TEAM ID	PNT2022TMID44795
PROJECT NAME	SPRINT 4

Receiving commands from IBM cloud using Python program

```
time import

sys

import ibmiotf.application

import ibmiotf.device import

random

#Provide your IBM Watson Device

Credentials organization = "bnkhnl"

deviceType = "NodeMCU"

deviceId = "12345" authMethod = "token"

authToken =

"12345678"

# 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)

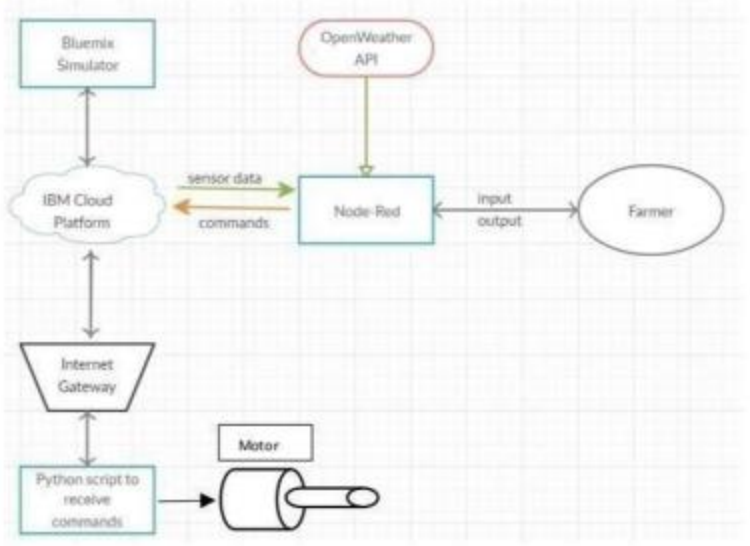
deviceCli.commandCallback = myCommandCallback #

Disconnect the device and application from the cloud

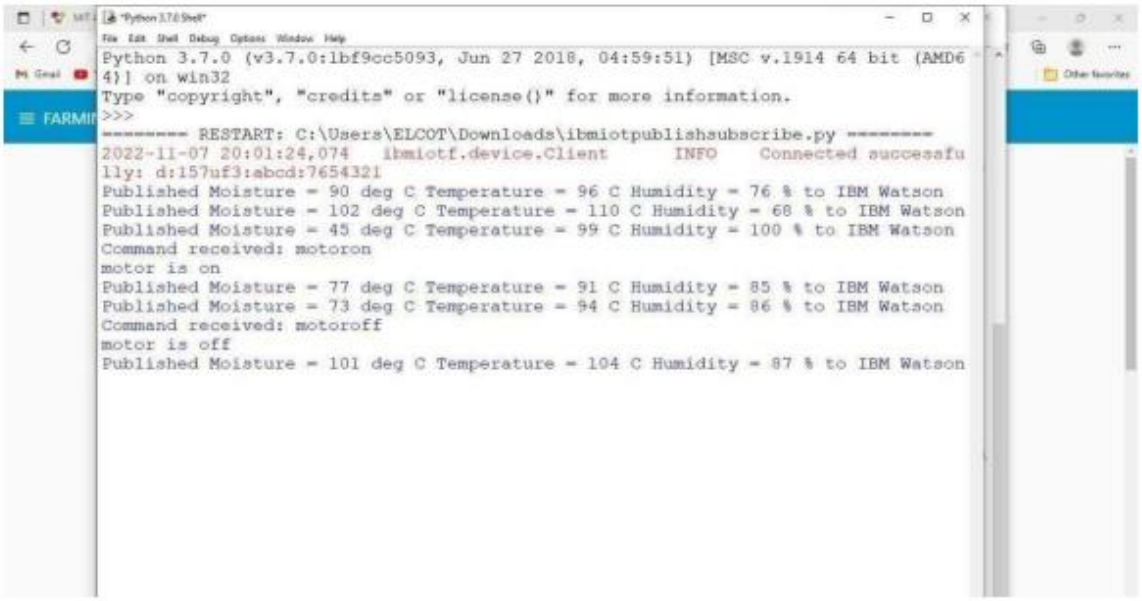
deviceCli.disconnect()

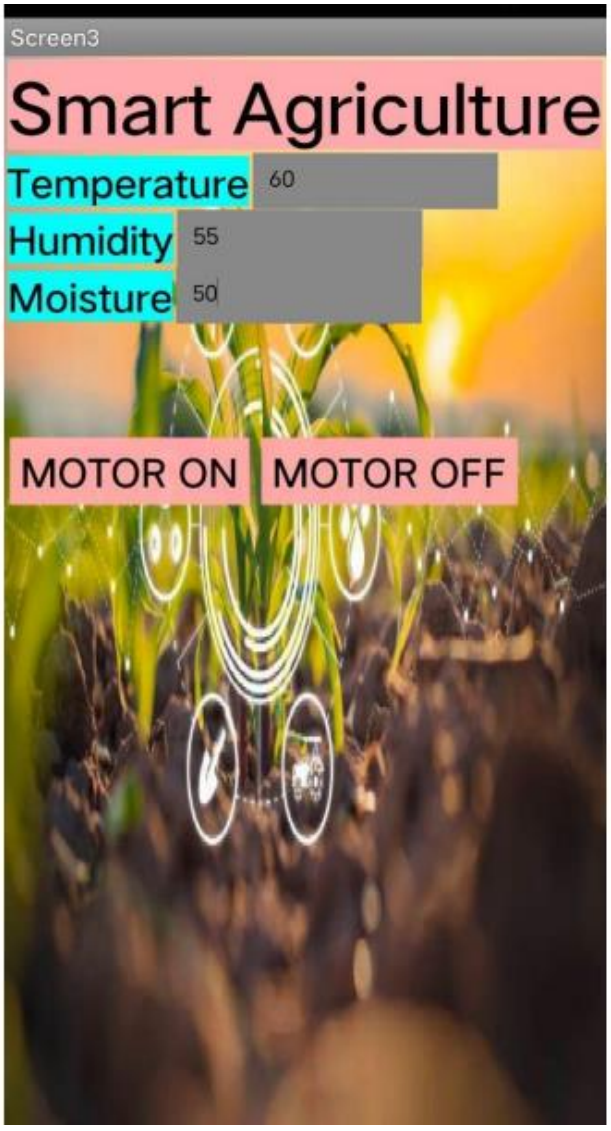
```
import time
import sys
import ibmiotf.application
import ibmiotf.device
import random


#Provide your IBM Watson Device Credentials
organization = "157uf3"
deviceType = "abcd"
deviceId = "7654321"
authMethod = "token"
authToken = "07654321"

# 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": authMe
        deviceCli = ibmiotf.device.Client(deviceOptions)
        #.....................................................
```

6.Flow Chart

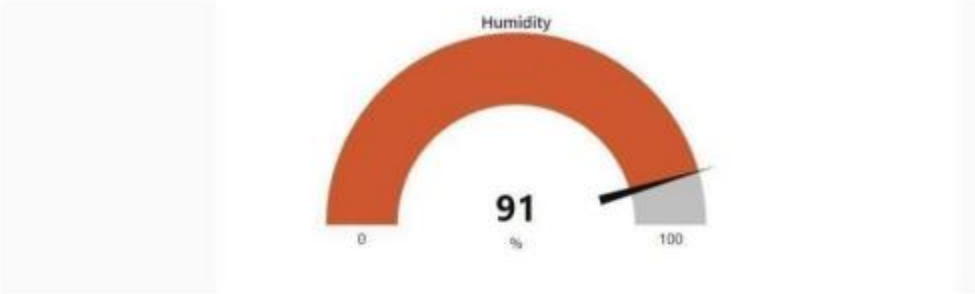


7.Observations & Results




Screen3
Smart Agriculture
Temperature
60
Humidity
55
Moisture
50
MOTOR ON
MOTOR OFF


FARMING MEASURE DATA
Farming Measure Data
Temperature



8.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.