PROJECTDEVELOPMENTPHASE

Delivery Of Sprint-4

Date	16 November 2022
Team ID	PNT2022TMID39307
Project Name	Gas Leakage Monitoring and Alerting Systems

SPRINT4:

Functional Requirement:
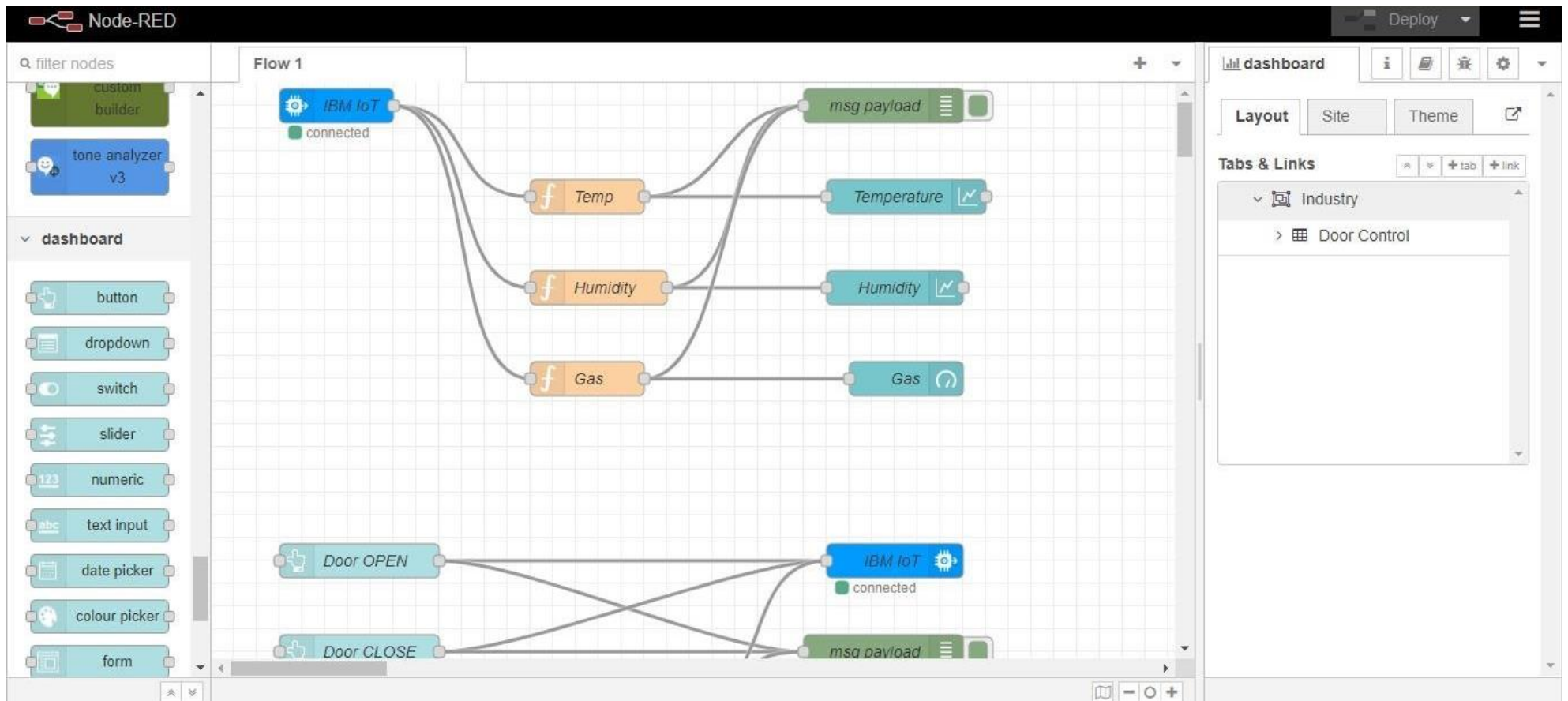
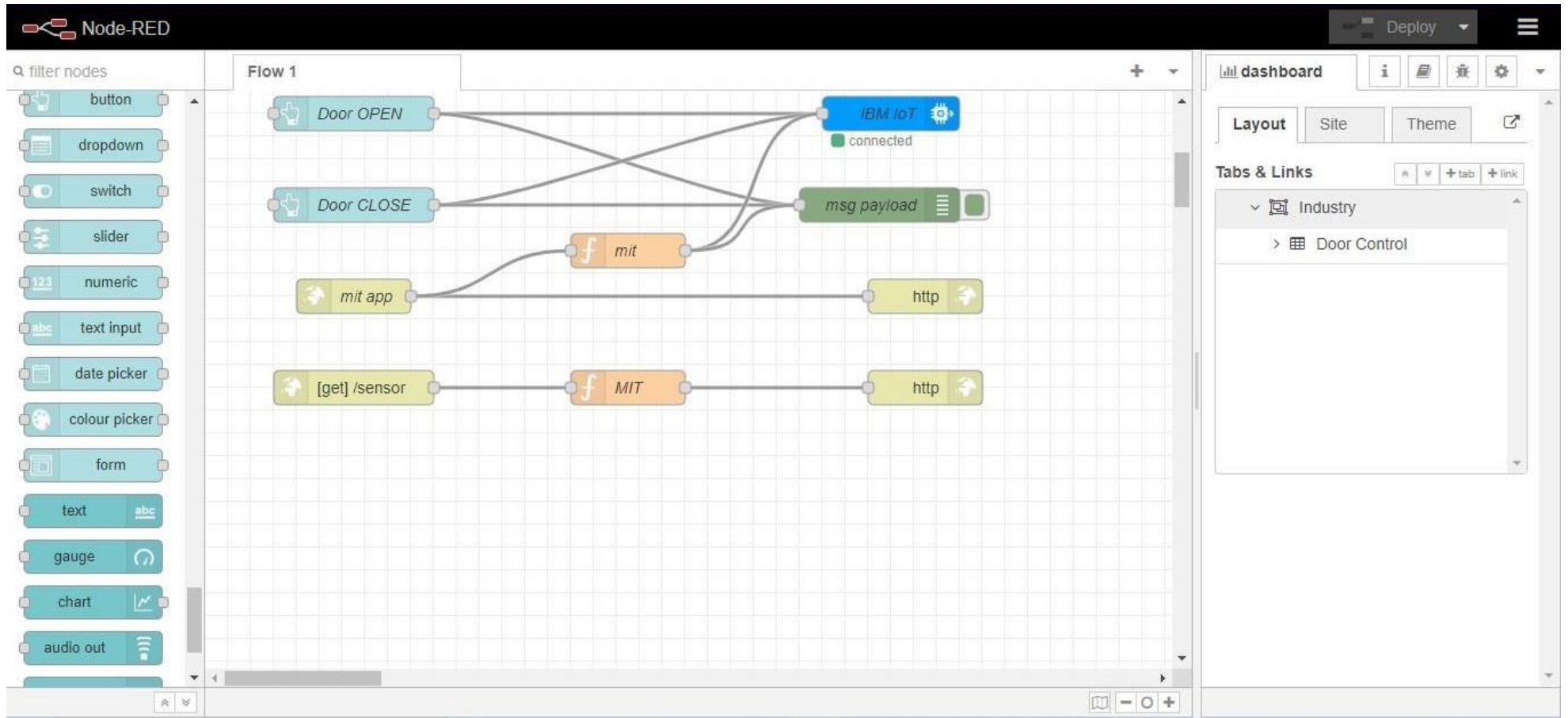Indication of alert and Establishment of the design.

User Story:

→As the user id will receive the alert SMS when leakage arises and so the LED& Buzzer gets turn ON.

→As the designer the design of the system with its connection and the required documents such as app for design application and the related codes are submitted.

The design of the system:

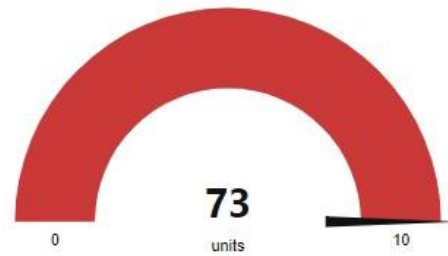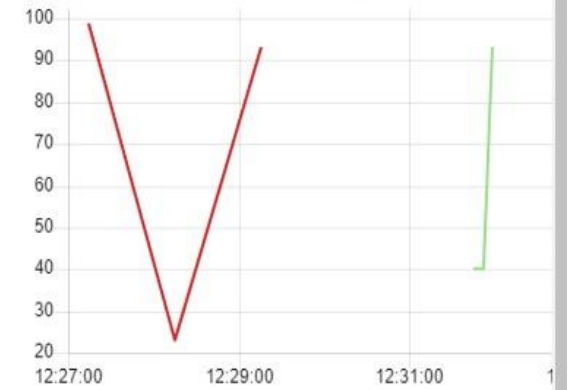Design of the System includes flow of Node-red and the Mit app inventor.

Door Control

Temperature

gauge

73

units

0   10

Humidity

DOOR OPEN

DOOR CLOSE

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APP INVENTOR

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GASSENSOR   Screen1 ▾   Add Screen ...   Remove Screen   Publish to Gallery   Designer   Blocks

Blocks   **Viewer**

⊖ Built-in
   ☐ Control
   ☐ Logic
   ☐ Math
   ☐ Text
   ☐ Lists
   ☐ Dictionaries
   ☐ Colors
   ☐ Variables
   ☐ Procedures
⊖ ☐ Screen1
   ⊖ ☐ VerticalArrangement1
      ☐ HorizontalArrangen
      ☐ Image1
     ⊖ ☐ HorizontalArrangen
        A Label1
      ☐ HorizontalArrangen

when Clock1 ▾ .Timer
do   open another screen screenName Screen2 ▾

⚠ 0   ⊗ 0

Show Warnings

Palette

Search Components...

User Interface

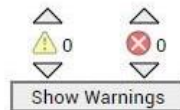|		
🖼	Button	⑦
✅	CheckBox	⑦
📅	DatePicker	⑦
🖼	Image	⑦
A	Label	⑦
📋	ListPicker	⑦
☰	ListView	⑦
⚠	Notifier	⑦
•••	PasswordTextBox	⑦
🎚	Slider	⑦
🗒	Spinner	⑦
🔘	Switch	⑦
I	TextBox	⑦
8:10	TimePicker	⑦
🌐	WebViewer	⑦
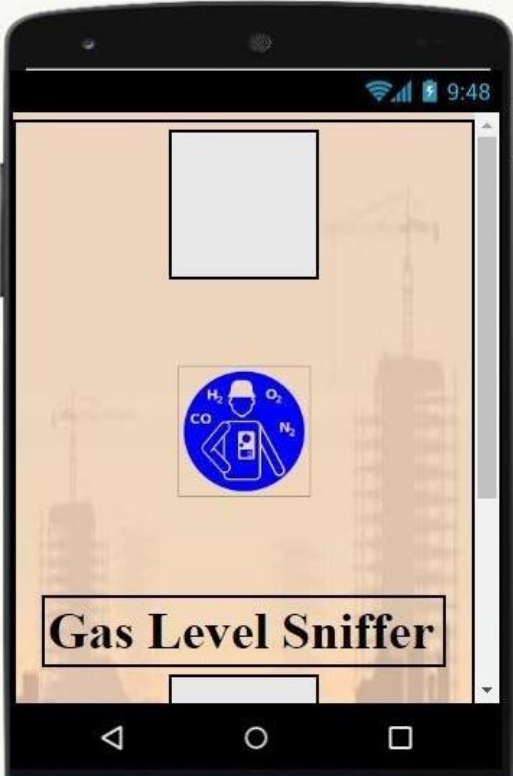
Layout

Viewer

☐ Display hidden components in Viewer

Phone size (505,320) ▾

📶📶 🔋 9:48

User Registration

User Name : [_____]

Password : ••••••••

REGISTER

SIGN IN

◁ ○ ☐

Components

- ⊟ 🖵 Screen2
  - ⊟ 🔲 VerticalArrangement1
    - 🖼 HorizontalArrangen
    - ⊟ 🖼 HorizontalArrangen
      - 🖼 Image1
    - 🖼 HorizontalArrangen
    - ⊟ 🖼 HorizontalArrangen
      - A Label1
    - ⊟ 🖼 HorizontalArrangen
      - A Label2
    - ⊟ 🖼 HorizontalArrangen
      - A Label3
      - 🔳 TextBox1
    - ⊟ 🖼 HorizontalArrangen
      - A Label4
      - ••• PasswordTextBc
    - 🖼 HorizontalArrangen ▾

◂ ▸

Rename Delete

Media

🖼 MITbackground.jpg

Properties

Screen2

AboutScreen

[_____]

AlignHorizontal

Left : 1 ▾

AlignVertical

Top : 1 ▾

BackgroundColor

☐ Default

BackgroundImage

MITbackground.jpg...

BigDefaultText

☐

CloseScreenAnimation

Default ▾

HighContrast

☐

OpenScreenAnimation

Default ▾

ScreenOrientation

Unspecified ▾

Scrollable

☑

ShowStatusBar

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GASSENSOR   Screen2 ▾   Add Screen ...   Remove Screen   Publish to Gallery   Designer   Blocks

Blocks   **Viewer**

- Built-in
  - Control
  - Logic
  - Math
  - Text
  - Lists
  - Dictionaries
  - Colors
  - Variables
  - Procedures
- Screen2
  - VerticalArrangement1
    - HorizontalArrangen
    - HorizontalArrangen
      - Image1
    - HorizontalArrangen
    - HorizontalArrangen

```
when  Button2 ▾ .Click
do   call  FirebaseDB1 ▾ .GetValue
                          tag   TextBox1 ▾ . Text ▾
              valueIfTagNotThere   " NA "
```

```
when  Button1 ▾ .Click
do   call  FirebaseDB1 ▾ .StoreValue
                          tag   TextBox1 ▾ . Text ▾
                  valueToStore   PasswordTextBox1 ▾ . Text ▾
```

```
when  FirebaseDB1 ▾ .GotValue
 tag  value
do   ⚙ if      get tag ▾  = ▾  TextBox1 ▾ . Text ▾
     then  ⚙ if    get value ▾  = ▾  PasswordTextBox1 ▾ . Text ▾
           then  open another screen  screenName  Screen4 ▾
 ⚠ 0
 ❌ 0  set Label2 ▾ . Text ▾ to  " Wrong User Name & Password "
```

Show Warnings

Palette

Search Components...

User Interface

- Button ⑦
- CheckBox ⑦
- DatePicker ⑦
- Image ⑦
- Label ⑦
- ListPicker ⑦
- ListView ⑦
- Notifier ⑦
- PasswordTextBox ⑦
- Slider ⑦
- Spinner ⑦
- Switch ⑦
- TextBox ⑦
- TimePicker ⑦
- WebViewer ⑦

Viewer

☐ Display hidden components in Viewer

Phone size (505,320) ▾

SAFETY ALERTER

ABOUT :

A gas detector is a device that detects the p...
to operators in the area where the leak is oc...

This system triggers LED and buzzer to ale...
the gas leak detector you can ensure the rig...
humidity and the room temperature.

NEXT

Components

- ⊟ ☐ Screen4
  - ⊟ VerticalArrangement1
    - HorizontalArrangen
    - HorizontalArrangen
    - ⊟ HorizontalArrangen
      - Image1
    - ⊟ HorizontalArrangen
      - Label1
  - ⊟ VerticalArrangement2
    - ⊟ HorizontalArrangen
      - Label2
    - HorizontalArrangen
    - ⊟ HorizontalArrangen
      - Label3
  - ⊟ VerticalArrangement3
    - ⊟ HorizontalArrangen
      - Label4

Rename Delete

Media

🖼 MIThackground.ipg

Properties

VerticalArrangement1

AlignHorizontal
Center : 3 ▾

AlignVertical
Top : 1 ▾

BackgroundColor
☐ Custom...

Height
Fill parent...

Width
Fill parent...

Image
None...

Visible
☑

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GASSENSOR   Screen4 ▾   Add Screen ...   Remove Screen   Publish to Gallery   Designer   Blocks

Blocks   Viewer

⊖ Built-in
        ▨ Control
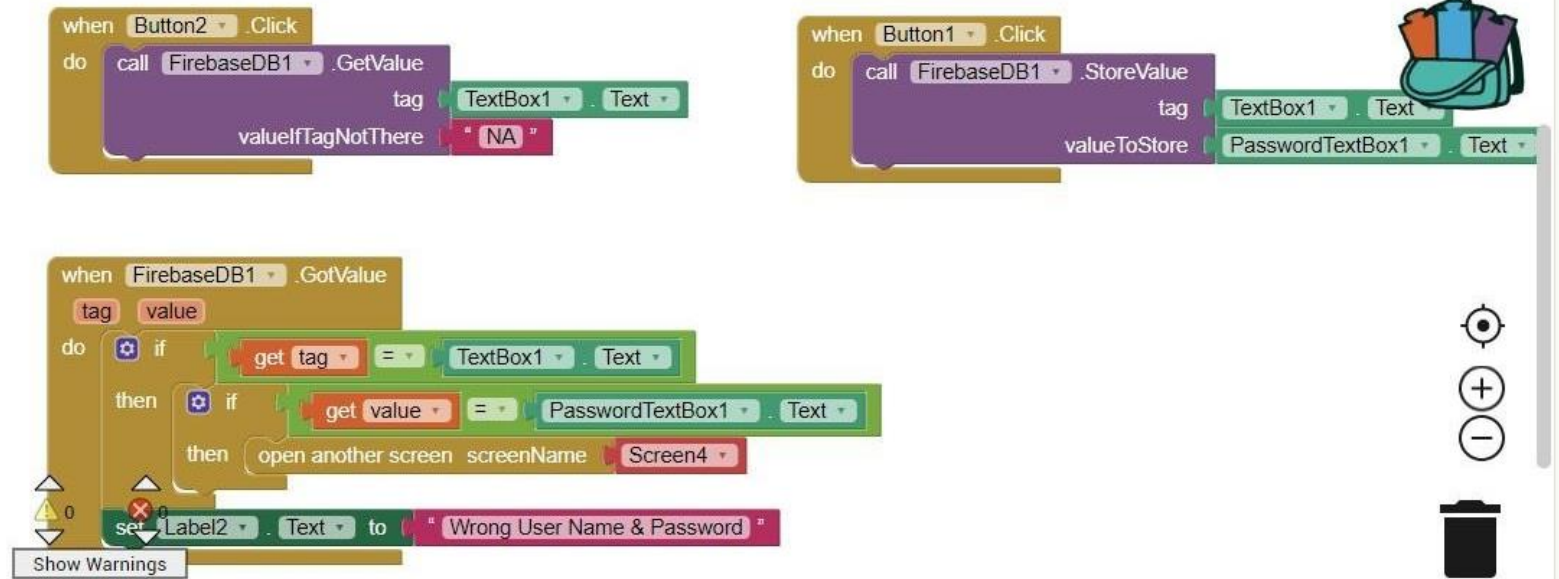   ▨ Logic
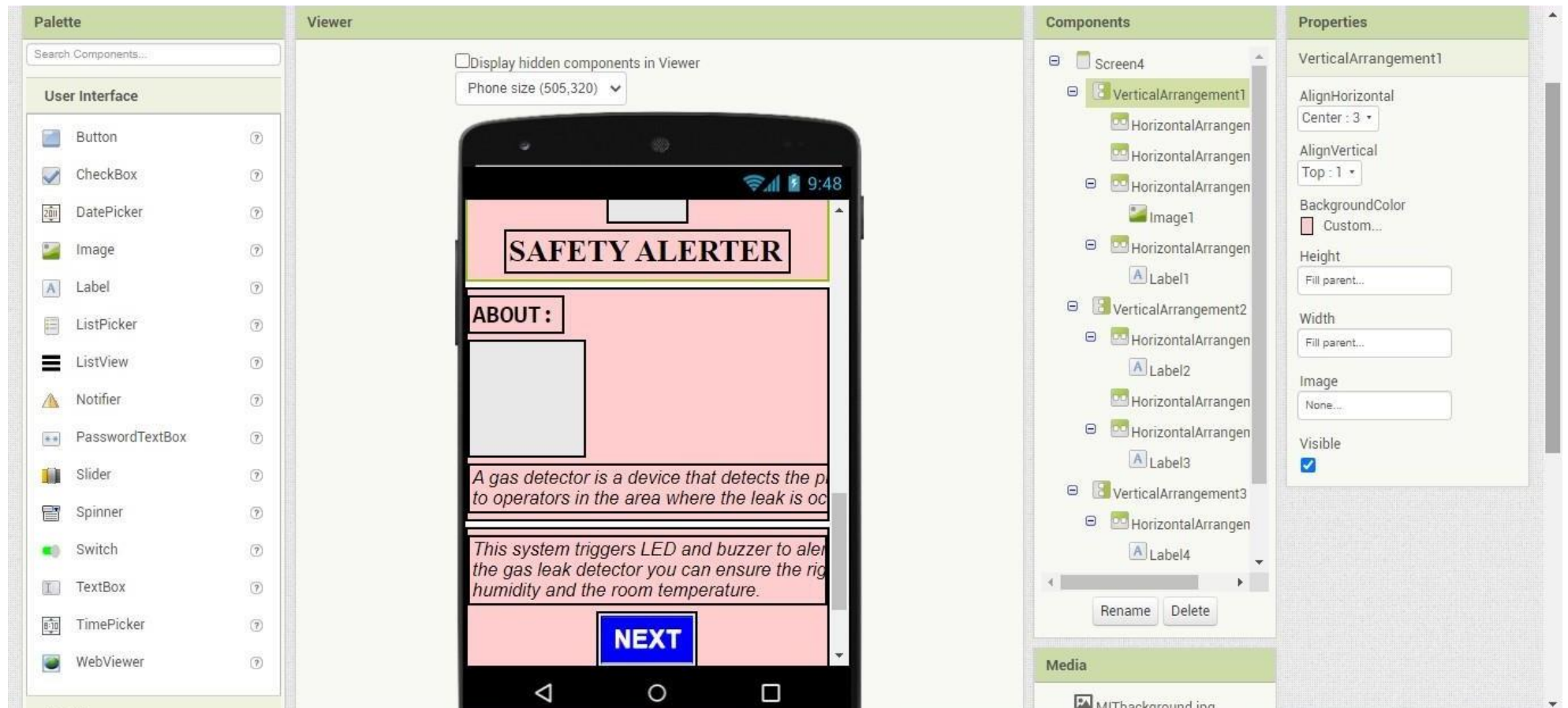   ▨ Math
        ▨ Text
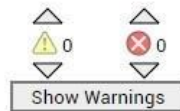   ▨ Lists
        ▨ Dictionaries
        ▨ Colors
        ▨ Variables
        ▨ Procedures
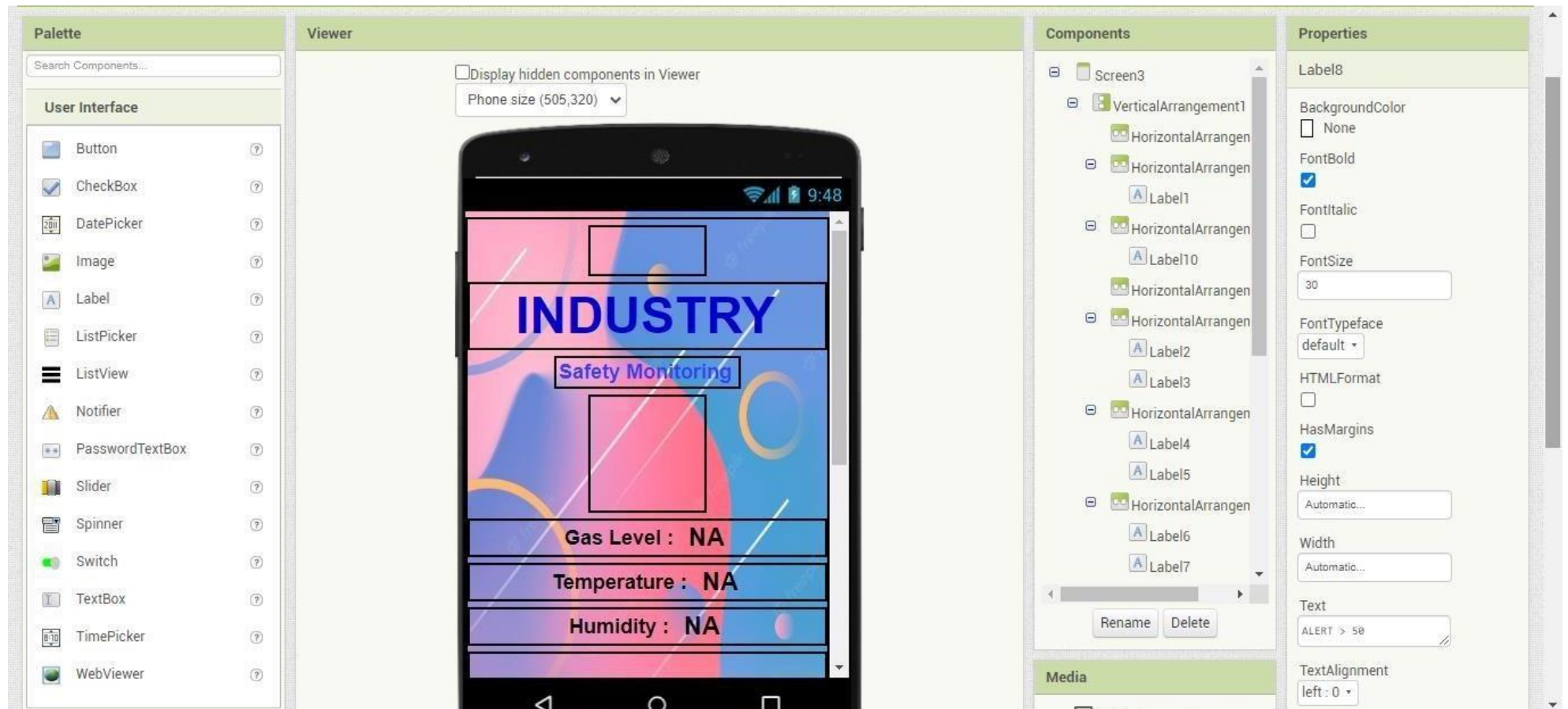⊖ ▨ Screen4
    ⊖ ▨ VerticalArrangement1
            ▨ HorizontalArrangen
            ▨ HorizontalArrangen
        ⊖ ▨ HorizontalArrangen
                ▨ Image1
        ⊖ ▨ HorizontalArrangen

when Button1 ▾ .Click
do   open another screen screenName ◖ Screen3 ▾

⚠ 0   ⊗ 0
Show Warnings

Palette

Search Components...

User Interface

	Button	(?)
	CheckBox	(?)
	DatePicker	(?)
	Image	(?)
	Label	(?)
	ListPicker	(?)
	ListView	(?)
	Notifier	(?)
	PasswordTextBox	(?)
	Slider	(?)
	Spinner	(?)
	Switch	(?)
	TextBox	(?)
	TimePicker	(?)
	WebViewer	(?)

Viewer

☐ Display hidden components in Viewer

Phone size (505,320) ▾

🔋 9:48

INDUSTRY

Safety Monitoring

Gas Level : NA

Temperature : NA

Humidity : NA

Components

- Screen3
  - VerticalArrangement1
    - HorizontalArrangen
    - HorizontalArrangen
      - Label1
    - HorizontalArrangen
      - Label10
    - HorizontalArrangen
    - HorizontalArrangen
      - Label2
      - Label3
    - HorizontalArrangen
      - Label4
      - Label5
    - HorizontalArrangen
      - Label6
      - Label7

Rename   Delete

Media

Properties

Label8

BackgroundColor
☐ None

FontBold
☑

FontItalic
☐

FontSize
30

FontTypeface
default ▾

HTMLFormat
☐

HasMargins
☑

Height
Automatic...

Width
Automatic...

Text
ALERT > 50

TextAlignment
left : 0 ▾

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GASSENSOR   Screen3 ▾   Add Screen ...   Remove Screen   Publish to Gallery   Designer   Blocks

Blocks

Viewer

when Web1 ▾ .GotText
url   responseCode   responseType   responseContent
do   set Label5 ▾ . Text ▾ to   look up in pairs key   " temp "
                                pairs   call Web1 ▾ .JsonTextDecode
                                            jsonText   get responseContent ▾
                                notFound   " not found "
     set Label7 ▾ . Text ▾ to   look up in pairs key   " Humid "
                                pairs   call Web1 ▾ .JsonTextDecode
                                            jsonText   get responseContent ▾
                                notFound   " not found "
     set Label3 ▾ . Text ▾ to   look up in pairs key   " Gas "
                                pairs   call Web1 ▾ .JsonTextDecode
                                            jsonText   get responseContent ▾
                                notFound   " not found "

⚠ 1   ⊗ 0

Show Warnings

when Button1 ▾ TouchUp

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GASSENSOR   Screen3 ▾   Add Screen ...   Remove Screen   Publish to Gallery   Designer   Blocks
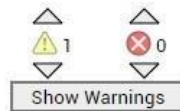
Blocks

Viewer

Built-in
- Control
- Logic
- Math
- Text
- Lists
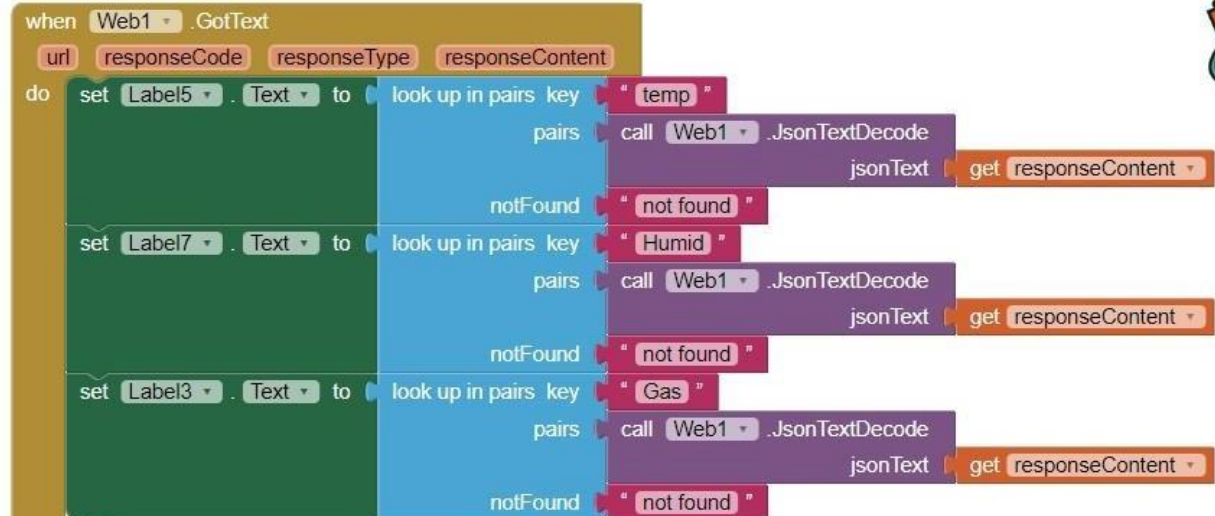- Dictionaries
- Colors
- Variables
- Procedures

Screen3
- VerticalArrangement1
  - HorizontalArrangen
  - HorizontalArrangen
    - Label1
  - HorizontalArrangen
    - Label10

set Label3 . Text to   look up in pairs key   Gas

pairs   call Web1 .JsonTextDecode

jsonText   get responseContent

notFound   " not found "

when Button1 .TouchUp

do   set Web2 . Url to   " https://node-red-yxgnr-2022-11-07.eu-de.mybluemi... "

call Web2 .Get

when Button2 .TouchUp

do   set Web2 . Url to   " https://node-red-yxgnr-2022-11-07.eu-de.mybluemi... "
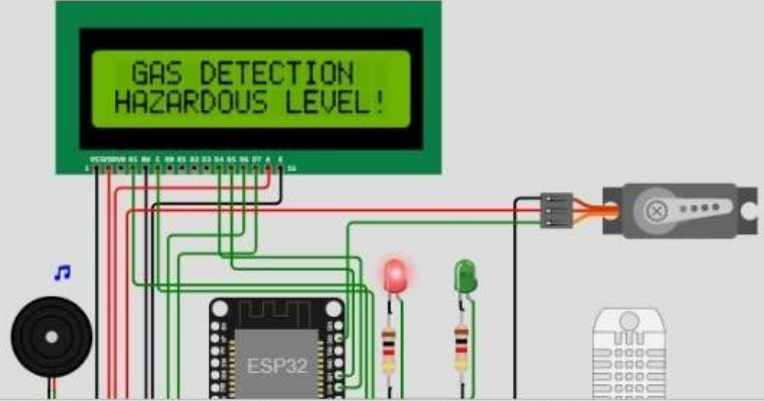
call Web2 .Get

⚠ 1   ⊗ 0

Show Warnings

Indication of Alert:


```ino
sketch.ino    diagram.json    libraries.txt    Library Manager ▼

1    #include <WiFi.h>//library for wifi
2    #include <PubSubClient.h>//library for MQtt
3    #include <LiquidCrystal.h>
4    #include <ESP32Servo.h>
5    #include "DHT.h"// Library for dht11
6    #define DHTPIN 15      // what pin we're connected to
7    #define DHTTYPE DHT22    // define type of sensor DHT 11
8
9
10   LiquidCrystal lcd(2,4,19,21,12,14);
11   int GreenLED = 18;
12   int RedLED = 5;
13   int BUZZER_PIN = 13;
14   const int servoPin = 22;
15   String data3;
16   int g;
17   Servo door;
18   int pos;
19
20
21   DHT dht (DHTPIN, DHTTYPE);// creating the instance by passing pin and typr of
22
23   void callback(char* subscribetopic, byte* payload, unsigned int payloadLength)
24
25
26   //-------credentials of IBM Accounts------
27
28   #define ORG "u9pz01"//IBM ORGANITION ID
```

Simulation   00:16.823 99%

Sending payload: {"temp":32.90,"Humid":62.50,"Gas":86}
Publish ok
Gas Level in Percentage :89
temp:32.90
Humid:62.50
Sending payload: {"temp":32.90,"Humid":62.50,"Gas":89}
Publish ok