

SPRINT 4

Team ID	PNT2022TMID08036
Project Name	SmartFarmer - IoT Enabled Smart Farming Application

Python Script

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

organization = "1nuzg6"
deviceType = "srimathi"
deviceId = "94868"
authMethod = "token"
authToken = "987654321"

def myCommandCallback(cmd):
    print("Command received: %s" % cmd.data)
    for key in cmd.data.keys():
        if key == 'motor':
            if cmd.data['motor'] == 'ON':
                print("MOTOR is turned ON")
            elif cmd.data['motor'] == 'OFF':
```

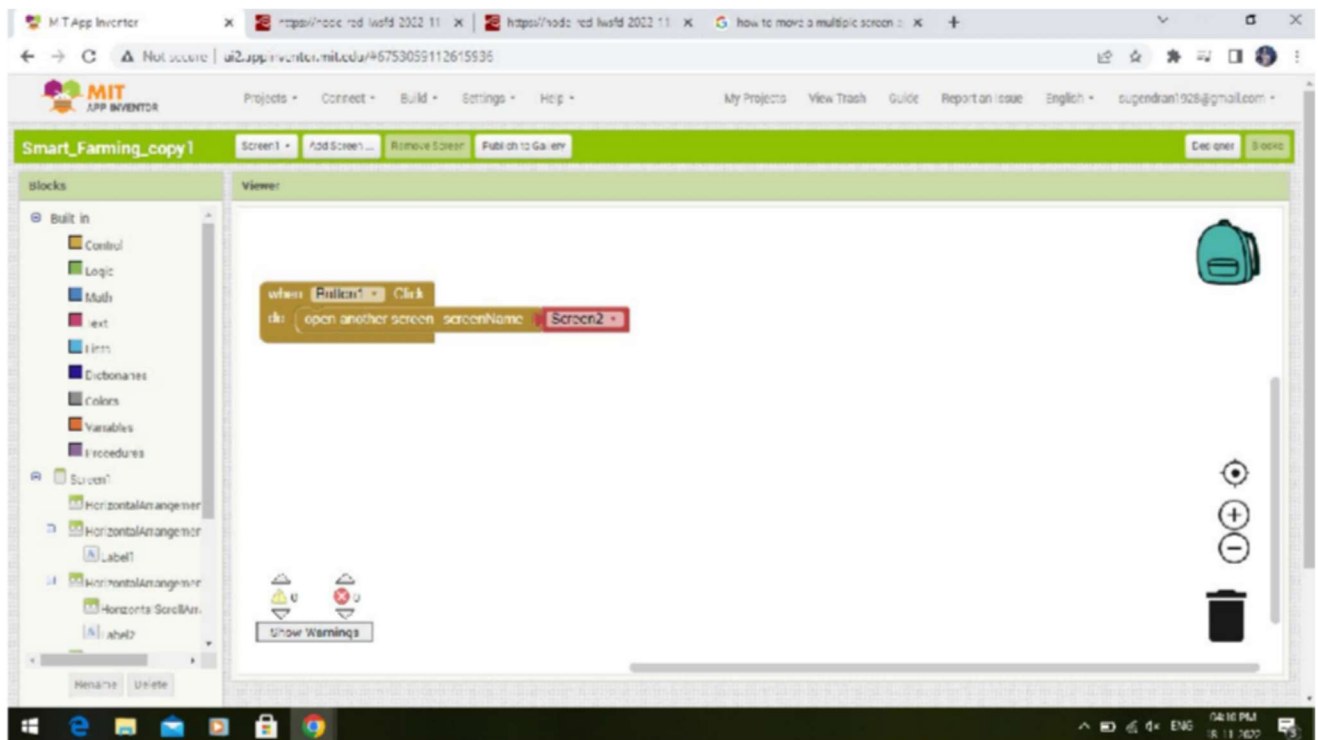
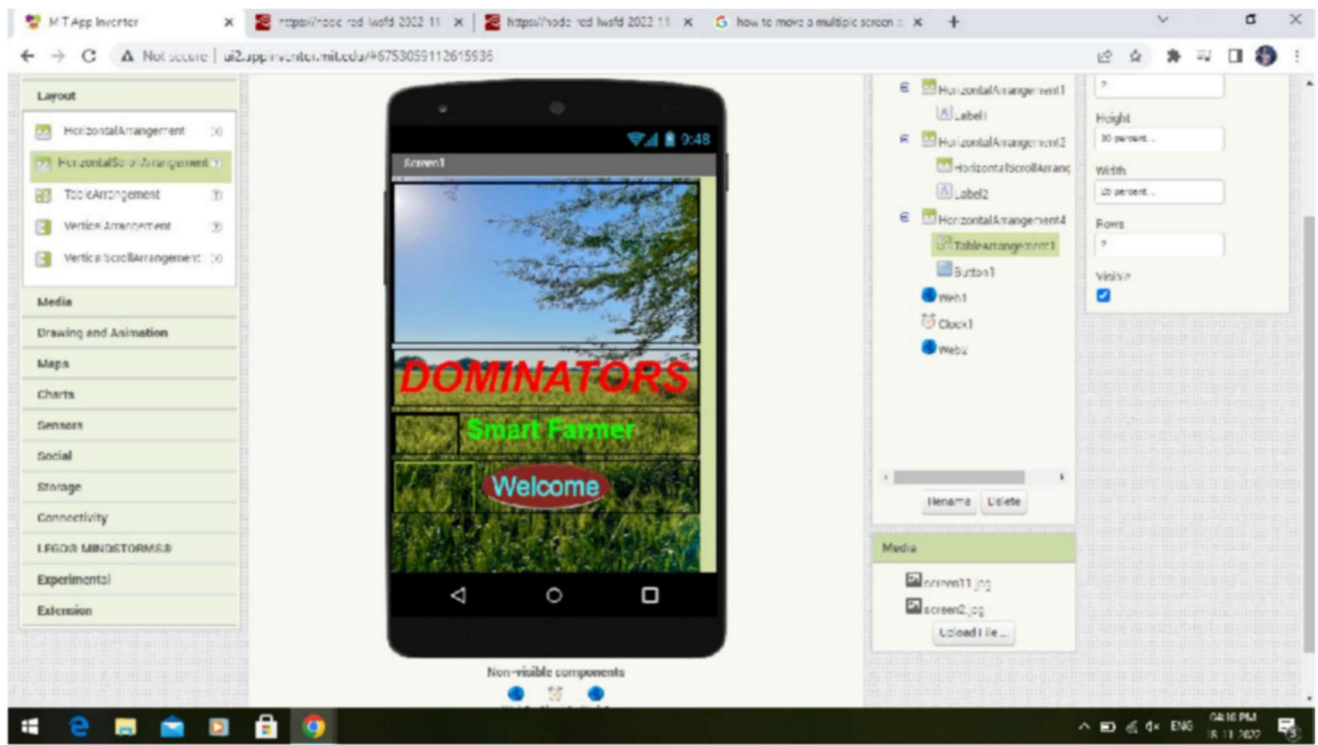
```

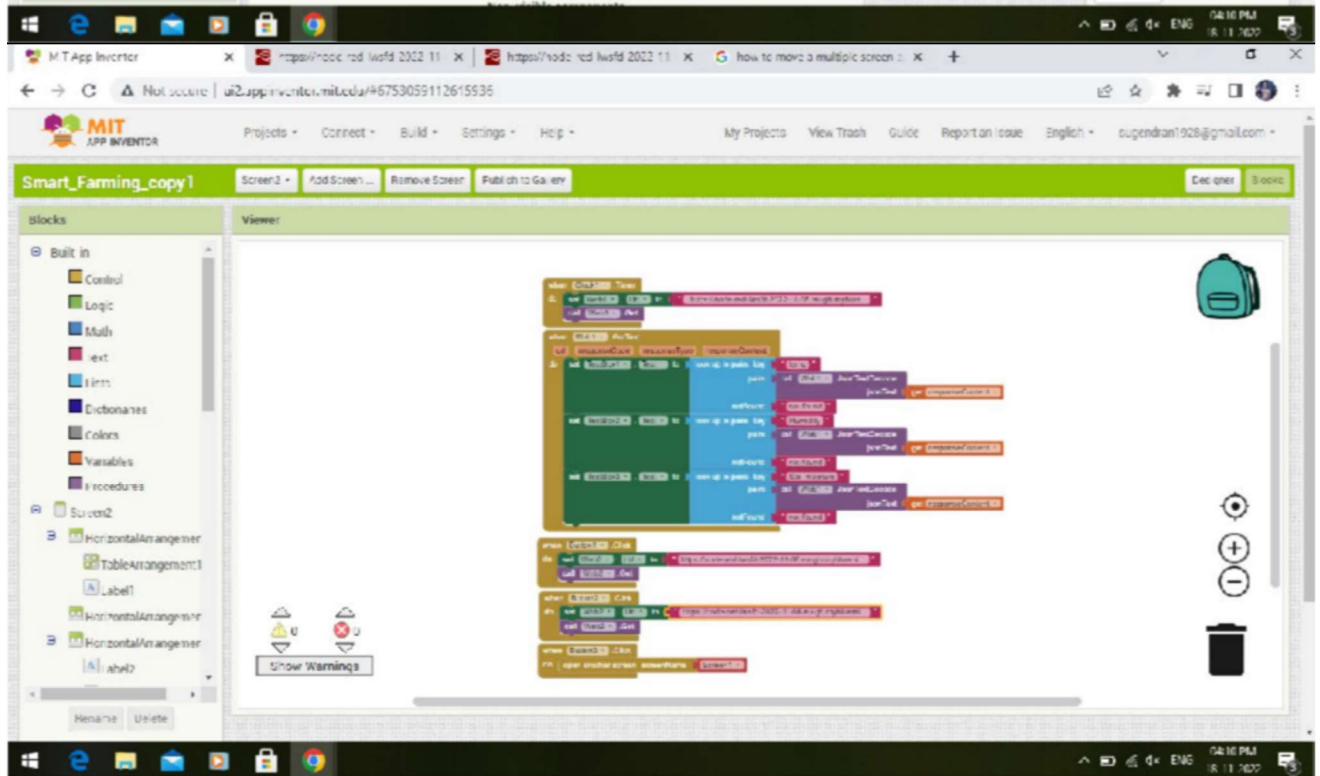
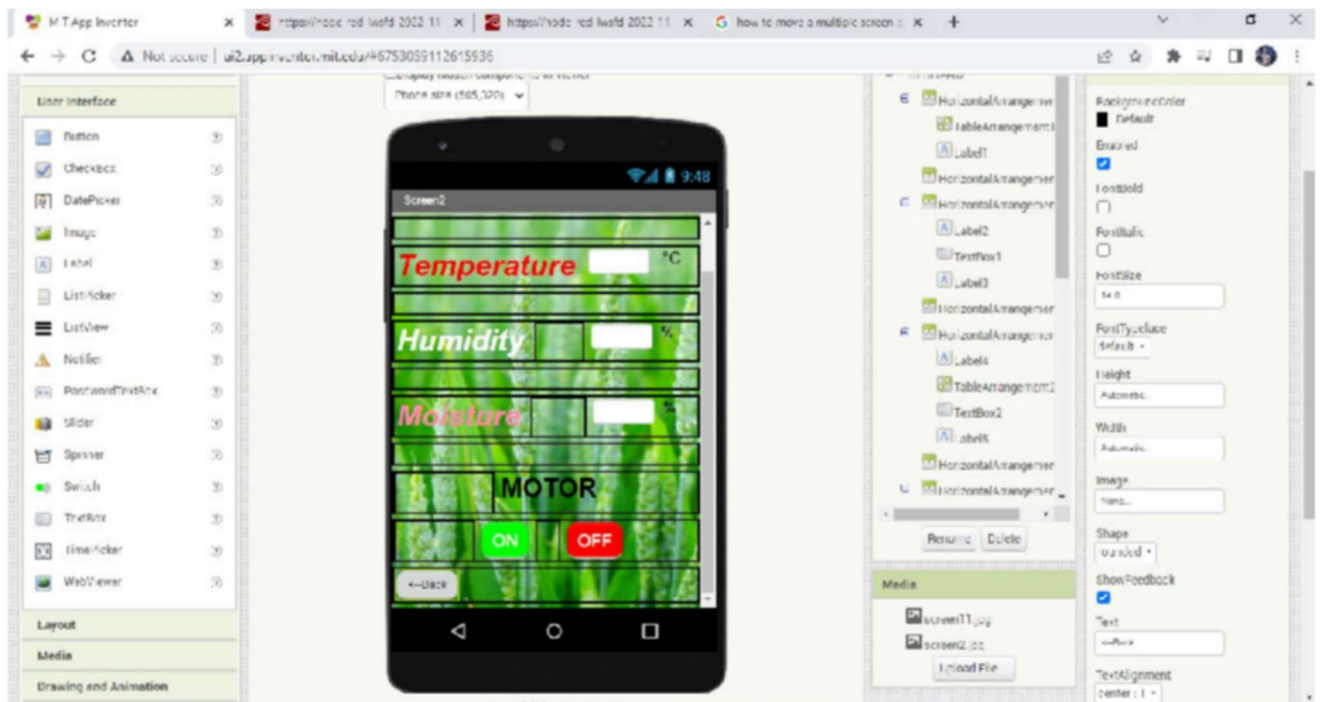
print("MOTOR is turned OFF")

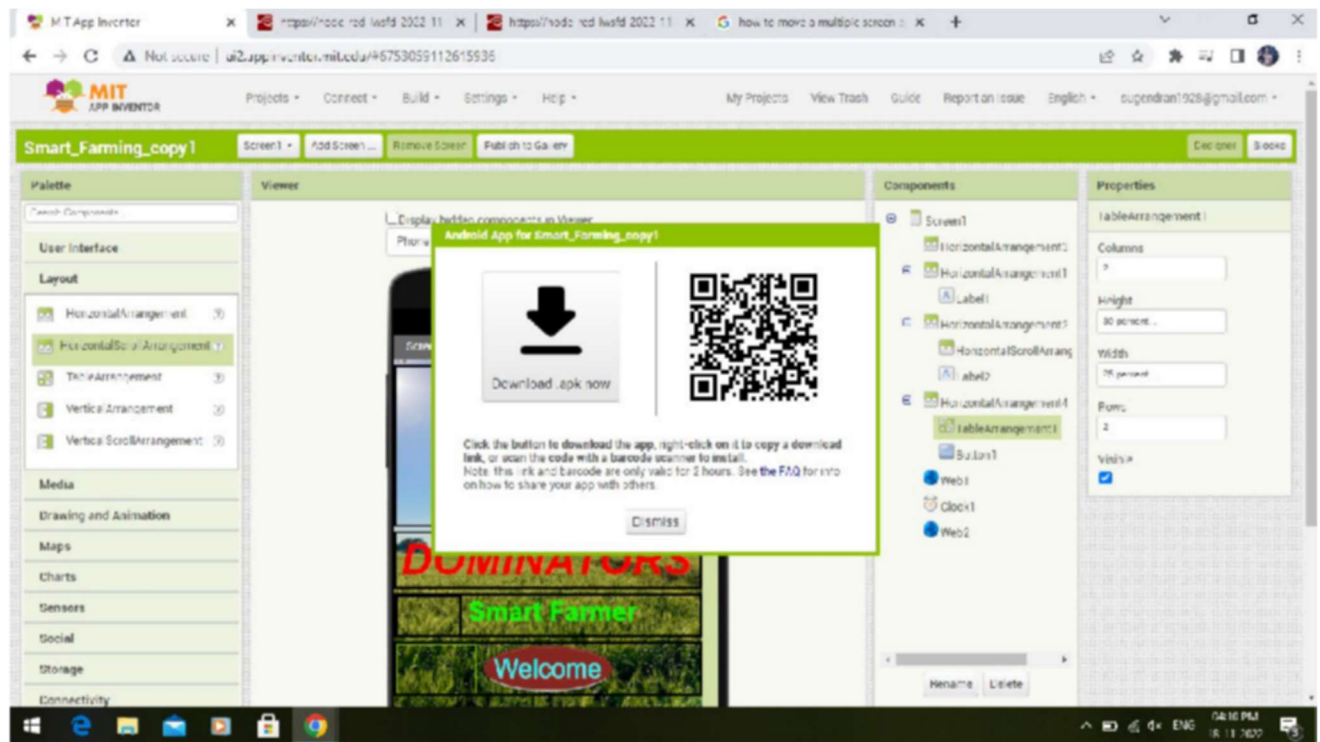
try:
deviceOptions = {"org": organization, "type": deviceType, "id": deviceId, "auth-
method": authMethod, "auth-token": authToken}
deviceCli = ibmiotf.device.Client(deviceOptions)
except Exception as e:
print("Caught exception connecting device: %s" % str(e))
sys.exit()
deviceCli.connect()
while True:
temp=random.randint(0,40)
Humid=random.randint(0,100)
moist=random.randint(0,40)
data = { 'temperature' : temp, 'humidity': Humid, 'soil_moisture':moist
}
def myOnPublishCallback():
print ("Published Temperature = %s C" % temp, "Humidity = %s %" % Humid,
"soil moisture =%s" % moist,"to IBM Watson")
success = deviceCli.publishEvent("IoTSensor", "json", data, qos=0,
on_publish=myOnPublishCallback)
if not success:
print("Not connected to IoT")
time.sleep(10)
deviceCli.commandCallback = myCommandCallback
deviceCli.disconnect()

```

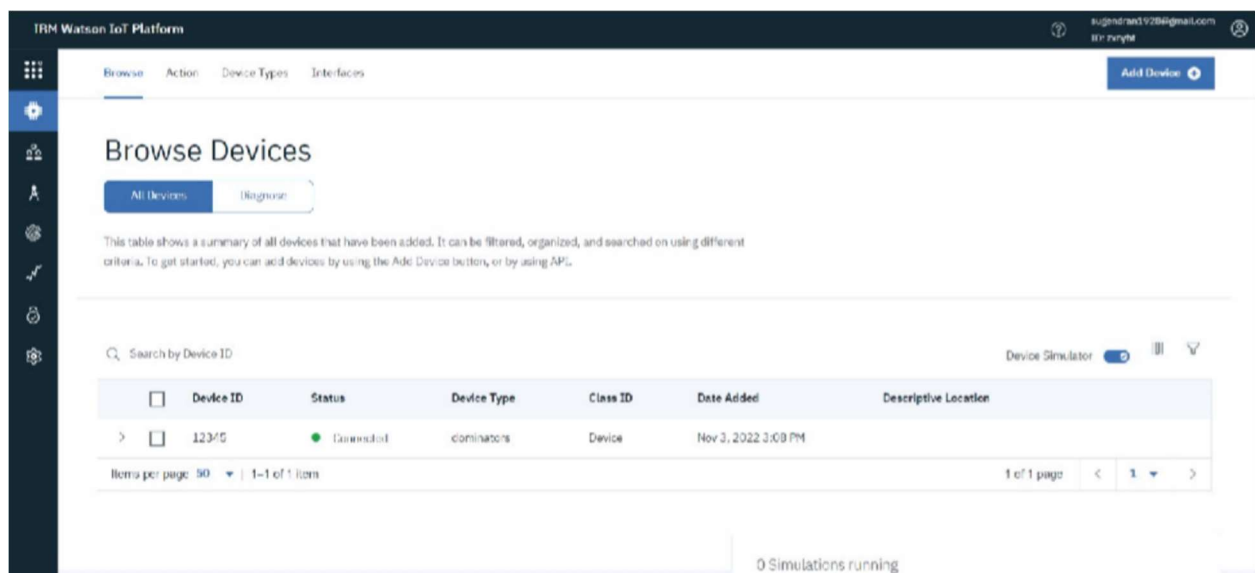
User Application or Mobile Application







Python Script configured to IBM Watson IoT platform



The Sensors data in the python script will be received by IBM Watson IoT platform

The screenshot shows a Windows PC with a terminal window and a web browser. The terminal window displays the output of a Python script connecting to IBM Watson IoT Platform. The browser window shows the IBM Watson IoT Platform dashboard for a device named 'dominators:12345', displaying recent events in a table.

Terminal Output:

```
File Edit Shell Debug Options Window Help
Python 3.9.3 (tags/v3.9.3:0b30f0c, Nov 5 2021, 20:48:33) [MSC
v.1929 64 bit (AMD64)] on win32
Type "help", "copyright", "credits()" or "license()" for more in
formation.
>>>
----- REQUEST: C:\Users\shree\OneDrive\Desktop\try1.
lv
2022-11-17 19:33:47.811 IBMIoT.device.Client INFO C
connected successfully: dxnxybt:dominators:12345
Published Temperature = 22 C Humidity = 0 % to IBM Watson
Published Temperature = 25 C Humidity = 7 % to IBM Watson
Published Temperature = 13 C Humidity = 10 % to IBM Watson
Published Temperature = 39 C Humidity = 34 % to IBM Watson
Published Temperature = 22 C Humidity = 43 % to IBM Watson
Published Temperature = 1 C Humidity = 43 % to IBM Watson
|
```

Web Browser (IBM Watson IoT Platform):

Dashboard for device: **dominators:12345**

Recent Events:

Event	Value	Format	Last Received
IoT_Sensor	["temperature":1,"humidity":63,"soil_moisture":...	json	a few seconds ago
IoT_Sensor	["temperature":22,"humidity":43,"soil_moisture":...	json	a few seconds ago
IoT_Sensor	["temperature":39,"humidity":34,"soil_moisture":...	json	a few seconds ago

Items per page: 50 | 1-1 of 0 Simulations running