Smart Farmer - IoT Enabled Smart Farming Application

SPRINT - 4

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DATE	14TH NOVEMBER 2022

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)
```

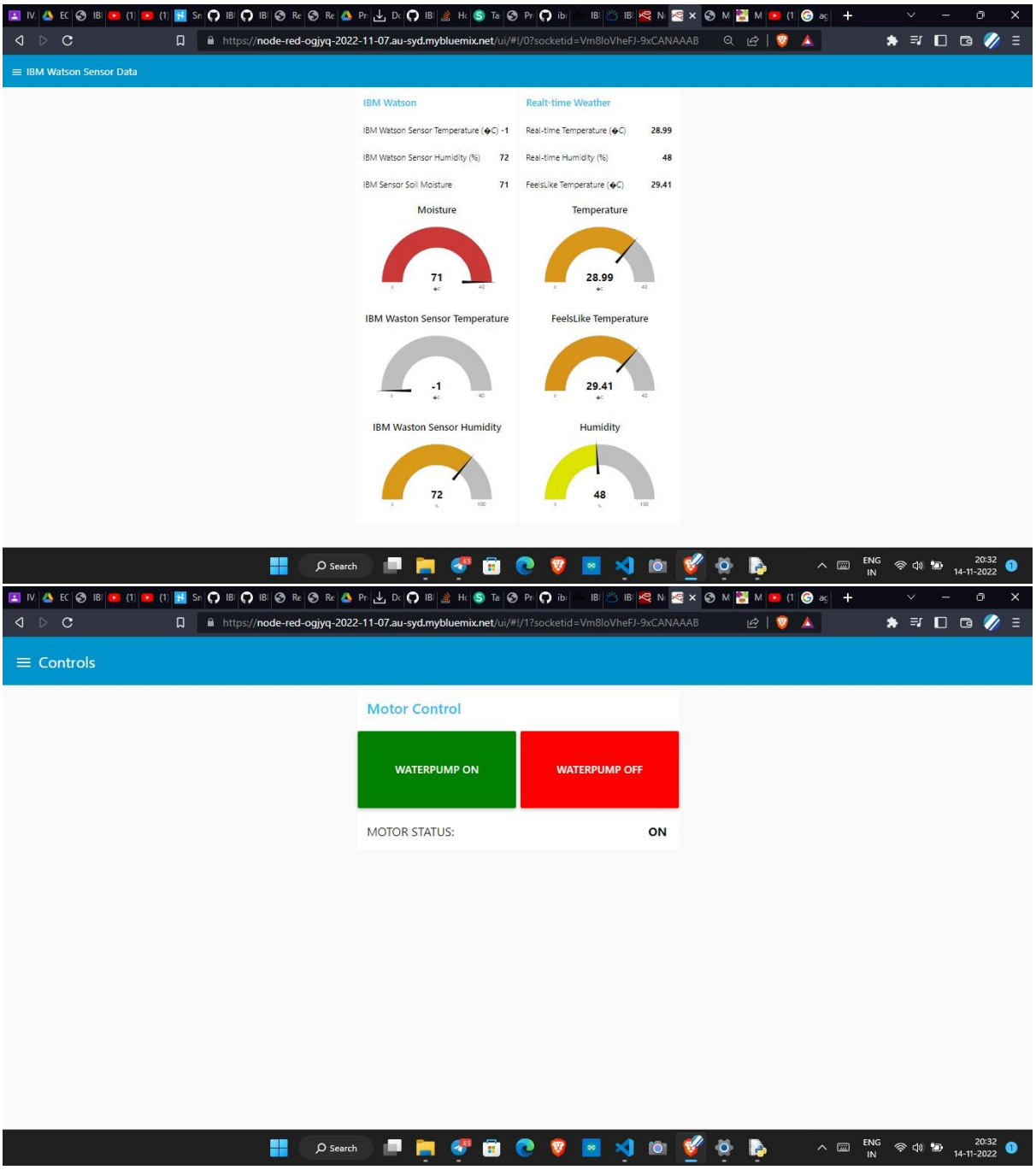
```
client.connect ()
def myCommandCallback (cmd) :
   print ("Message received from IBM IoT Platform:
%s" % cmd.data['command'])
   m=cmd.data['comma
   nd']
   if(m=="motoron"):
      print ("Motor is switched
   on") elif(m=="motoroff"):
      print ("Motor is switched
   OFF") print(" ")

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:

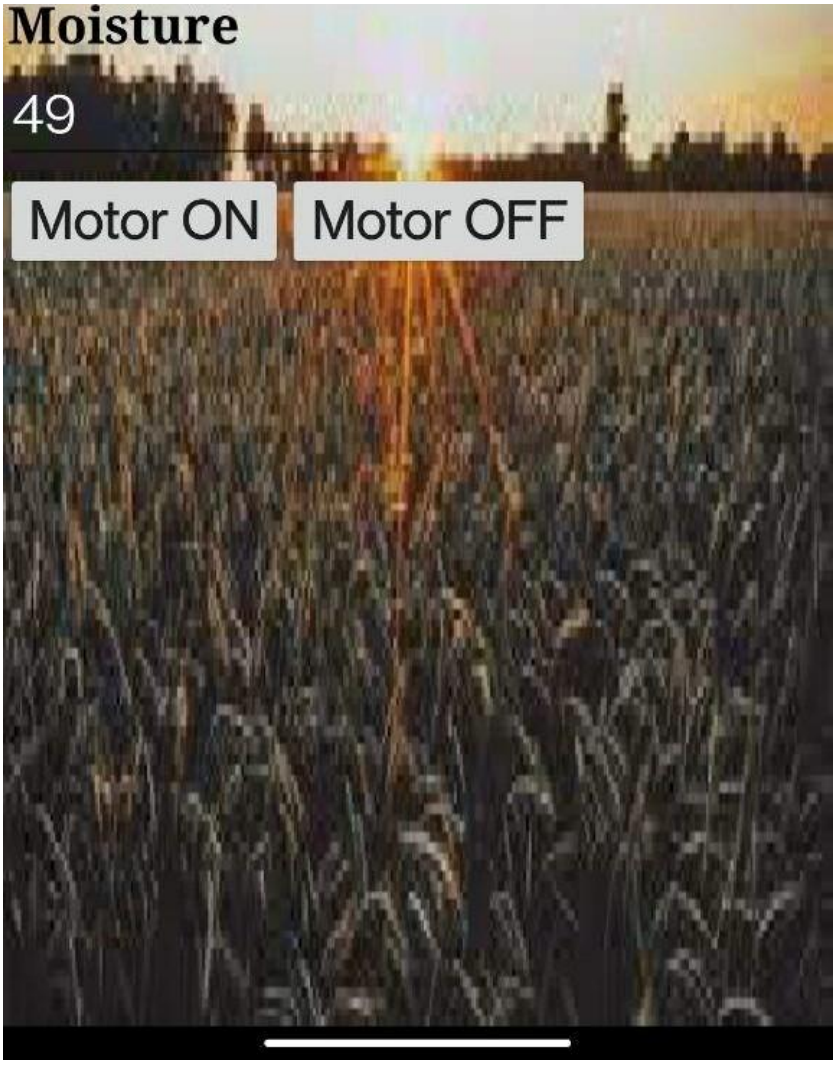
FEATURES:

- 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.



Temperature

Humidity



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