

## **PROJECT DEVELOPMENT PHASE**

### **SPRINT-1**

Date	12 November 2022
Team ID	PNT2022TMID14066
Project Name	Signs with Smart Connectivity for Better Road Safety

### **SPRINT-1:**

- In sprint-1, we collect temperature and humidity data from Open Weather Map website for a particular city as input.
- We have developed the code for the same and to publish it to IBM IoT Watson, node-red and finally display them in MIT APP INVENTOR.
- We have also implemented a condition such that, if humidity is less than 100, then it displays a warning like "PLEASE SLOW DOWN".

### **PYTHON CODE:**

 \*PROJECTFINALDND.py - D:/1ibm/PROJECTFINALDND.py (3.7.0)\*

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```
#connect and send a datapoint "temp" with value integer value into the cloud as a type of event for every 10 seconds
deviceCli.connect()
```

```
while True:
```

```
#get sensor data from DHT11
```

```
a = "https://api.openweathermap.org/data/2.5/weather?q=Chennai,%20IN&appid=e2bea247ed9ad643a04d9a8e55499d5f"
r=requests.get(url=a)
data=r.json()
```

```
Temp= data['main']['temp']
Humd= data['main']['humidity']
data= {'temp':Temp,'humid':Humd}
dist=random.randint(0,50)
dis={'dista':dist}
```

```
if(Humd<100):
    warn={'alert':'PLEASE SLOW DOWN!!!!!!'}
```

## IBM IoT WATSON PLATFORM:

The screenshot shows the IBM Watson IoT Platform dashboard. The 'Recent Events' tab is selected, displaying a table of events. A red box highlights three specific events:

Event	Value	Format	Last Received
IoT Sensor	{"dista":1}	json	a few seconds ago
IoT Sensor	{"alert":"PLEASE SLOW DOWN!!!!!!!"}	json	a few seconds ago
IoT Sensor	{"temp":300.14,"humid":94}	json	a few seconds ago
IoT Sensor	{"inst":"stop"}	json	a few seconds ago
IoT Sensor	{"dista":0}	json	a few seconds ago

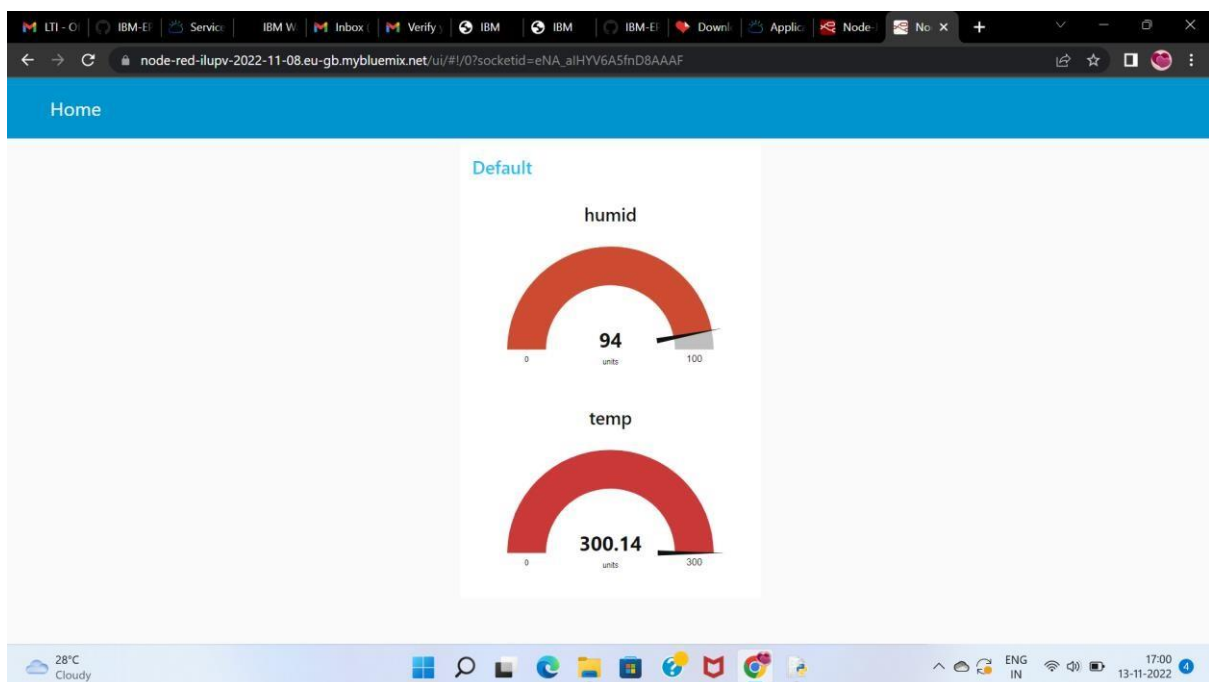
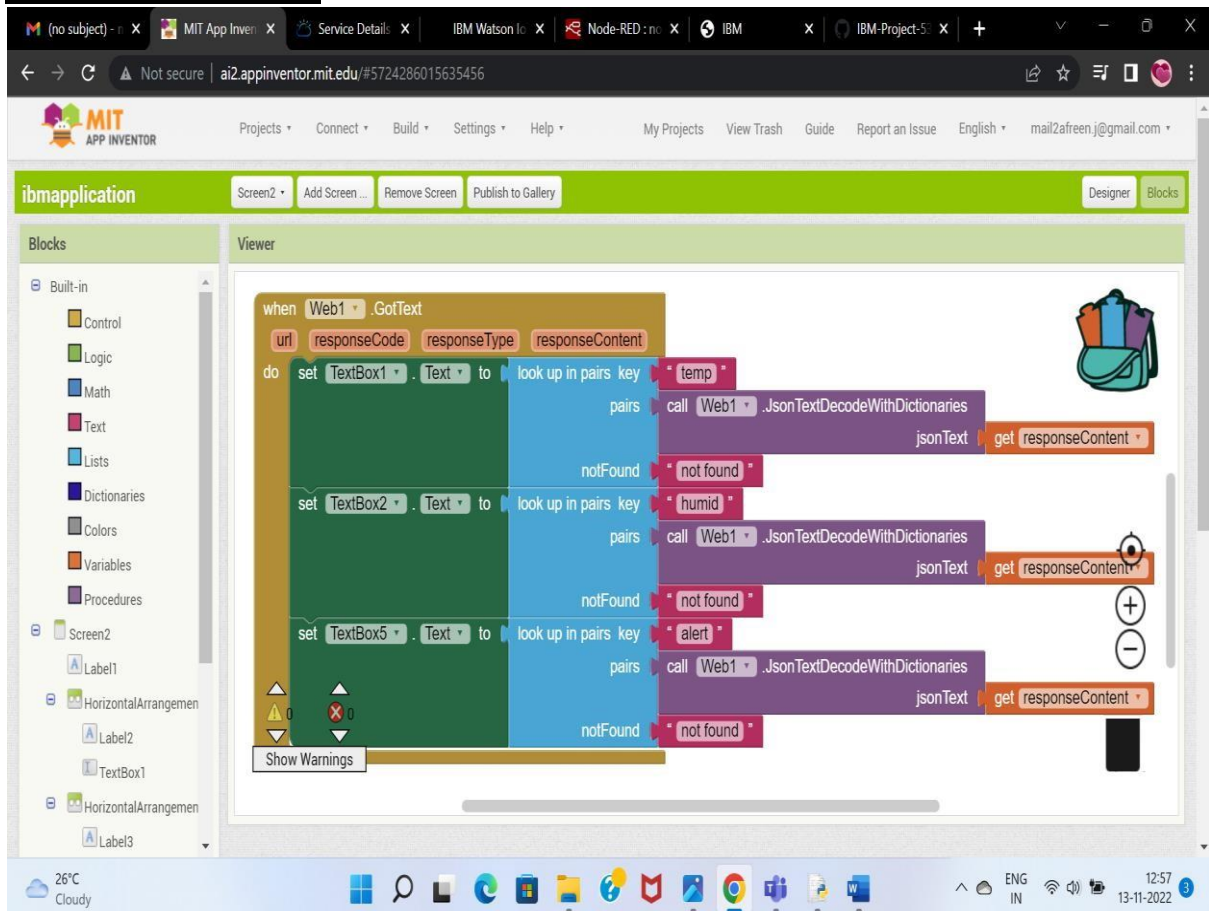
Below the table, it indicates '1 Simulation running'.

## NODE-RED:

The screenshot shows the Node-RED interface. The flow 'Flow 1' is visible, starting with an 'IBM IoT' node connected to several function nodes: 'temperature', 'humidity', 'alert', and 'function'. These function nodes are connected to 'msg payload' and 'temp'/'humid' nodes. The 'debug' console on the right shows the message payloads for each event. A red box highlights the following messages:

```
11/13/2022, 12:54:51 PM node: f2f2649a.0d0d98  
iot-2/type/project/id/project/evt/iotSensor/fmt/json :  
msg payload: Object  
{ dista: 5 }  
  
11/13/2022, 12:54:51 PM node: f2f2649a.0d0d98  
iot-2/type/project/id/project/evt/iotSensor/fmt/json :  
msg payload: Object  
{ inst: "stop" }  
  
11/13/2022, 12:54:51 PM node: f2f2649a.0d0d98  
iot-2/type/project/id/project/evt/iotSensor/fmt/json :  
msg payload: Object  
{ temp: 300.14, humid: 94 }  
  
11/13/2022, 12:54:51 PM node: f2f2649a.0d0d98  
iot-2/type/project/id/project/evt/iotSensor/fmt/json :  
msg payload: Object  
{ alert: "PLEASE SLOW DOWN!!!!!!!" }  
  
11/13/2022, 12:54:51 PM node: f2f2649a.0d0d98  
iot-2/type/project/id/project/evt/iotSensor/fmt/json :  
msg payload: Object  
{ dista: 6 }
```

## MIT APP INVENTOR:



## USER APP SCREENSHOT:

11:59



Screen2

## WEATHER UPDATE

TEMPERATURE : 300.14

HUMIDITY : 94

BACK

PLEASE  
SLOW  
DOWN!!!!!!!