SPRINT-3

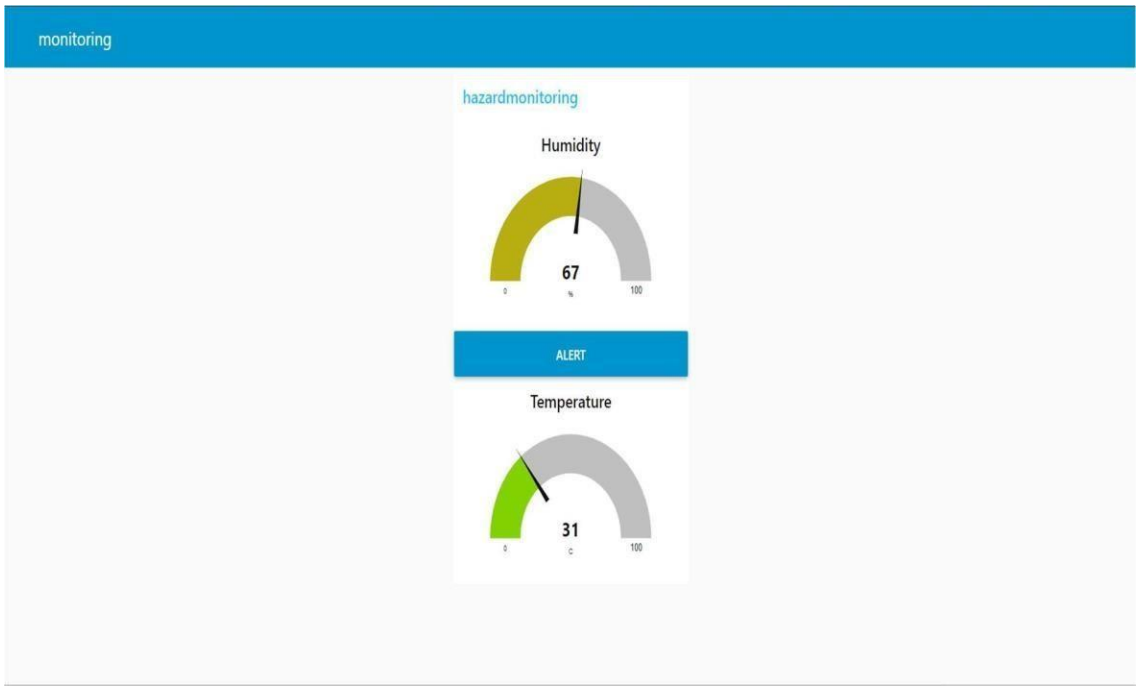
Team ID	PNT2022TMID14654
Project Name	Hazardous Area Monitoring for Industrial Plant powered by IoT

Python code for the Temperature Alert and Humidity check

```
import time import sys
import ibmiotf.application
import ibmiotf.device
import random
# Initialize GPIO


#Provide your IBM Watson Device
Credentials organization = "0vbvyp"
deviceType = "hazardous_monitoring"
deviceId = "hazard_report" authMethod =
"token" authToken =
"7jZ6JKfpj!Cq7tTO5M"


def myCommandCallback(cmd):  print("Command received:
%s" % cmd.data['command']) Status=cmd.data['command'] if
Status=="Alert":
print("Alert")
#print(cmd)


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(0,100) humid

=random.randint(0,100)        oxygen

=random.randint(0,100)


        data = { 'temp' : temp, 'humidity': humid ,'oxygen': oxygen}

data1 = { 'High temperature' : temp>60}

        #print data          def

myOnPublishCallback():

            print ("Published Temperature = %s C" % temp, "humidity = %s %%" % humid,"alert", "to IBM Watson")

         success = deviceCli.publishEvent("IoTSensor", "json", data, qos=0, on_publish=myOnPublishCallback)


if not success:               print("Not

connected to IoTF") time.sleep(1)

       deviceCli.commandCallback = myCommandCallback


# Disconnect the device and application from the cloud

deviceCli.disconnect()
```

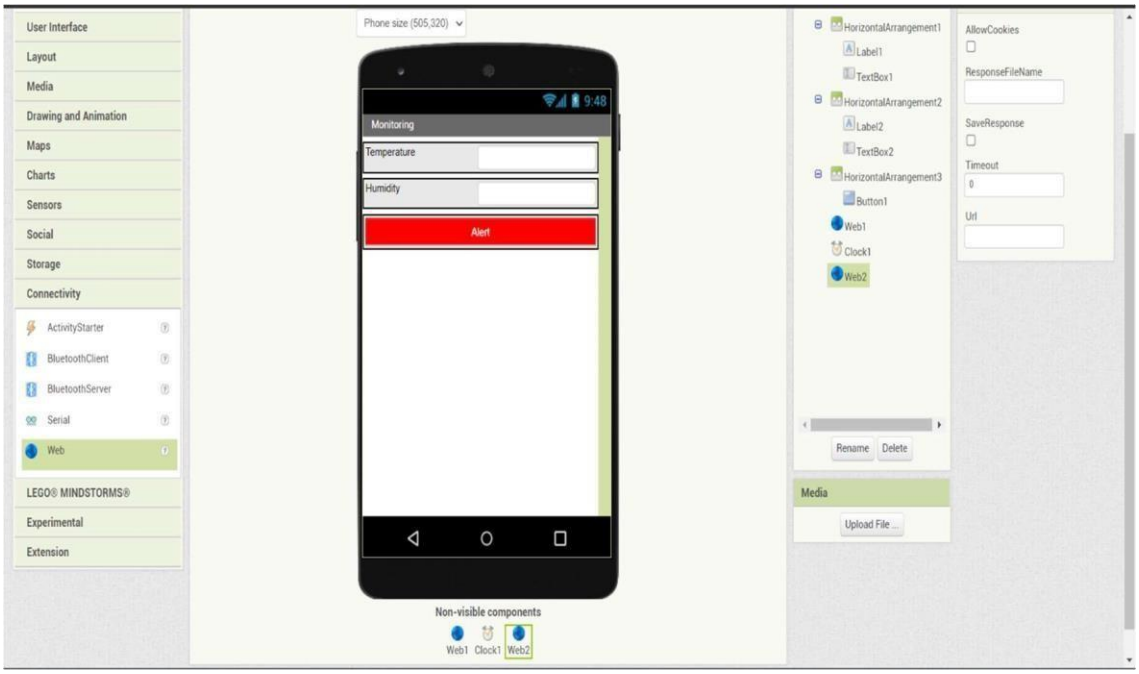
UI Dashboard



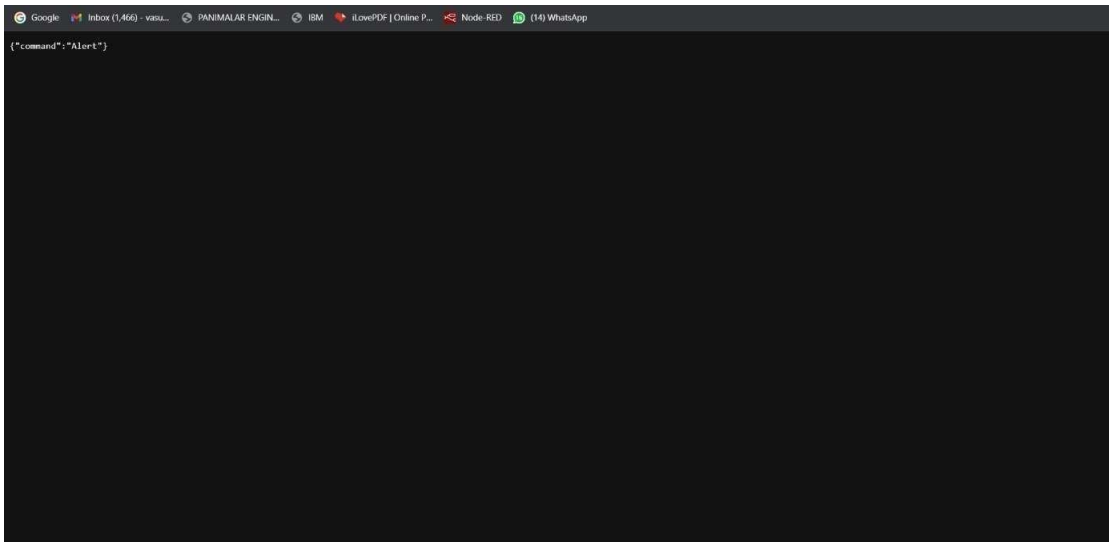

```
Published Temperature = 70 C humidity = 7 % alert to IBM Watson
Published Temperature = 36 C humidity = 39 % alert to IBM Watson
Published Temperature = 2 C humidity = 13 % alert to IBM Watson
Published Temperature = 36 C humidity = 3 % alert to IBM Watson
Published Temperature = 46 C humidity = 87 % alert to IBM Watson
Published Temperature = 57 C humidity = 95 % alert to IBM Watson
Published Temperature = 59 C humidity = 43 % alert to IBM Watson
Published Temperature = 50 C humidity = 33 % alert to IBM Watson
Command received: Alert:High Temperature
Command received: Alert:High Temperature
Command received: Alert:High Temperature
Published Temperature = 59 C humidity = 95 % alert to IBM Watson
Published Temperature = 86 C humidity = 19 % alert to IBM Watson
Command received: Alert:High Temperature
Command received: Alert:High Temperature
Command received: Alert:High Temperature
Published Temperature = 17 C humidity = 59 % alert to IBM Watson
Command received: Alert:High Temperature
Command received: Alert:High Temperature
Command received: Alert:High Temperature
Published Temperature = 6 C humidity = 67 % alert to IBM Watson
Command received: Alert:High Temperature
Command received: Alert:High Temperature
Command received: Alert:High Temperature
Published Temperature = 22 C humidity = 27 % alert to IBM Watson
Command received: Alert:High Temperature
Published Temperature = 99 C humidity = 16 % alert to IBM Watson
Published Temperature = 98 C humidity = 7 % alert to IBM Watson
Published Temperature = 94 C humidity = 85 % alert to IBM Watson
```

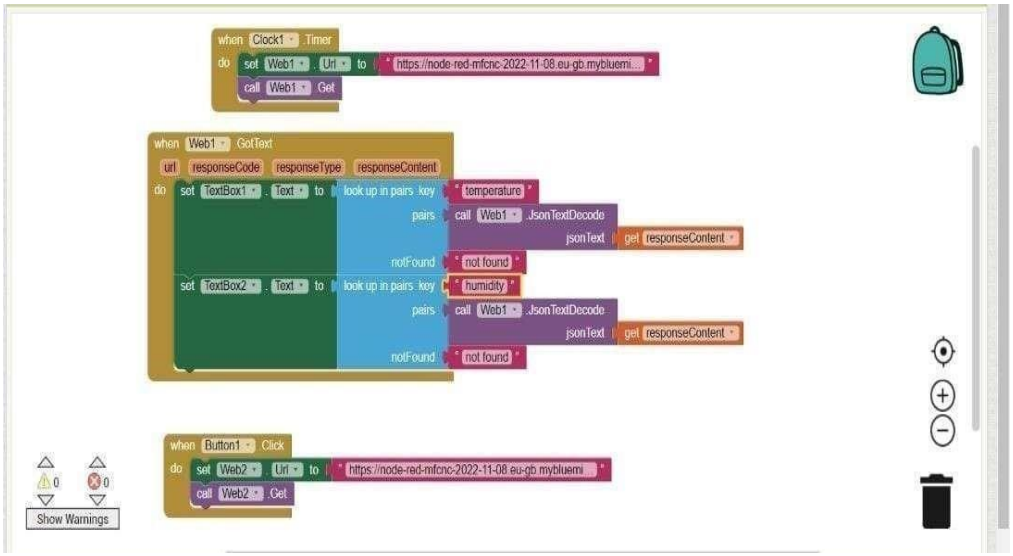
Ln: 5052 Col: 4

Design the application for the project using MIT App Inventor


User Interface
Layout
Media
Drawing and Animation
Maps
Charts
Sensors
Social
Storage
Connectivity
ActivityStarter
BluetoothClient
BluetoothServer
Serial
Web
LEGO® MINDSTORMS®
Experimental
Extension
Phone size (505,320)
9:48
Monitoring
Temperature
Humidity
Alert
Non-visible components
Web1
Clock1
Web2
HorizontalArrangement1
Label1
TextBox1
HorizontalArrangement2
Label2
TextBox2
HorizontalArrangement3
Button1
Web1
Clock1
Web2
Rename
Delete
Media
Upload File ...
AllowCookies
ResponseFileName
SaveResponse
Timeout
0
Url

Alert Command




when Clock1 .Timer
do set Web1 . Url to " https://node-red-mfcnc-2022-11-08.eu-gb.mybluemi... "
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 "
when Button1 .Click
do set Web2 . Url to " https://node-red-mfcnc-2022-11-08.eu-gb.mybluemi... "
call Web2 .Get
0
0
Show Warnings