**Department of Computer Science and Engineering**

Smart Farmer-IOT Enabled Smart Farming Application

**IBM NALAIYATHIRAN**

**SPRINT – 4**

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| **TITLE** | **Smart Farmer-IOT Enabled Smart Farming Application** |
| **DOMAIN NAME** | INTERNET OF THINGS |
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# 5.5 Receiving commands from IBM cloud using Python program

import time import sys

import ibmiotf.application import ibmiotf.device import random

#Provide your IBM Watson Device Credentialsorganization = "157uf3" deviceType = "abcd" deviceId = "7654321" authMethod = "token" authToken = "87654321"

# Initialize GPIO

def myCommandCallback(cmd):

print("Command received: %s" % cmd.data['command']) status=cmd.data['command'] if status=="motoron": print ("motor is on") elif status == "motoroff": print("motor is off") else

:

print ("please send proper command")

try:

deviceOptions = {"org": organization, "type": deviceType, "id": deviceId,

"auth-method": authMethod, "auth-token": authToken} deviceCli = ibmiotf.device.Client(deviceOptions)

#..............................................

except Exception as e:

print("Caught exception connecting device: %s" % str(e))sys.exit()

# Connect and send a datapoint "hello" with value "world" into the cloud as anevent of type "greeting" 10 times deviceCli.connect()

while True:

#Get Sensor Data from DHT11

temp=random.randint(90,110) Humid=random.randint(60,100) Mois=random. Randint(20,120)

data = { 'temp' : temp, 'Humid': Humid , ‘Mois’: Mois}

#print data def myOnPublishCallback(

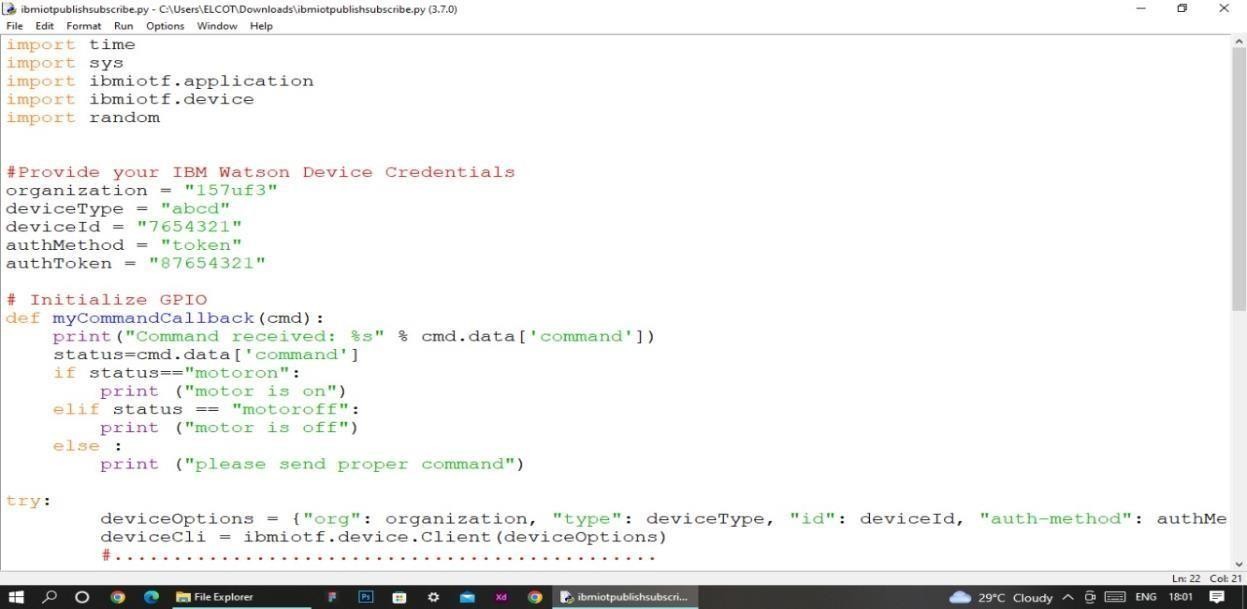
):

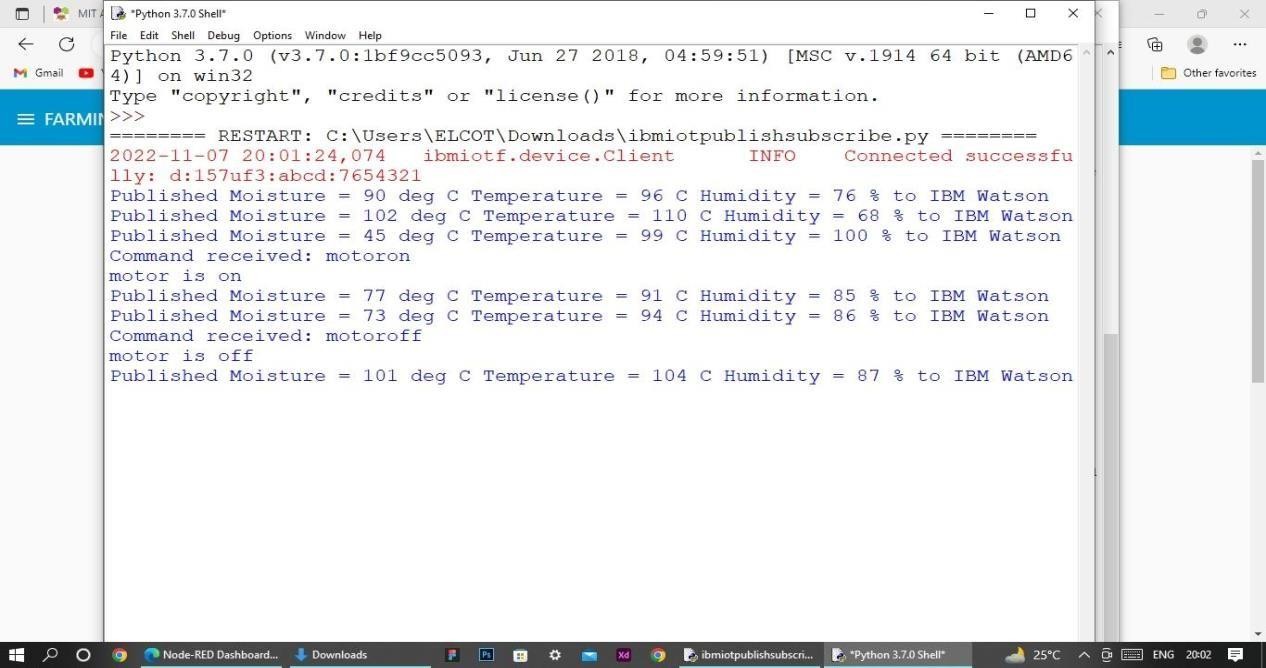
print ("Published Temperature = %s C" % temp, "Humidity = %s %%" % Humid, “Moisture =%s deg c” % Mois “to IBM Watson")

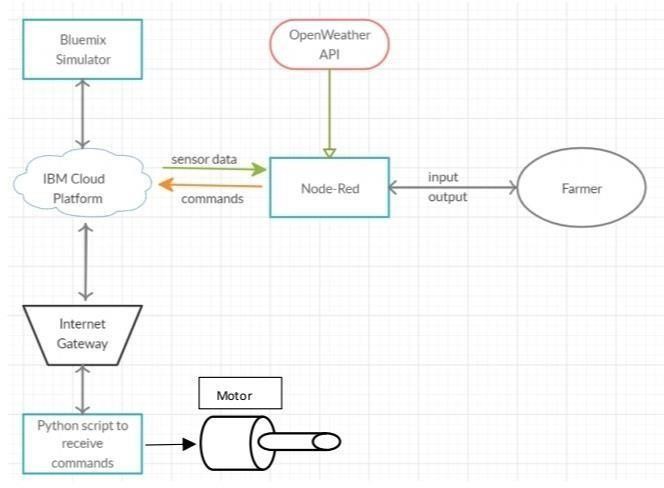
success = deviceCli.publishEvent("IoTSensor", "json", data, qos=0,on\_publish=myOnPublishCallback) if not success:

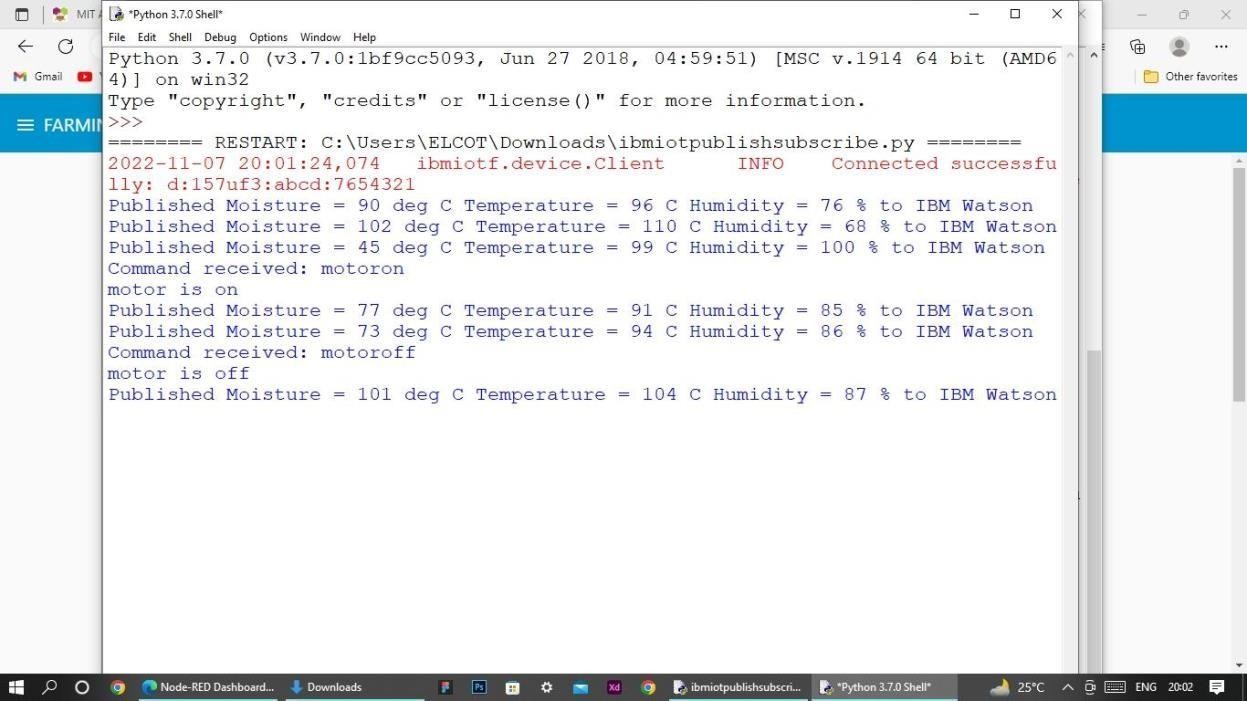
print("Not connected to IoTF") time.sleep(10)

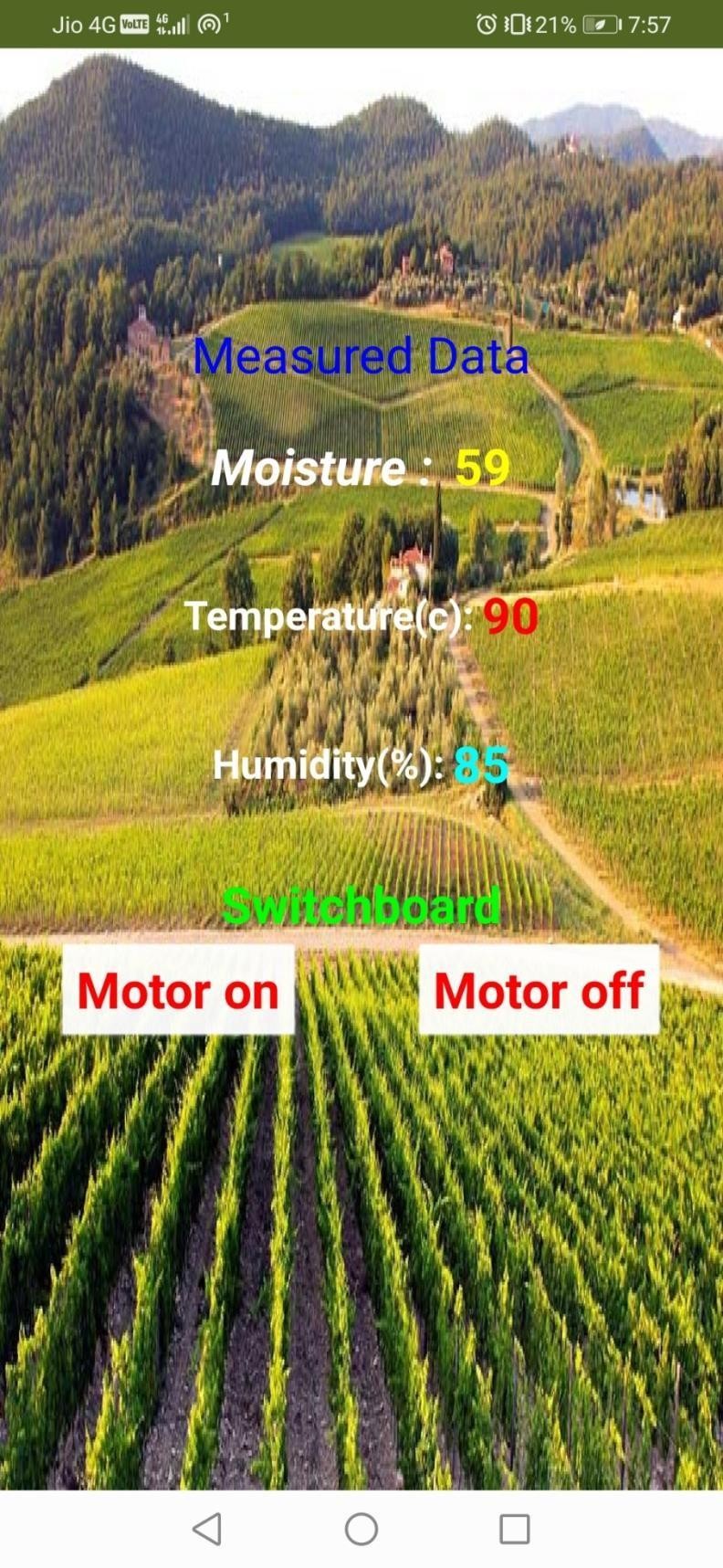
deviceCli.commandCallback = myCommandCallback # Disconnect the device and application from the cloud deviceCli.disconnect()

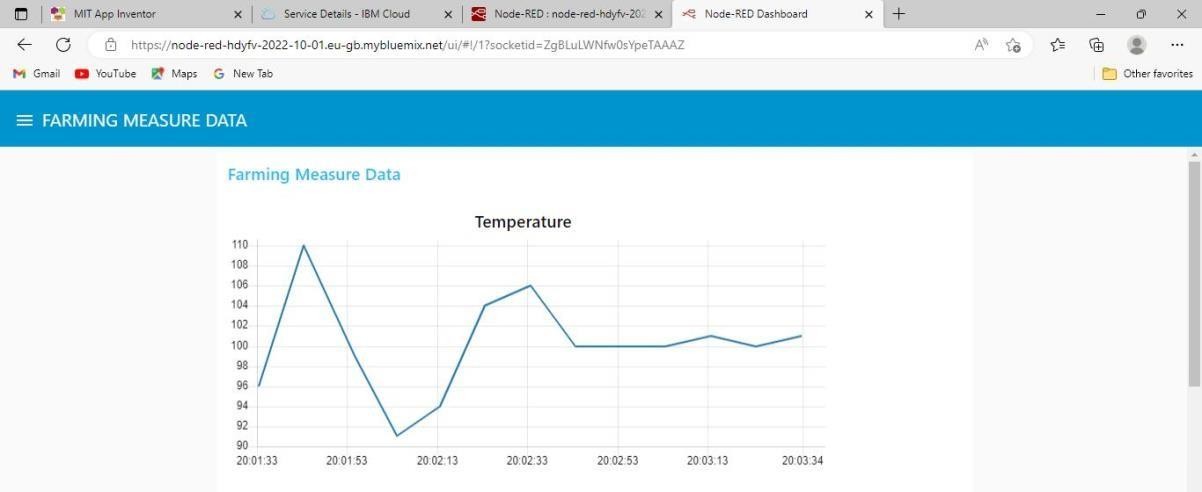


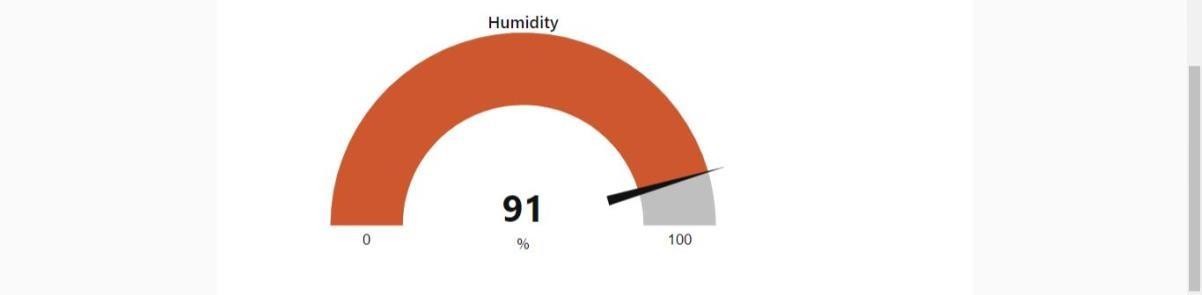


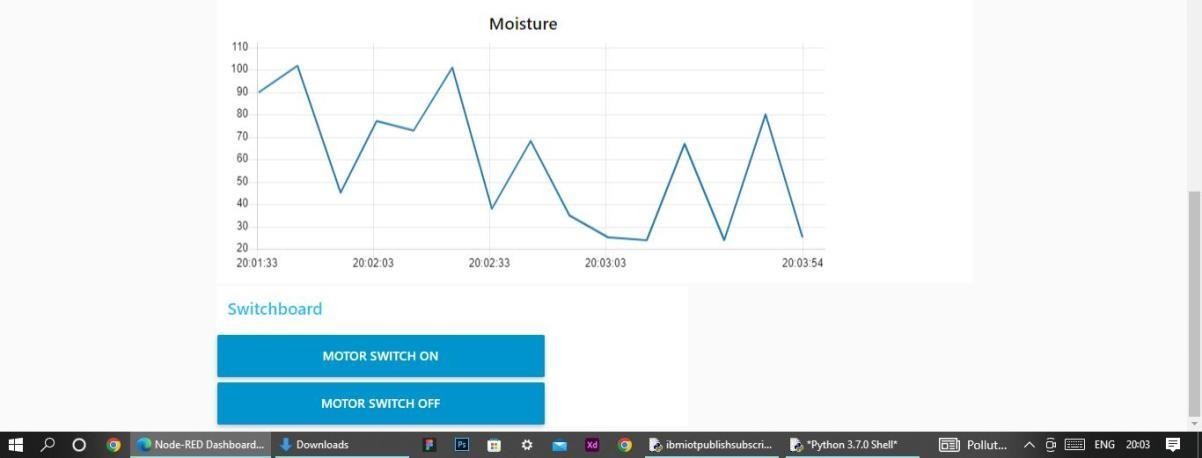
1. Flow Chart
2. Observations & Results











1. Advantages & Disadvantages Advantages:

* Farms can be monitored and controlled remotely.
* Increase in convenience to farmers.
* Less labor 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. 9.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.

10.Bibliography

IBM cloud reference: https://cloud.ibm.com/

IoT simulator : https://watson-iot-sensor-simulator.mybluemix.net/ OpenWeather : https://openweathermap.org/