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:

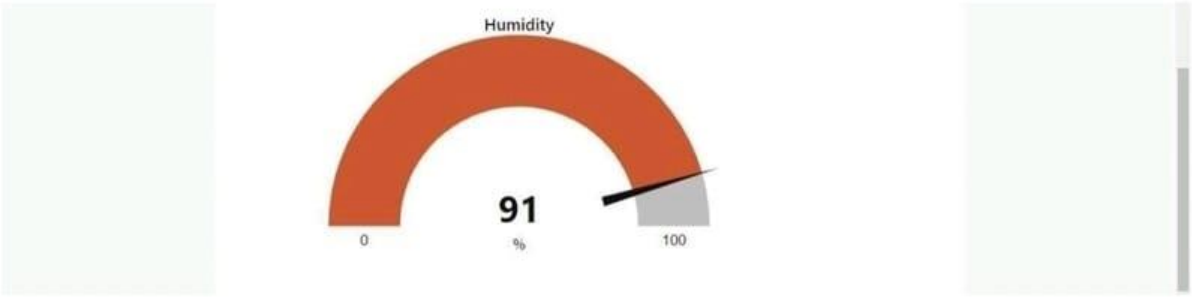
```
import wiotp.sdk.device
import time
import os import
datetimeimport
random
myConfig = { "identity":{
"orgId": "04gt4e",
"typeId": "NodeMCU",
"deviceId": "12345"
},
"auth": {
"token": "123456789" }
}
client = wiotp.sdk.device.DeviceClient(config=myConfig,
logHandlers=None)
```

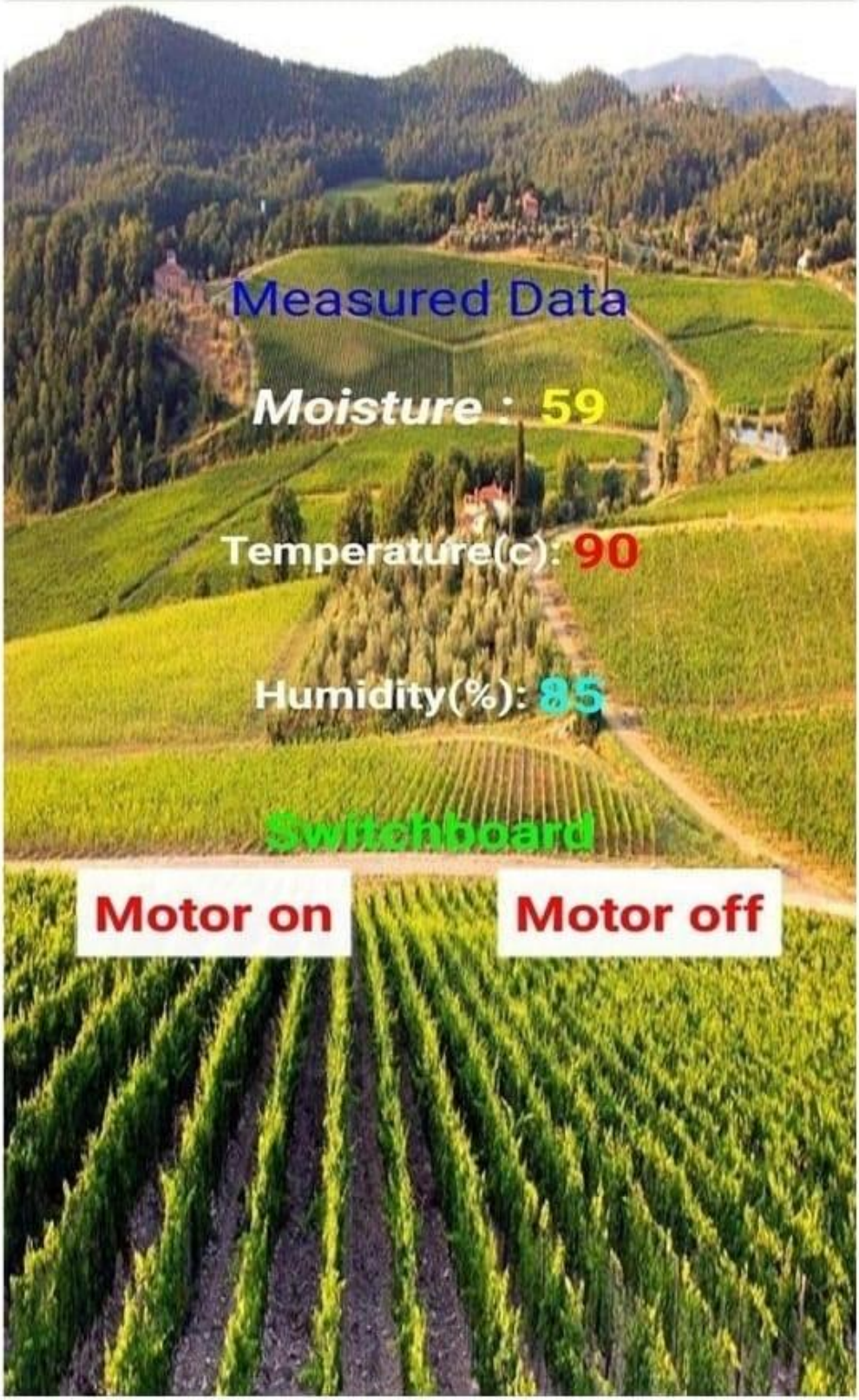
```
client.connect ()
def myCommandCallback (cmd) :
    print ("Message received from IBM IoT Platform: %s" %
cmd.data['command'])
    m=cmd.data['command']
    if(m=="motoron"):
        print ("Motor is switched on")
    elif(m=="motoroff"):
        print ("Motor is switched OFF")
    print(" ")

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.




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

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.