SPRINT - 4

Team ID	PNT2022TMID15028
Project Name	Project : SmartFarmer - IoT Enabled Smart Farming Application

WEB UI:

PYTHON CODE:

```
import wiotp.sdk.device
import time
import os
import datetime
import random
myConfig = {
   "identity": {
      "orgId" :"vo6jfg",
      "typeId":"Arduino",
      "deviceId":"2266"
      },
      "auth": {
         "token":"12345678"}}
client=wiotp.sdk.device.DeviceClient(config=myConfig,logHandlers=No
ne)
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(0,100)
    temp=random.randint(90,125)
    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(5)
    client.commandCallback=myCommandCallback
client.disconnect()
```

code1.py - C:\Users\Asus\Documents\AEIC\code1.py (3.7.4)

File Edit Format Run Options Window Help

```
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import time
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import datetime
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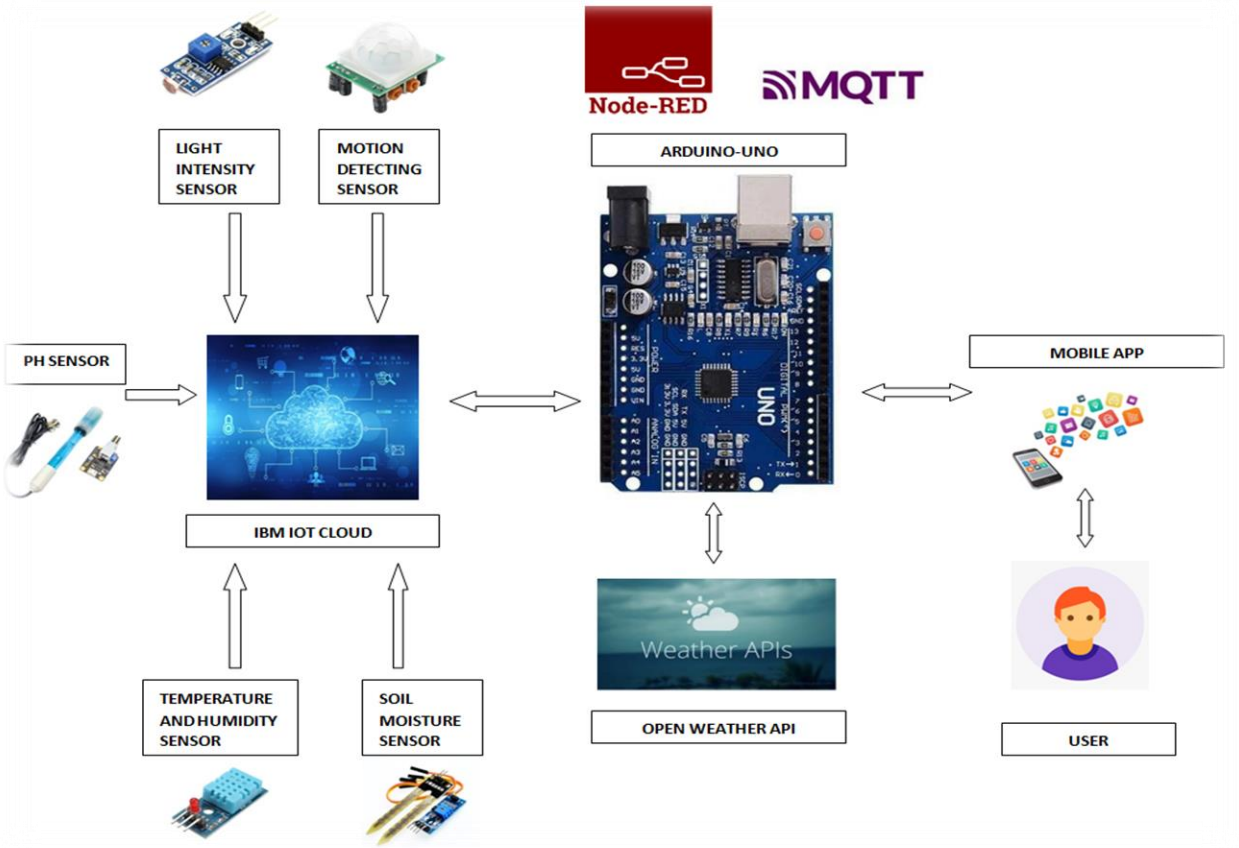
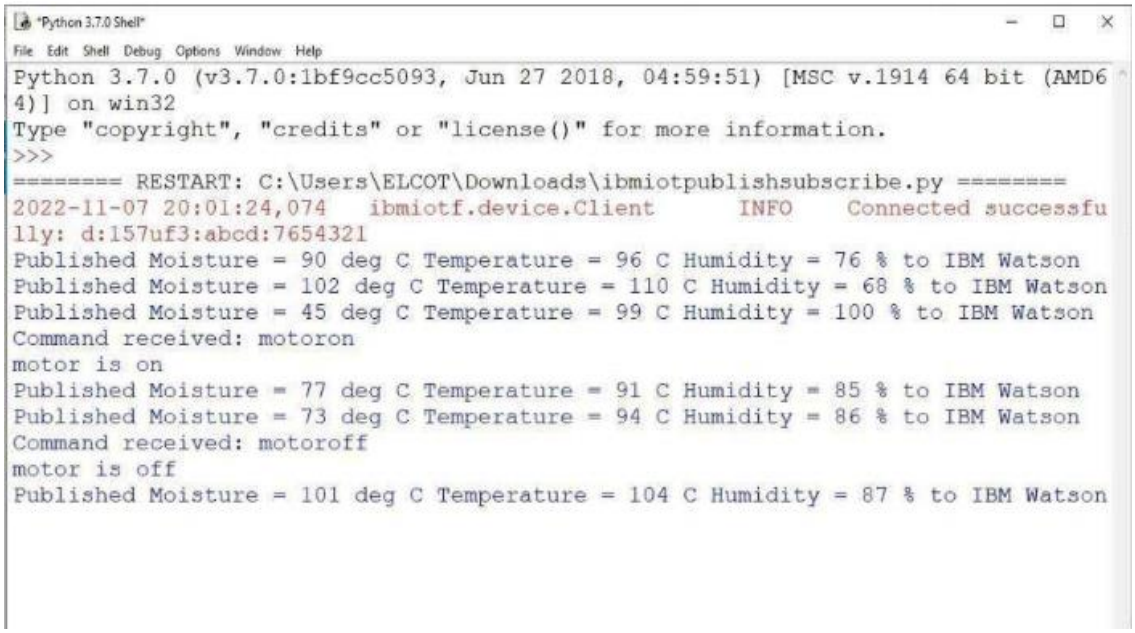
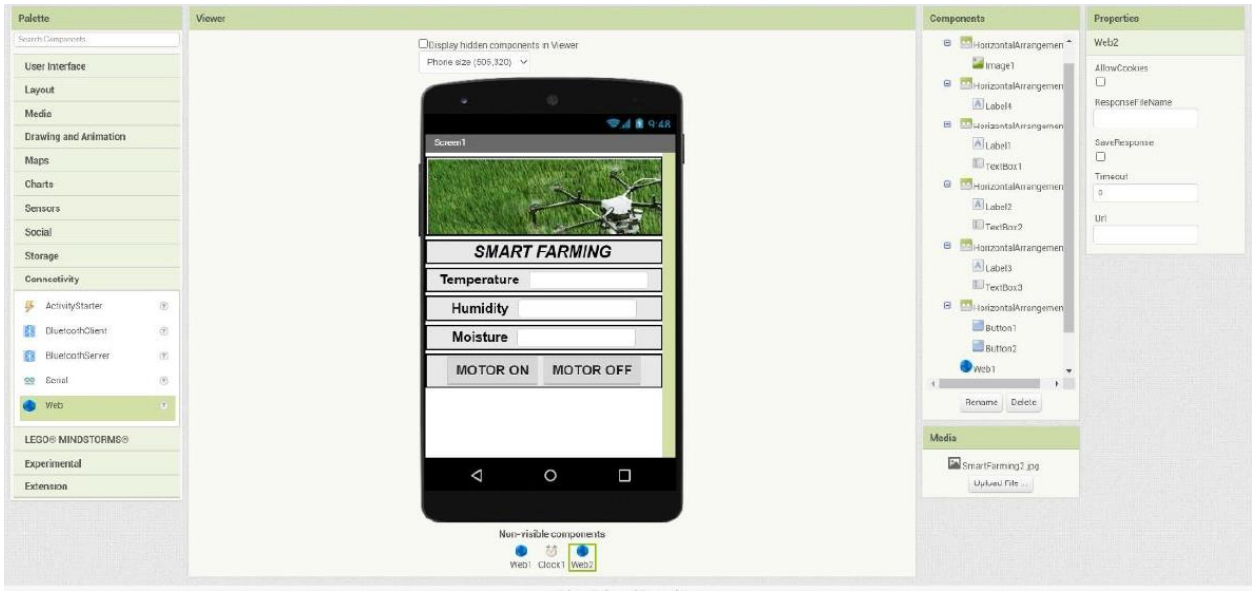
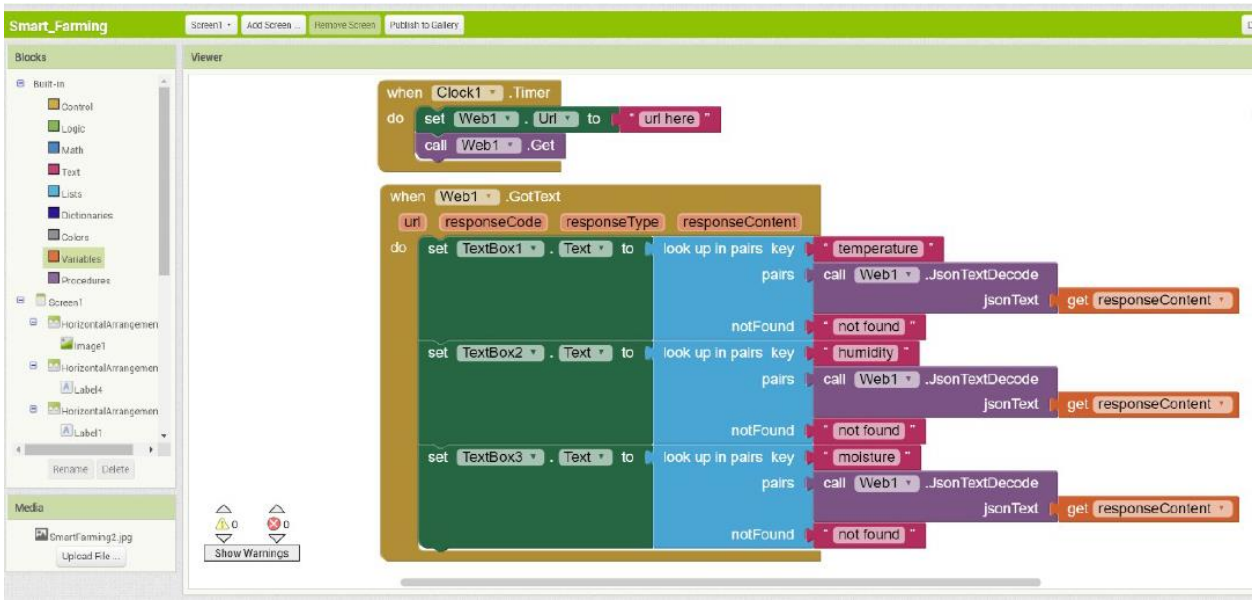
FLOW CHART:

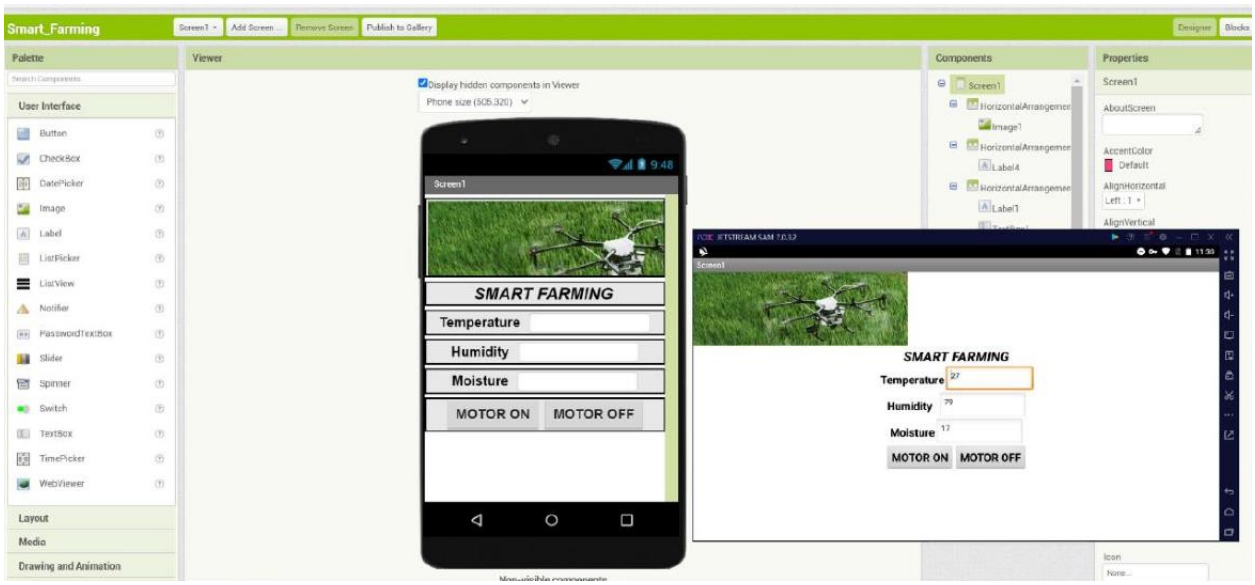


OBSERVATION AND RESULT:




Palette
Viewer
Components
Properties
Screen1
SMART FARMING
Temperature
Humidity
Moisture
MOTOR ON
MOTOR OFF
Non-visible components
Web1
Clock1
Web2


Smart_Farming
Blocks
Viewer
when Clock1 .Timer
do set Web1 . Url to " url here "
call Web1 .Get
when Web1 .GotText
url responseCode responseType responseContent
do set TextBox1 . Text to look up in pairs key " temperature "
pairs call Web1 .JsonTextDecode
jsonText get responseContent
notFound " not found "
set TextBox2 . Text to look up in pairs key " humidity "
pairs call Web1 .JsonTextDecode
jsonText get responseContent
notFound " not found "
set TextBox3 . Text to look up in pairs key " moisture "
pairs call Web1 .JsonTextDecode
jsonText get responseContent
notFound " not found "
Show Warnings


Smart_Farming
Palette
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Screen1
SMART FARMING
Temperature
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Moisture
MOTOR ON
MOTOR OFF
SMART FARMING
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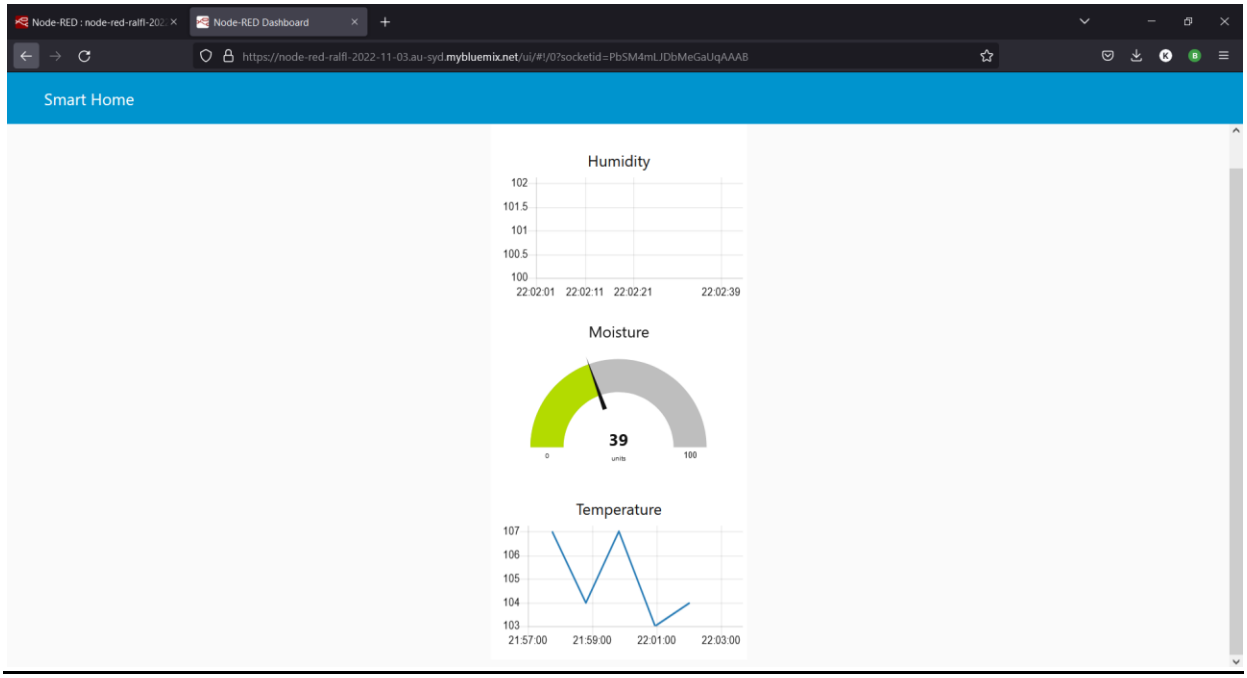
MOTOR OFF


Node-RED Dashboard
https://node-red-ralfl-2022-11-03.au-syd.mybluemix.net/ui/#!/0?socketid=PbSM4mLJDbMeGaUqAAAB
Smart Home
Humidity
102
101.5
101
100.5
100
22:02:01
22:02:11
22:02:21
22:02:39
Moisture
39
units
0
100
Temperature
107
106
105
104
103
21:57:00
21:59:00
22:01:00
22:03:00

ADVANTAGES:

- Remove human error
- Data collection and analysis
- More control over internal processes
- Enhanced product quality and yield
- Cost management
- Improved efficiency
- Reduced human resources

CHALLENGES:

- Data collection frequency
- Data analysis
- Hardware maintenance
- Connectivity

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.