SPRINT-3

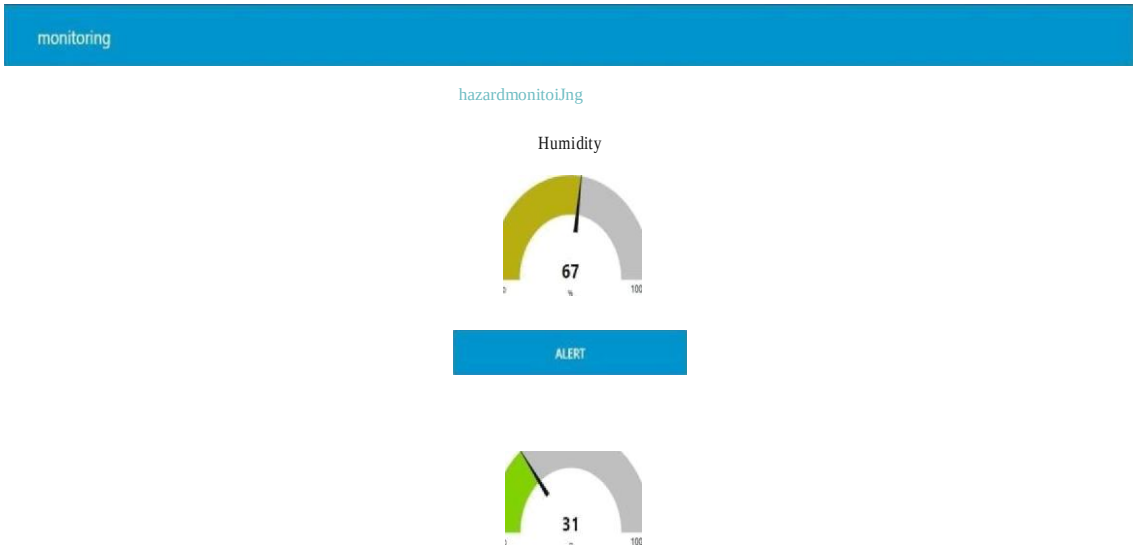
Team ID	PNT2022TMID02630
Project Name	Hazardous Area Monitoring for industrial Plant powered by IoT

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 = 46 C humidity = 87 % alert to IBM Watson
```

cosmid zeceiied: nlert:aigh Temperature
Published temperature - 59 c hmidity = 95 I alert to io Watson
Published leaperatuze - 86 £ hmidity = If l alert to & Parson

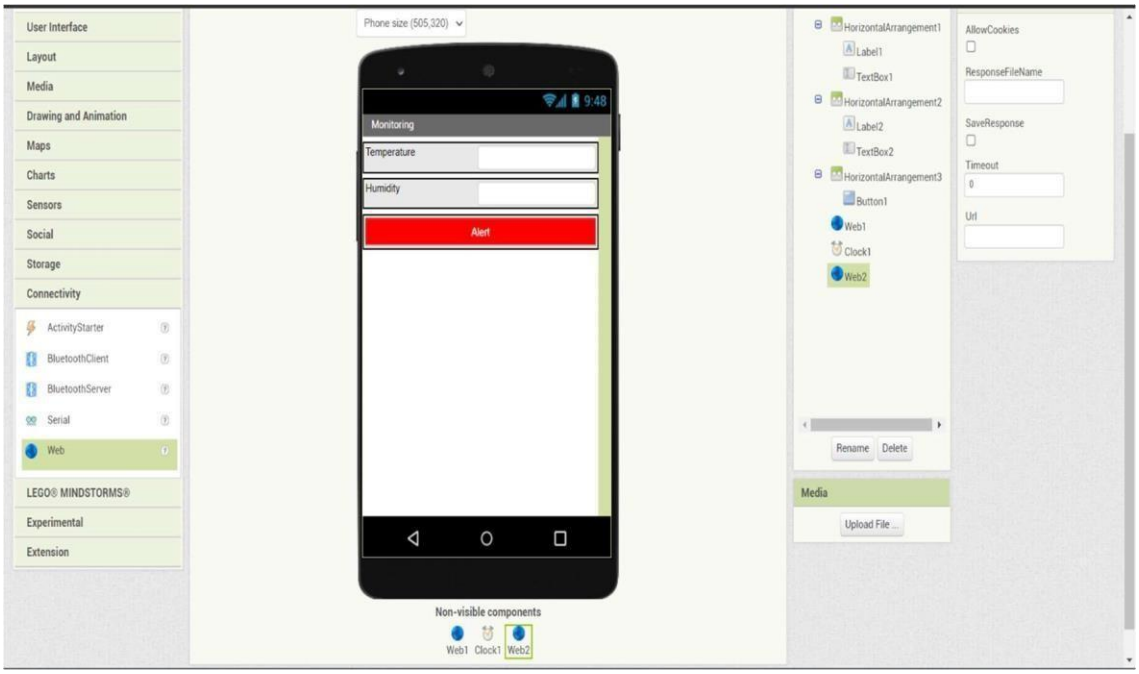
```
Published Temperature = 17 C humidity = 59 % alert to IBM Watson
```

maand zeceï¥ed: Alert:Bigh Temperature
Published temperature = 8 C hmia ry = 67 1 alert to & Watson

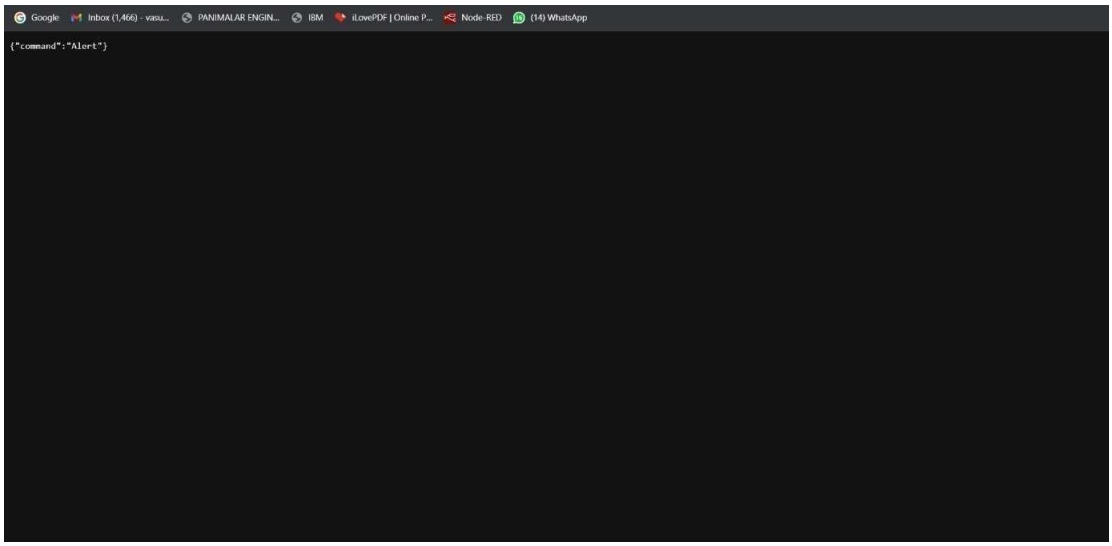
C and receiTed• Alert:Bigh temperature
Published ieaperatuze = 22 2 humidity = 27 1 alert to & ratson

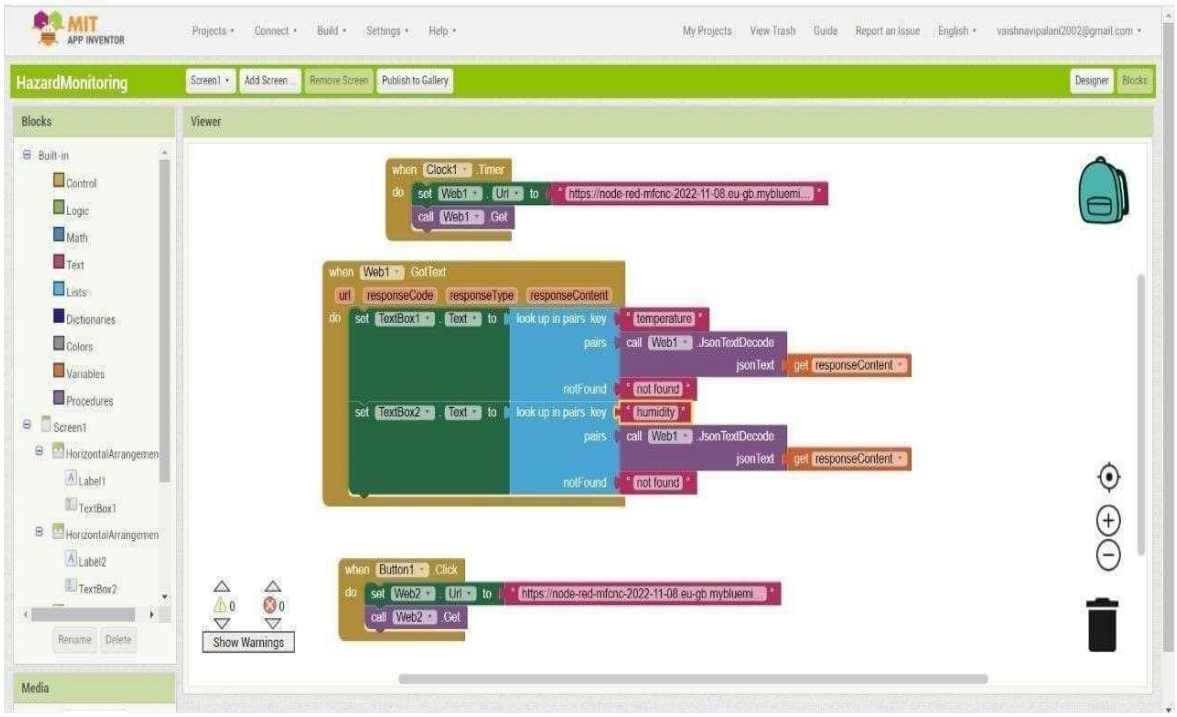
```
Published Temperature = 99 C humidity = 16 % alert to IBM Watson
```

Design the application for the project using MIT App Inventor



Alert Command




MIT APP INVENTOR
Projects
Connect
Build
Settings
Help
My Projects
View Trash
Guide
Report an Issue
English
vaishnavipalani2002@gmail.com
HazardMonitoring
Screen1
Add Screen
Remove Screen
Publish to Gallery
Designer
Blocks
Blocks
Built-in
Control
Logic
Math
Text
Lists
Dictionaries
Colors
Variables
Procedures
Screen1
HorizontalArrangemen
Label1
TextBox1
HorizontalArrangemen
Label2
TextBox2
Rename
Delete
Media
Viewer
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