="status", msgFormat="json",
data=myData, qos=0 , onPublish=None)

    print("Published data Successfully: %s", myData)

    time.sleep(2)

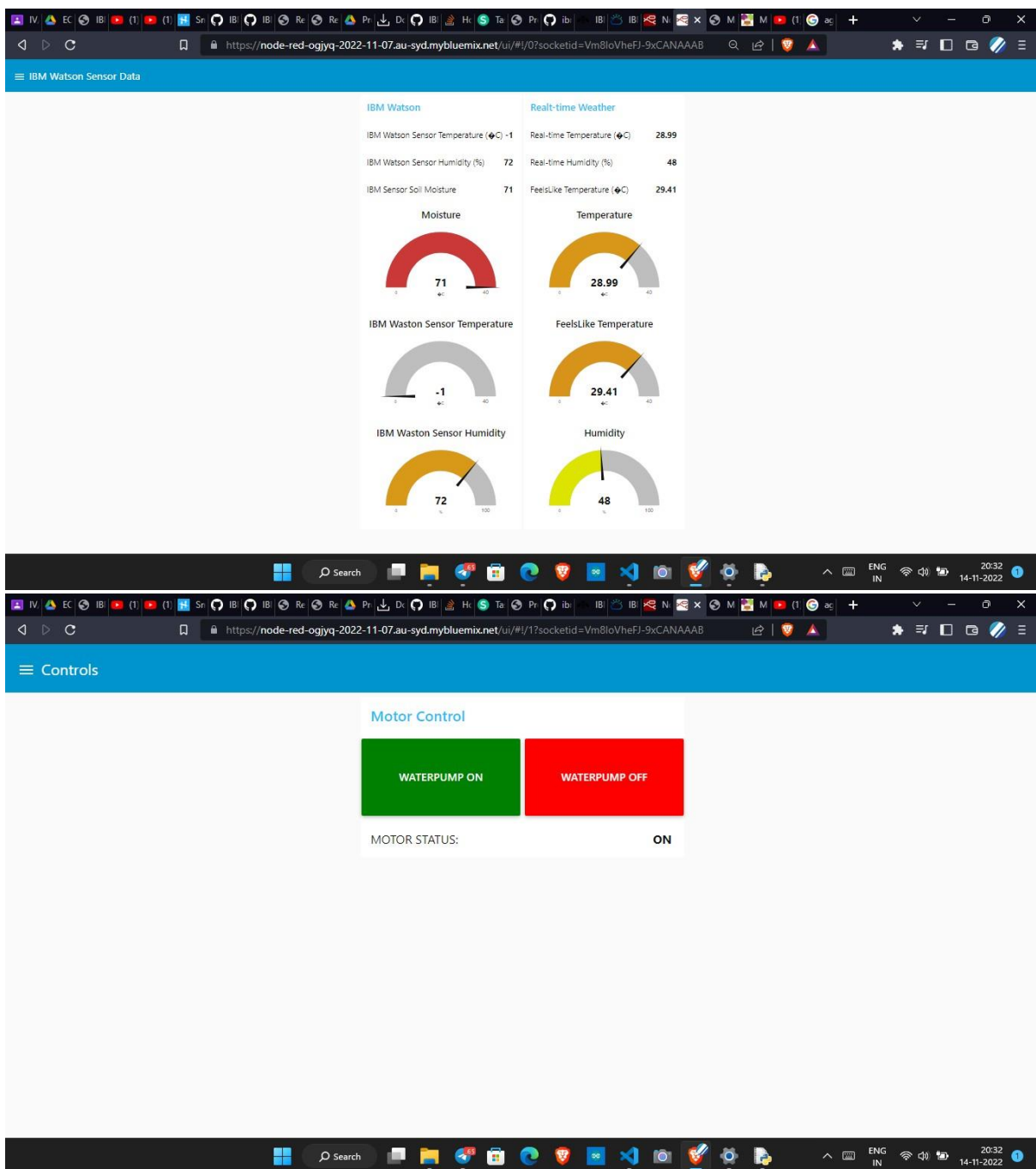
    client.commandCallback = myCommandCallback

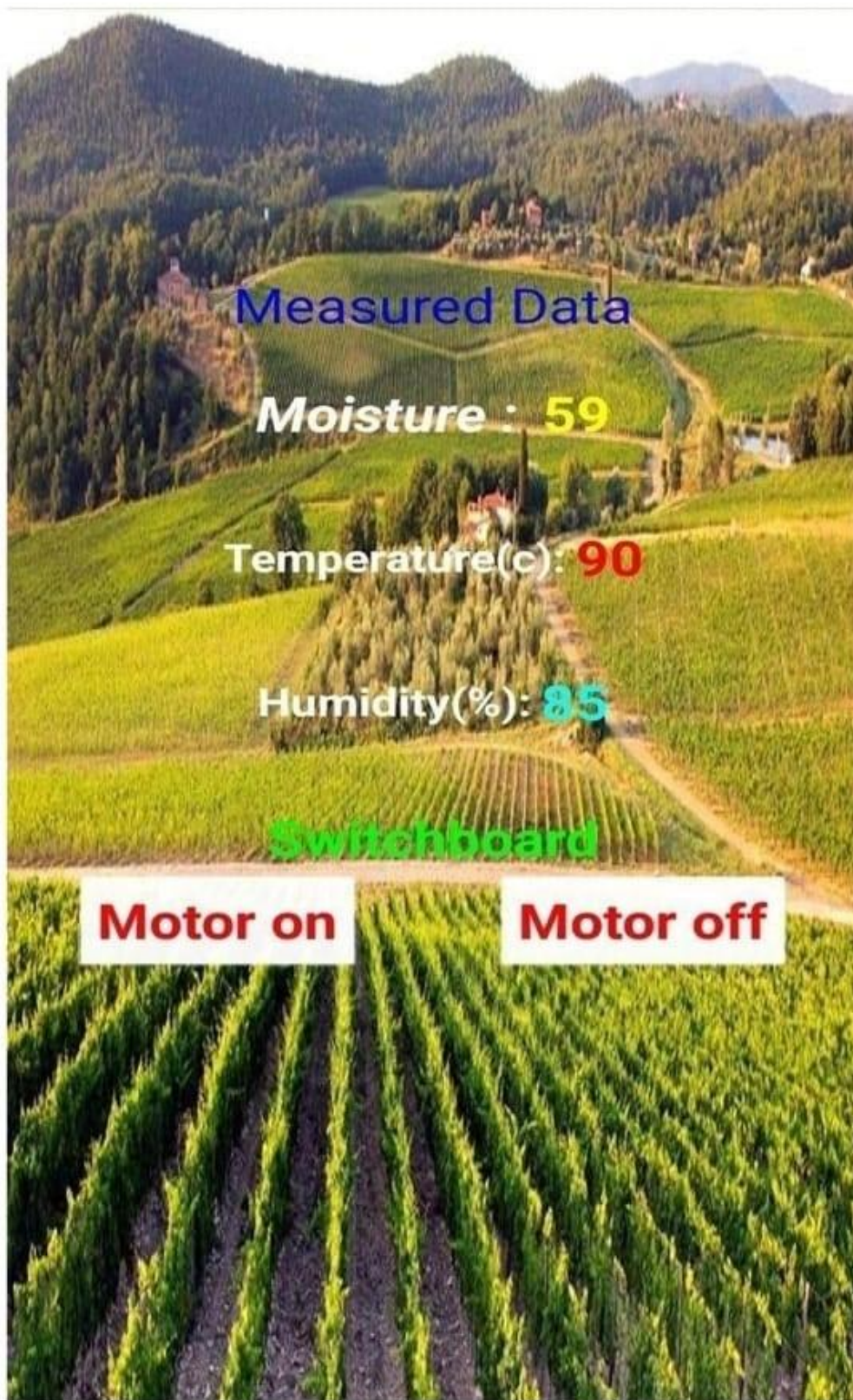
client.disconnect()
```

## USER INTERFACE – WEB APPLICATION:

### FEATURES:

- Comparative real time data from the internet
- Visual graph for easier understanding
- Separate tab for motor control and voice alert on commands
- SMS notification once the value falls below the threshold limit.





## **Advantages & Disadvantages:**

### **Advantages:**

- Farms can be monitored and controlled remotely.
- Increase in convenience to farmers.
- Less labour cost.
- Better standards of living.

### **Disadvantages:**

- Lack of internet/connectivity issues.
- Added cost of internet and internet gateway infrastructure.
- Farmers wanted to adapt the use of Mobile App.

### **Conclusion:**

Thus the objective of the project to implement an IOT system in order to help farmers to control and monitor their farms has been implemented successfully.