

PROJECT DEVELOPMENT PHASE

Delivery Of Sprint-4

SPRINT4:

Date	16 November 2022
TeamID	PNT2022TMID33893
ProjectName	GasLeakageMonitoringandAlertingSystems
Team Members	Sajeetha Banu S Saraswathy C Saranya N Rohini M

Functional Requirement:

Indication of alert and Establishment of the design.

User Story:

→ As the user, I 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.

node-red-yxgnr-2022-11-07.eu-de.mybluemix.net/red/#flow/eec96002b8d4a3ee

Node-RED

Deploy

filter nodes

custom builder

tone analyzer v3

dashboard

button

dropdown

switch

slider

numeric

text input

date picker

colour picker

form

Flow 1

IBM IoT

connected

Temp

Humidity

Gas

msg payload

Temperature

Humidity

Gas

Door OPEN

Door CLOSE

IBM IoT

connected

msg payload

dashboard

Layout

Site

Theme

Tabs & Links

Industry

Door Control

Node-RED

Deploy

filter nodes

Flow 1

+

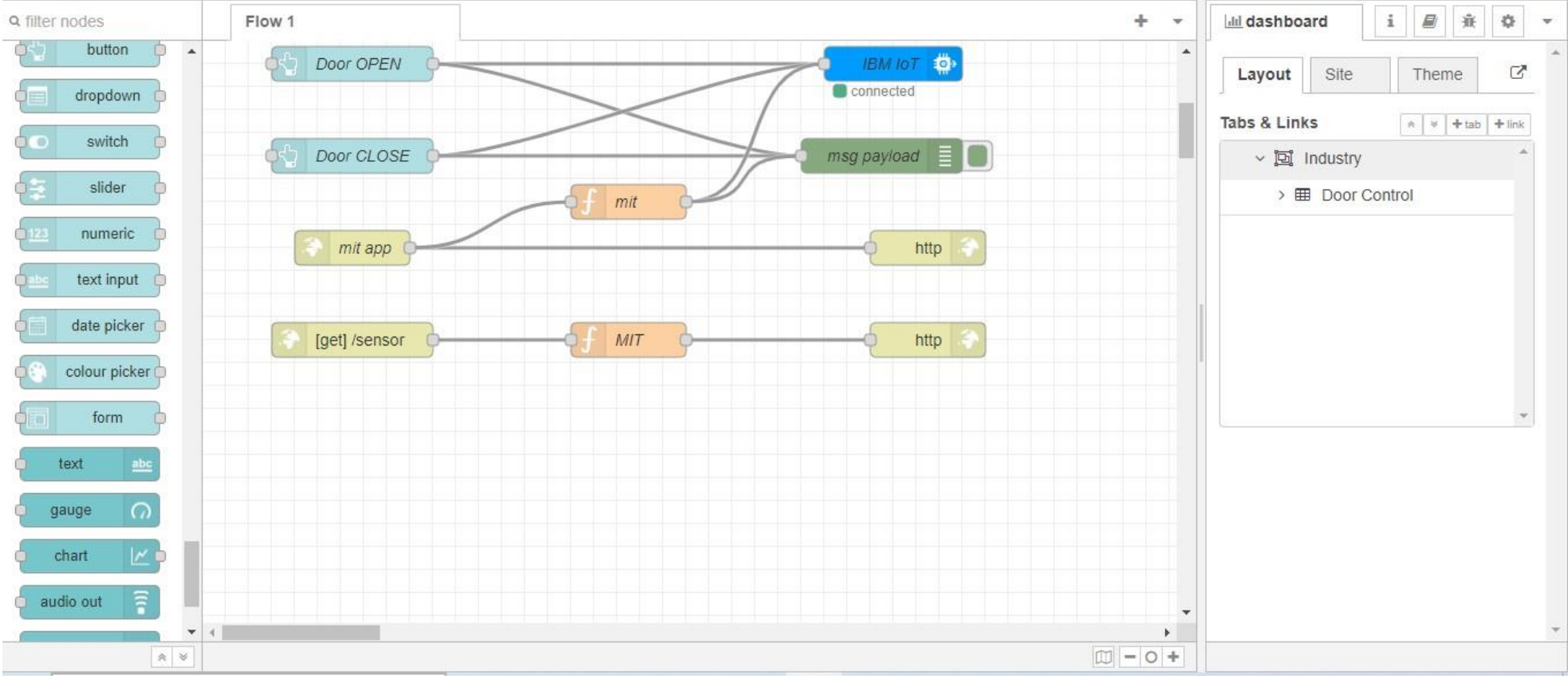
dashboard

Layout Site Theme

Tabs & Links

Industry

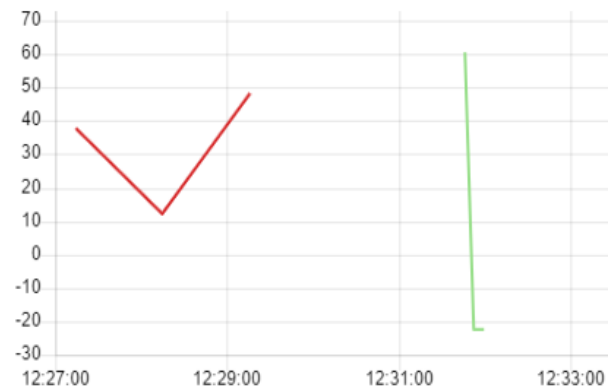
Door Control



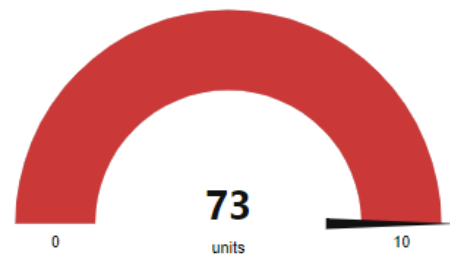
Industry

Door Control

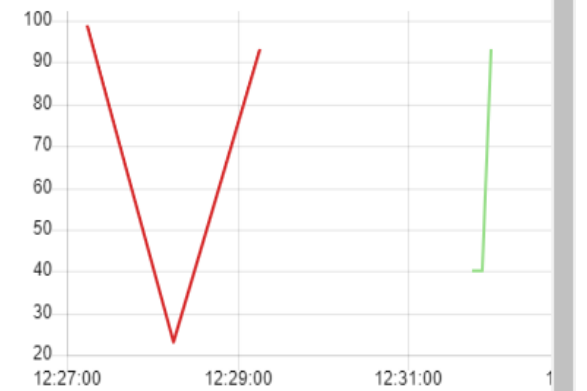
Temperature



gauge



Humidity



DOOR OPEN

DOOR CLOSE

Inbox (2) x gas sens x MIT App x MIT App x IBM Clo x Node-R x Node-R x Node-R x Node-R x IBM Wa x +

Not secure | ai2.appinventor.mit.edu/#6560580513955840

Palette

Search Components...

User Interface


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

Layout

Viewer

☐ Display hidden components in Viewer

Phone size (505,320)



Components

- Screen1
 - VerticalArrangement1
 - HorizontalArrangemen
 - Image1
 - HorizontalArrangemen
 - Label1
 - HorizontalArrangemen
 - HorizontalArrangemen
 - Clock1

Rename Delete

Media

- MITbackground.jpg

Properties

Screen1

AboutScreen

AccentColor

Default

AlignHorizontal

Left : 1

AlignVertical

Top : 1

AppName

GASENSOR

BackgroundColor

Default

BackgroundImage

mit.jpg...

BigDefaultText

BlocksToolkit

All

CloseScreenAnimation

Default

DefaultFileScope

App

HighContrast

Type here to search

12:34 PM 11/16/2022

Inbox (2 x)

gas sens

MIT App

MIT App

IBM Clo

Node-R

Node-R

Node-R


Node-R

IBM Wat

+

← → ↻ ⚠ Not secure | ai2.appinventor.mit.edu/#6560580513955840

🔗 ☆ 🏠 👤

MIT
APP INVENTOR

Projects ▾ Connect ▾ Build ▾ Settings ▾ Help ▾

My Projects View Trash Guide Report an Issue English ▾ sajeethabanu2002@gmail.com ▾

GASSENSOR

Screen1 ▾ Add Screen ... Remove Screen Publish to Gallery

Designer Blocks

Blocks

Built-in

Control

Logic

Math

Text

Lists

Dictionaries

Colors

Variables

Procedures

Screen1

VerticalArrangement1

HorizontalArrangen

Image1

HorizontalArrangen

Label1

HorizontalArrangen

Viewer


when Clock1 . Timer

do open another screen screenName Screen2 ▾

⚠ 0

✖ 0

Show Warnings



🎯

+

-

🗑

🏠 🔍 Type here to search

🔍 📁 🛒 📧 🌐

12:35 PM 11/16/2022 🗨 3

Inbox (2 x) | W gas sens x | MIT App x | MIT App x | IBM Clo x | Node-R x | Node-R x | Node-R x | Node-R x | IBM Wal x | +

Not secure | ai2.appinventor.mit.edu/#6560580513955840

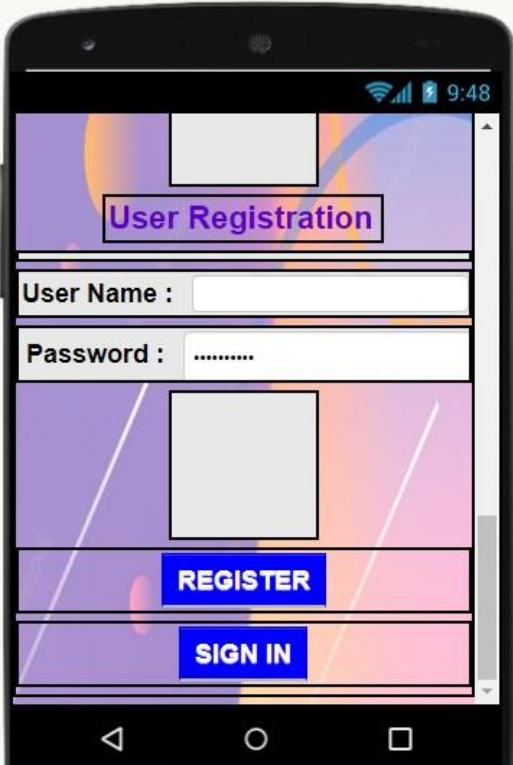
Search Components...

User Interface

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

Display hidden components in Viewer

Phone size (505,320)



Components

- Screen2
 - VerticalArrangement1
 - HorizontalArrangen
 - HorizontalArrangen
 - Image1
 - HorizontalArrangen
 - Label1
 - HorizontalArrangen
 - Label2
 - HorizontalArrangen
 - Label3
 - TextBox1
 - HorizontalArrangen
 - Label4
 - PasswordTextBc
 - HorizontalArrangen

Rename Delete

Media

- MITbackground.jpg

Properties

Screen2

AboutScreen

AlignHorizontal
Left : 1

AlignVertical
Top : 1

BackgroundColor
Default

BackgroundImage
MITbackground.jpg...

BigDefaultText
Default

CloseScreenAnimation
Default

HighContrast
Default

OpenScreenAnimation
Default

ScreenOrientation
Unspecified

Scrollable
Default


ShowStatusBar
Default

Type here to search

12:35 PM 11/16/2022

Inbox (2 x)W gas sens xMIT App xMIT App xIBM Clo xNode-R xNode-R xNode-R xNode-R xIBM Wa x+V-[]X

←→↻⚠ Not secure | ai2.appinventor.mit.edu/#6560580513955840🔗☆[]👤⋮

Projects ▾Connect ▾Build ▾Settings ▾Help ▾My ProjectsView TrashGuideReport an IssueEnglish ▾sajeethabanu2002@gmail.com ▾

GASSENSOR

Screen2 ▾Add Screen ...Remove ScreenPublish to Gallery

DesignerBlocks

Blocks

Built-in

ControlLogicMathTextListsDictionariesColorsVariablesProcedures

Screen2

VerticalArrangement1HorizontalArrangenHorizontalArrangenImage1HorizontalArrangenHorizontalArrangen

Viewer

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

set Label2 . Text to "Wrong User Name & Password"


Show Warnings




🎯

+

-



🏠🔍 Type here to search



12:35 PM

11/16/2022

🔔👤

Inbox (2 x)W gas sens xMIT App xMIT App xIBM Clo xNode-R xNode-R xNode-R xNode-R xIBM Wa x+
Not secure | ai2.appinventor.mit.edu/#6560580513955840

Palette

Search Components...

User Interface

Button

CheckBox

DatePicker

Image

Label

ListPicker

ListView

Notifier

PasswordTextBox

Slider

Spinner

Switch

TextBox

TimePicker

WebView

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 alet
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

RenameDelete

Media

MITbackground.jpg

Properties

VerticalArrangement1

AlignHorizontal

Center : 3

AlignVertical

Top : 1

BackgroundColor

Custom...

Height

Fill parent...

Width

Fill parent...

Image

None...

Visible

☒

Type here to search

12:35 PM

11/16/2022

Inbox (2 x)

gas sens

MIT App

MIT App

IBM Clo

Node-R

Node-R

Node-R


Node-R

IBM Wat

+

← → ↻ ⚠ Not secure | ai2.appinventor.mit.edu/#6560580513955840

🔗 ☆ 🏠 👤



Projects ▾ Connect ▾ Build ▾ Settings ▾ Help ▾

My Projects View Trash Guide Report an Issue English ▾ sajeethabanu2002@gmail.com ▾

GASSENSOR

Screen4 ▾ Add Screen ... Remove Screen Publish to Gallery

Designer Blocks

Blocks

Built-in

Control

Logic

Math

Text

Lists

Dictionaries

Colors

Variables

Procedures

Screen4

VerticalArrangement1

HorizontalArrangen

HorizontalArrangen

HorizontalArrangen

Image1

HorizontalArrangen

Viewer


when Button1 .Click

do open another screen screenName Screen3

⚠ 0

✖ 0

Show Warnings



🎯

+

-

🗑

🏠 🔍 Type here to search

🔍 📅 📧 📧 📧 📧

12:35 PM 11/16/2022

🔔

Inbox (2 x) gas sens MIT App MIT App IBM Clo Node-R Node-R Node-R Node-R IBM Wa +

Not secure | ai2.appinventor.mit.edu/#6560580513955840

Palette

Search Components...

User Interface

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

Viewer

☐ Display hidden components in Viewer

Phone size (505,320)

Components

- Screen3
 - VerticalArrangement1
 - HorizontalArrangement1
 - Label1
 - HorizontalArrangement2
 - Label10
 - HorizontalArrangement3
 - Label2
 - Label3
 - HorizontalArrangement4
 - Label4
 - Label5
 - HorizontalArrangement5
 - 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

Type here to search

12:36 PM 11/16/2022

Inbox (2 x) gas sens MIT App MIT App IBM Clo Node-R Node-R Node-R Node-R IBM Wa +

Not secure ai2.appinventor.mit.edu/#6560580513955840

MIT APP INVENTOR

Projects Connect Build Settings Help My Projects View Trash Guide Report an Issue English sajeethabanu2002@gmail.com

GASSENSOR Screen3 Add Screen Remove Screen Publish to Gallery Designer Blocks

Blocks

- Built-in
 - Control
 - Logic
 - Math
 - Text
 - Lists
 - Dictionaries
 - Colors
 - Variables
 - Procedures
- Screen3
 - VerticalArrangement1
 - HorizontalArrangen
 - HorizontalArrangen
 - Label1
 - HorizontalArrangen
 - Label10

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

when Button1 TouchUp

Show Warnings 1 0


Type here to search

12:36 PM 11/16/2022

Inbox (2 x)W gas sens xMIT App xMIT App xIBM Clo xNode-R xNode-R xNode-R xNode-R xIBM Wa x+

← → ↻ ⚠ Not secure ai2.appinventor.mit.edu/#6560580513955840

🔗 ☆ 🏠 👤

 Projects ▾ Connect ▾ Build ▾ Settings ▾ Help ▾

My Projects View Trash Guide Report an Issue English ▾ sajeethabanu2002@gmail.com ▾

GASSENSOR

Screen3 ▾ Add Screen ... Remove Screen Publish to Gallery

Designer Blocks

Blocks

Built-in

Control

Logic

Math

Text

Lists

Dictionaries

Colors

Variables

Procedures

Screen3

VerticalArrangement1

HorizontalArrangen

HorizontalArrangen

Label1

HorizontalArrangen

Label10

Viewer

set Labels . 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

🎯

+

-

🗑

🏠 🔍 Type here to search

🔍 📁 🛒 📧 🌐

12:36 PM 11/16/2022 🗨 3

Indication of Alert:

WOKWI

SAVE

SHARE

gas sensor

Docs

sketch.ino

diagram.json

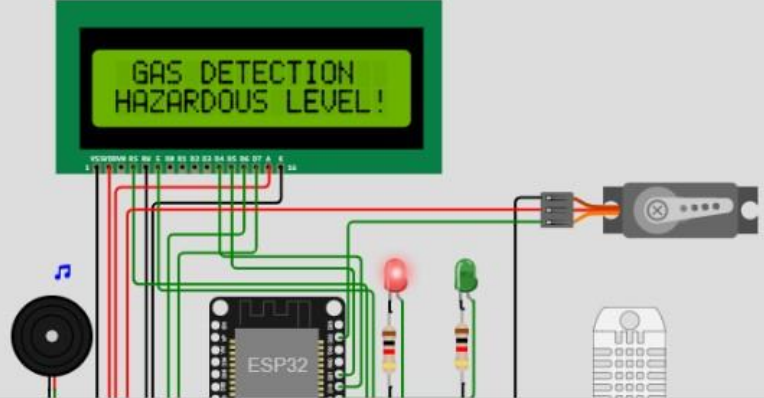
libraries.txt

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 type 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
29 #define DEVICE_TYPE "gassense"//Device type mentioned in ibm watson IOT Platform
```

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

↩

⏸

🗑

