**Smart Farmer-IOT Enabled Smart Farming Application**

# SPRINT DELIVERY – 4

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| TITLE | Smart Farmer-IOT Enabled Smart Farming  Application |
| DOMAIN NAME | INTERNET OF THINGS |
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**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 Credentials

"orgId": "ck2tfo",

"typeId": "NodeMLIC",

"deviceId": "1234"

"token" : "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 an event 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(

):

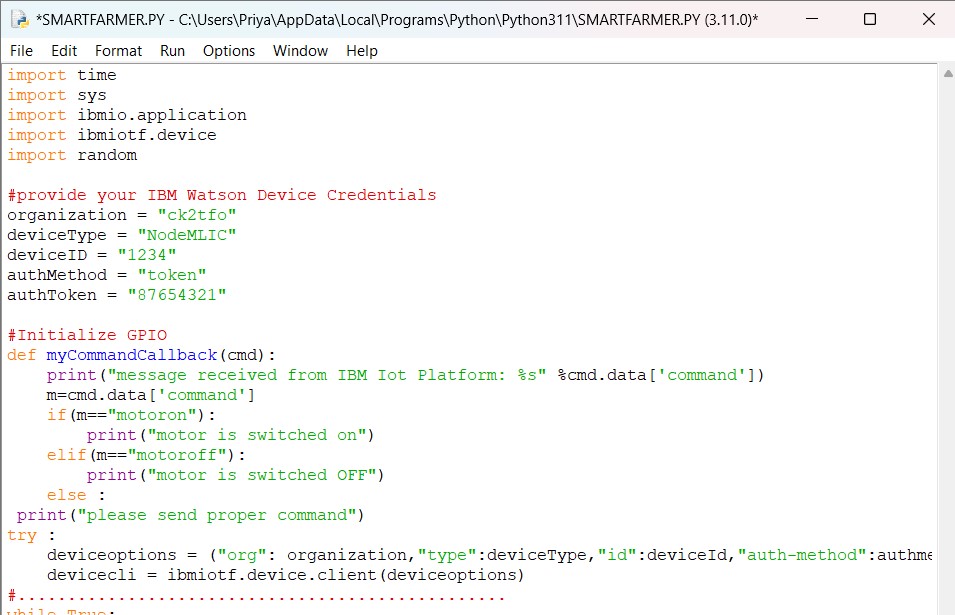
print ("Published Temperature = %s C" % temp, "Humidity = %s %%"

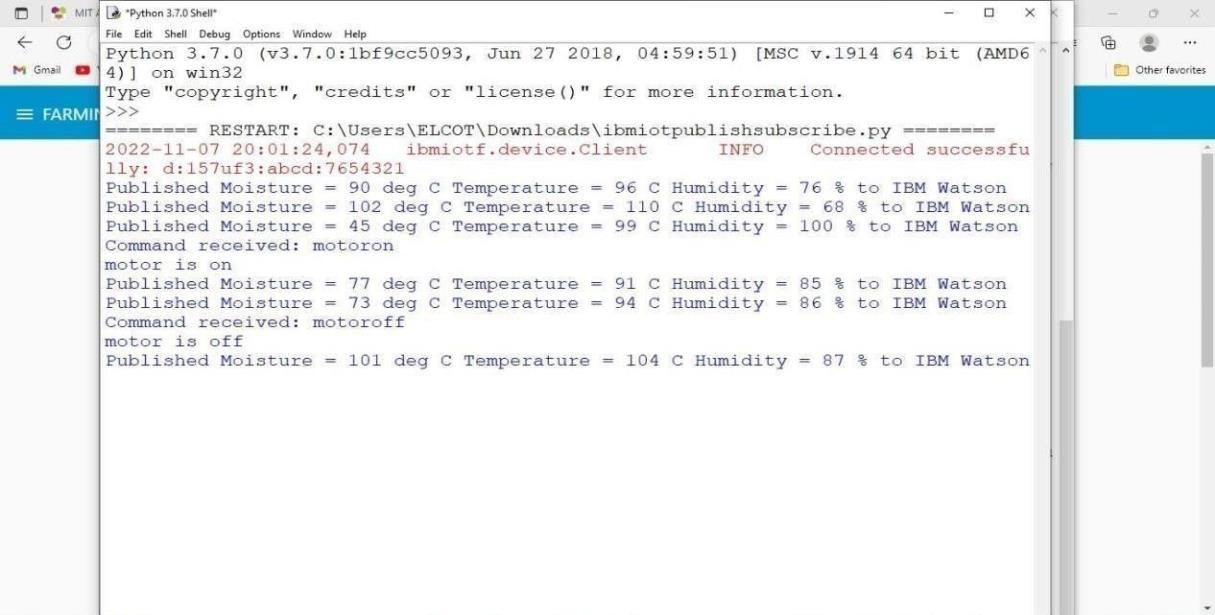
%Humid, “Moisture =%s deg c” % Mois “to IBM Watson") success = deviceCli.publishEvent("IoTSensor", "json", data,

qos=0,on\_publish=myOnPublishCallback) if not success:

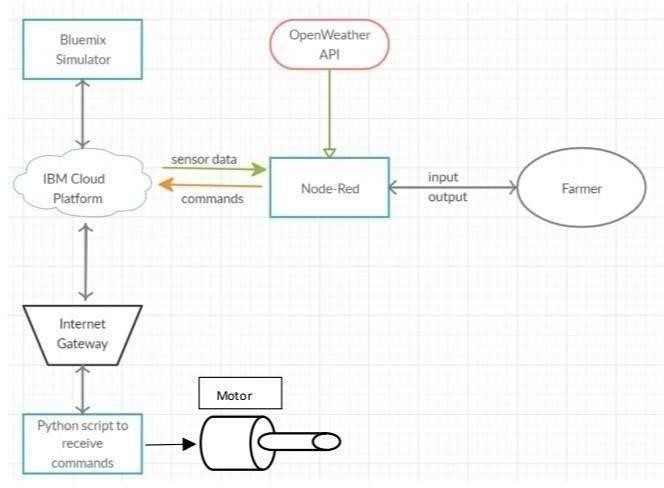
print("Not connected to IoTF")

time.sleep(10) deviceCli.commandCallback = myCommandCallback # Disconnect the device and application from the cloud deviceCli.disconnect()

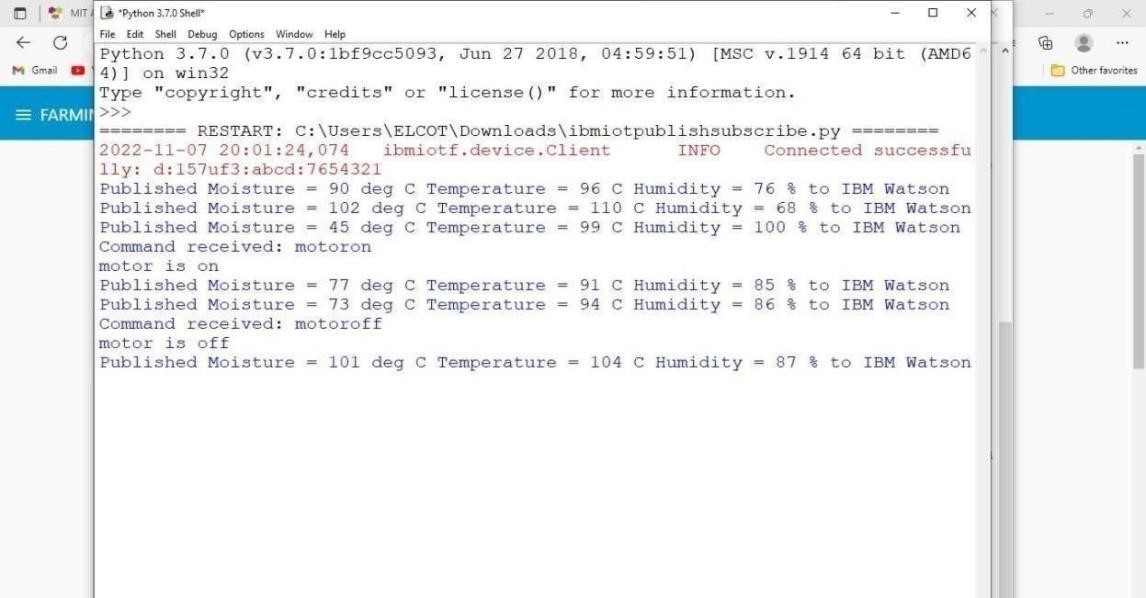


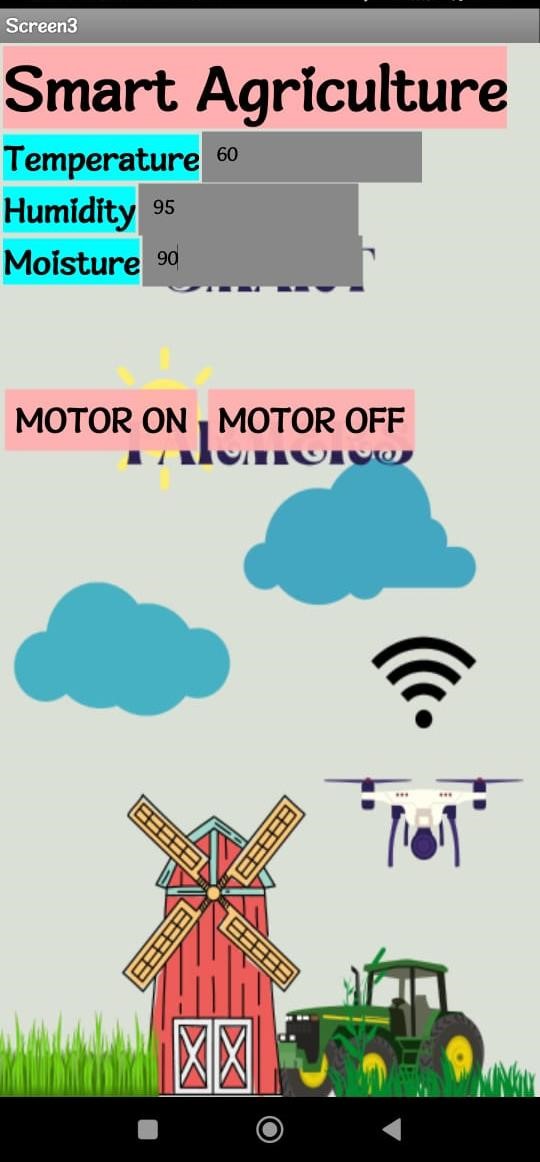


## Flow Chart

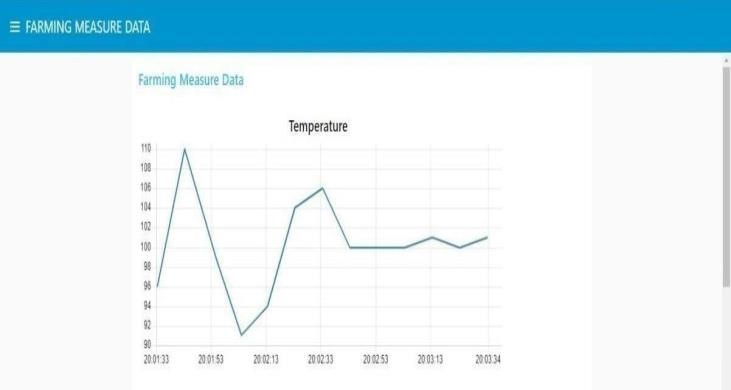


## **Observations & Results**

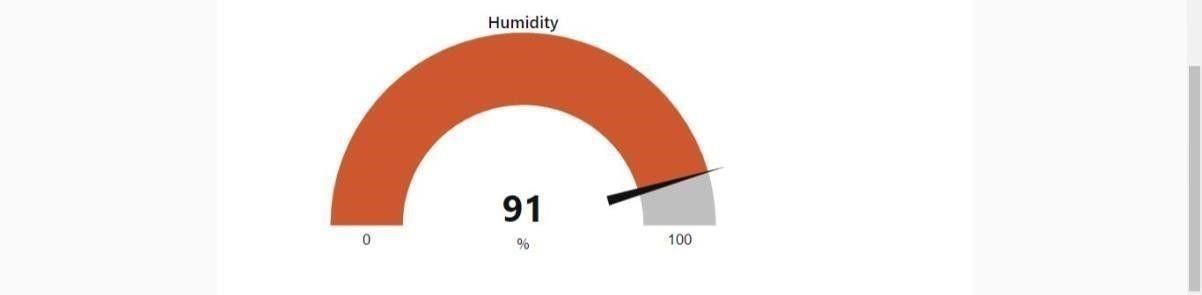




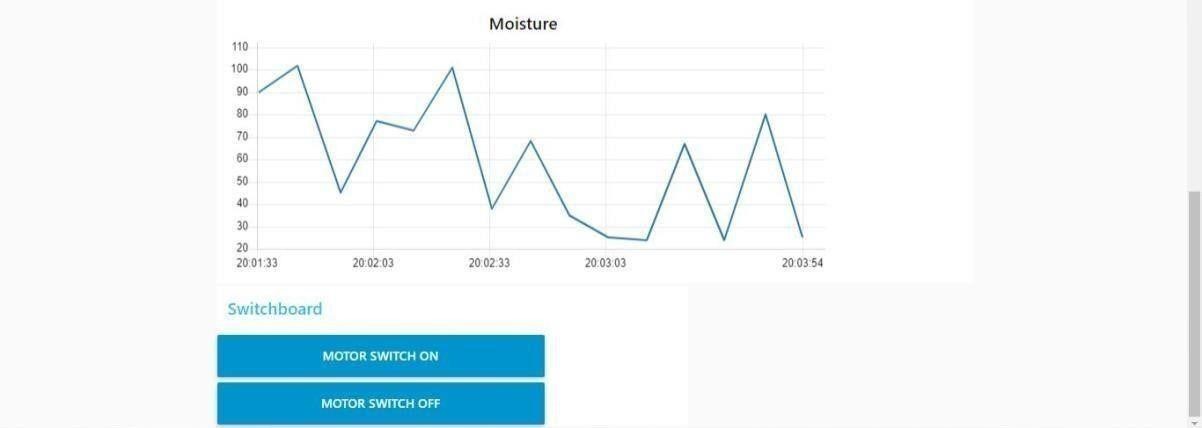
## **Temperature**



**Humidity**



**Moisture**



**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.

## **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.