Project Development phase
Sprint-2

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Project Name	Project – Hazardous Area Monitoring For Industrial Plant Powered By IoT

Sprint-3

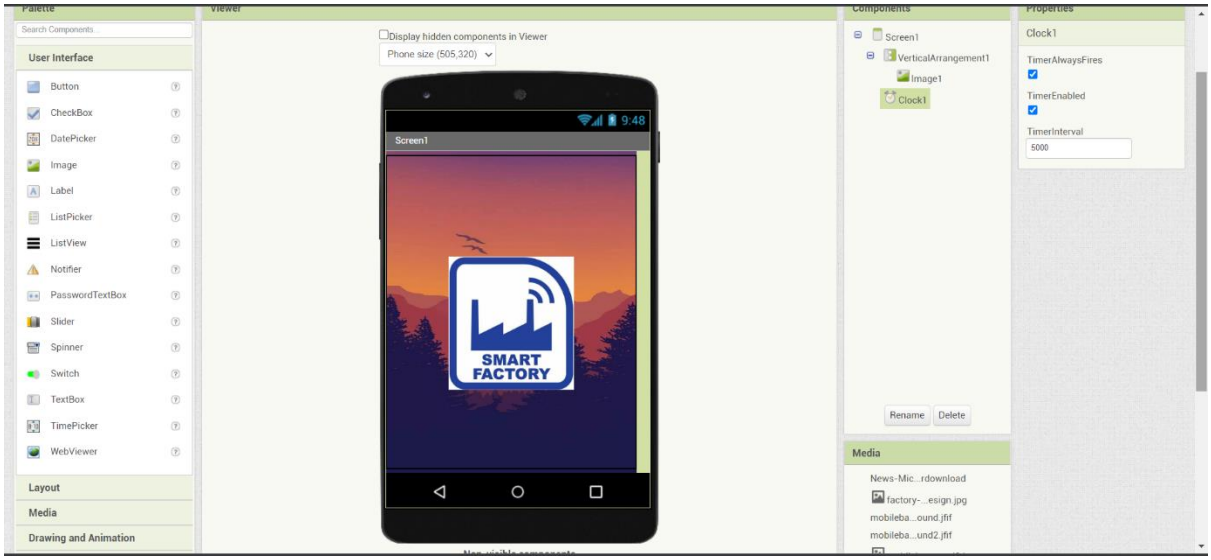
Emergency shutdown system- as a worker, I can measure the machine condition and shut down the entire system in the case of peak condition.

Program:

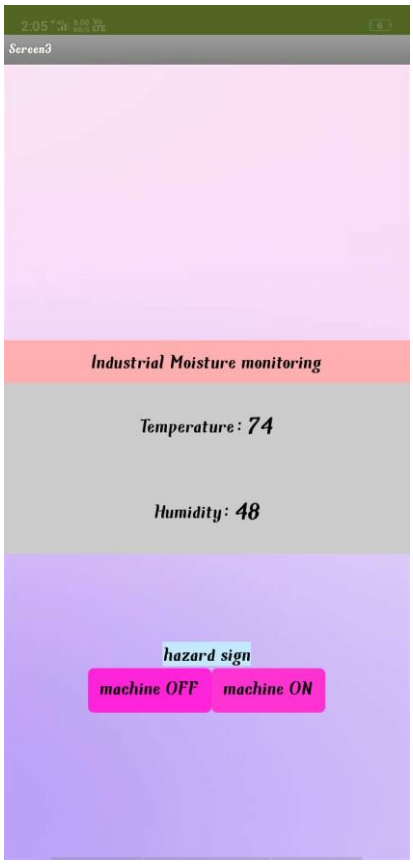
```
import time
import sys
import ibmiotf.application
import ibmiotf.device
import random


#Provide your IBM Watson Device Credentials
organization = "f7gdph"
deviceType = "Abcd"
deviceId = "204527"
authMethod = "token"
authToken = "8778766443"

# Initialize GPIO


def myCommandCallback(cmd):
    print("Command received: %s" % cmd.data['command'])
    status=cmd.data['command']
    if status=="shutdown":
        print ("machine off")
    else :
        print ("machine on")

    #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)

        data = { 'temp' : temp, 'Humid': Humid }
        #print data
        def myOnPublishCallback():
            print ("Published Temperature = %s C" % temp,
"Humidity = %s %%" % Humid, "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()
```

using mobile app for shut downing machines control:



Mobile accessing:



Displaying temperature and humidity values in mobile application and accessing machine control.