Project Development Phase
Sprint-3

Date	12 November 2022
Team ID	PNT2022TMID21245
Project Name	Project - Industry-Specific Intelligent Fire Management System
Maximum Marks	20 Marks

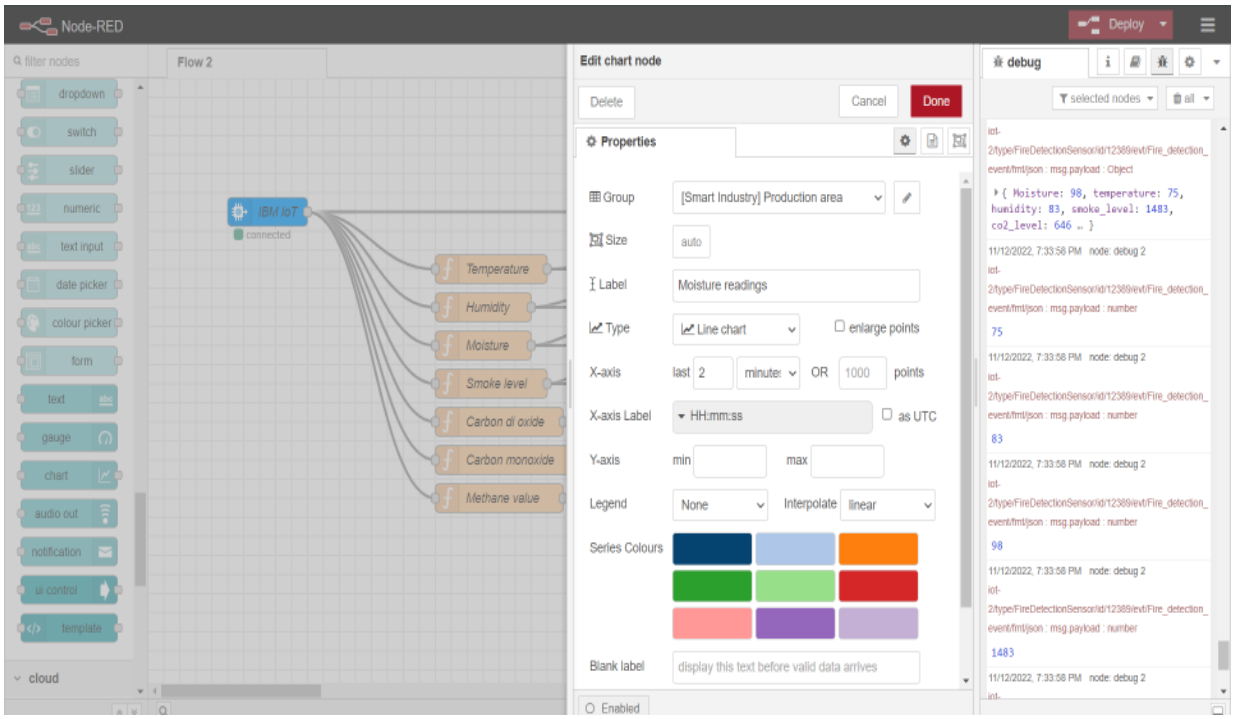
SPRINT – 3 CONTAINS:

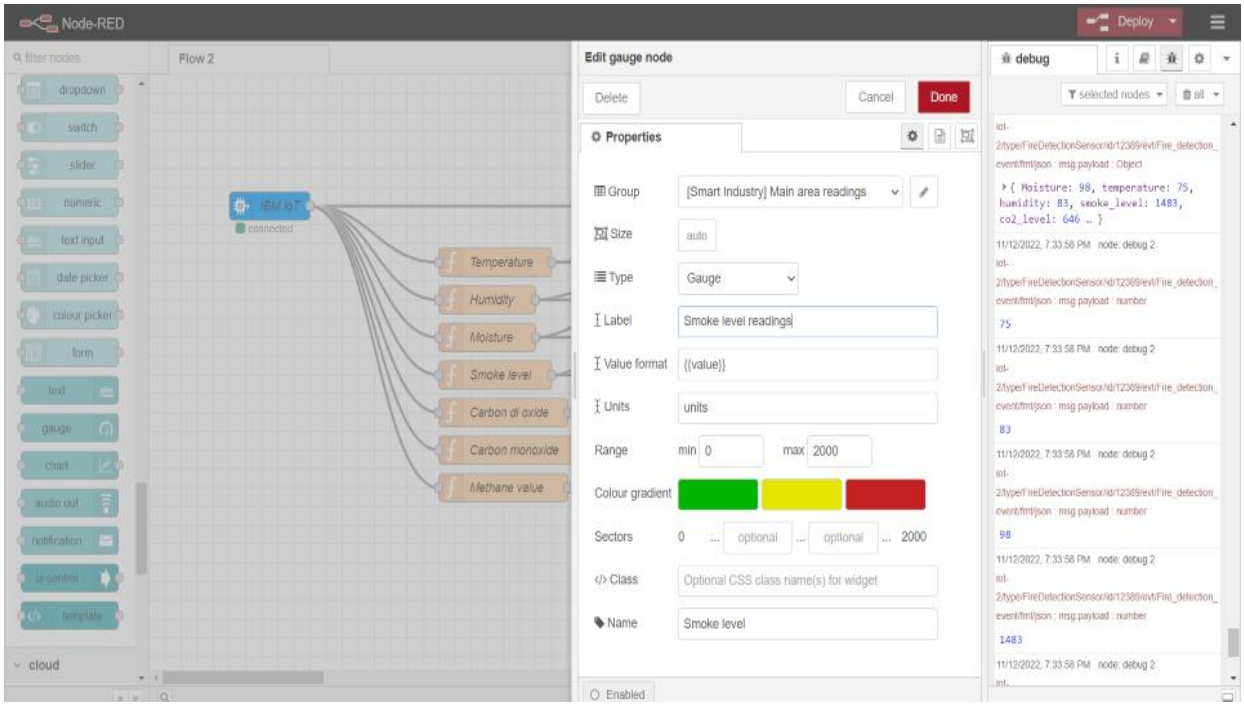
US 1 - Developing a web application using Node-red service.

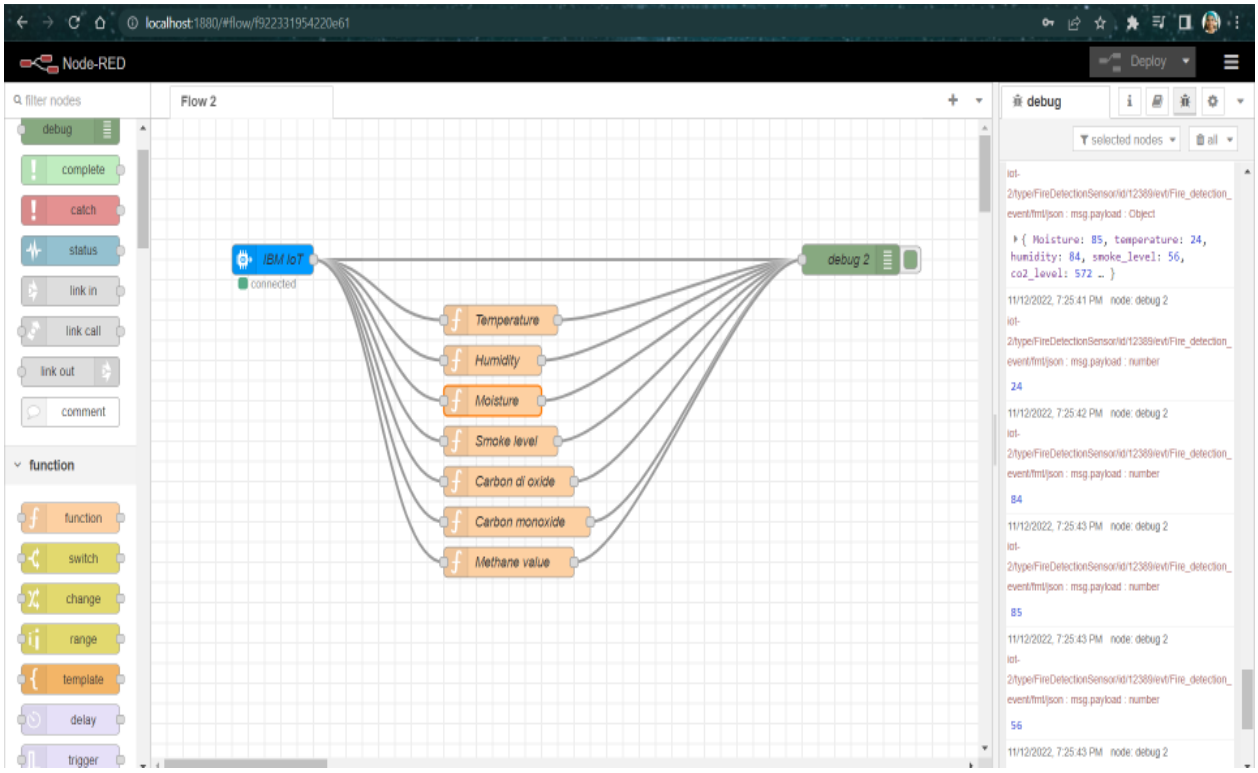
US 2 – Developing mobile application for Industry specific Intelligent Fire Management system.

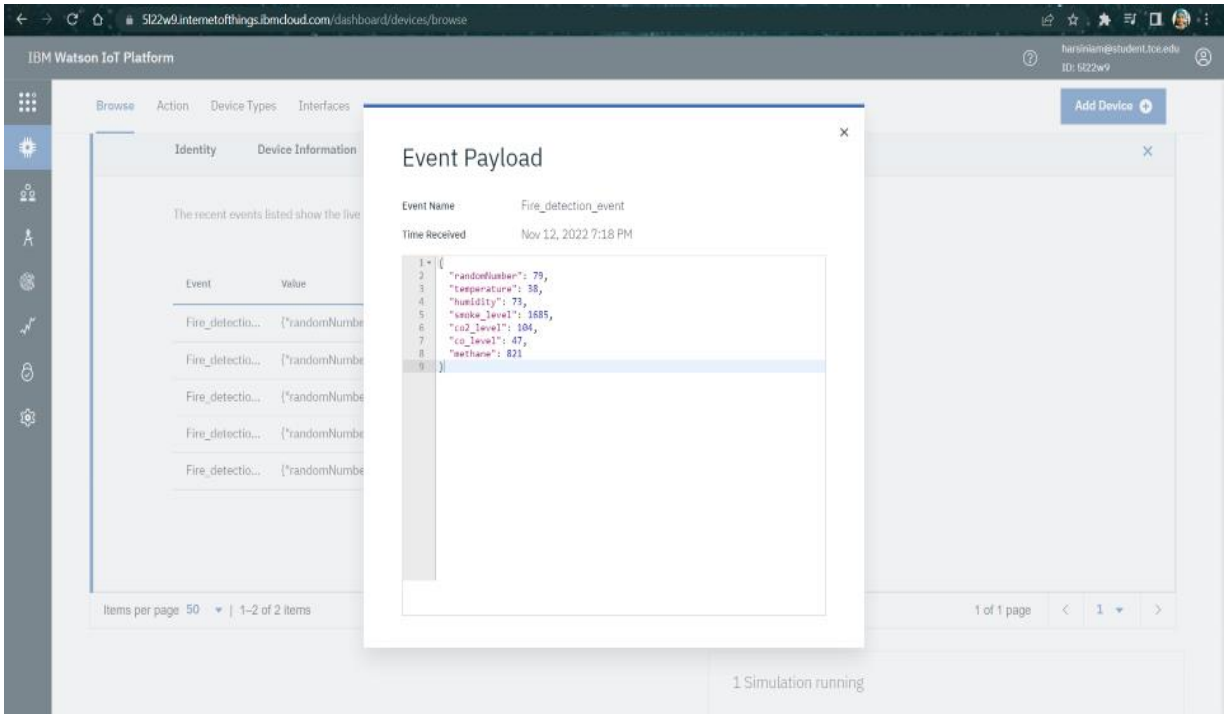
US 3 - Developing python script for publishing values to IBM Watson IOT platform.

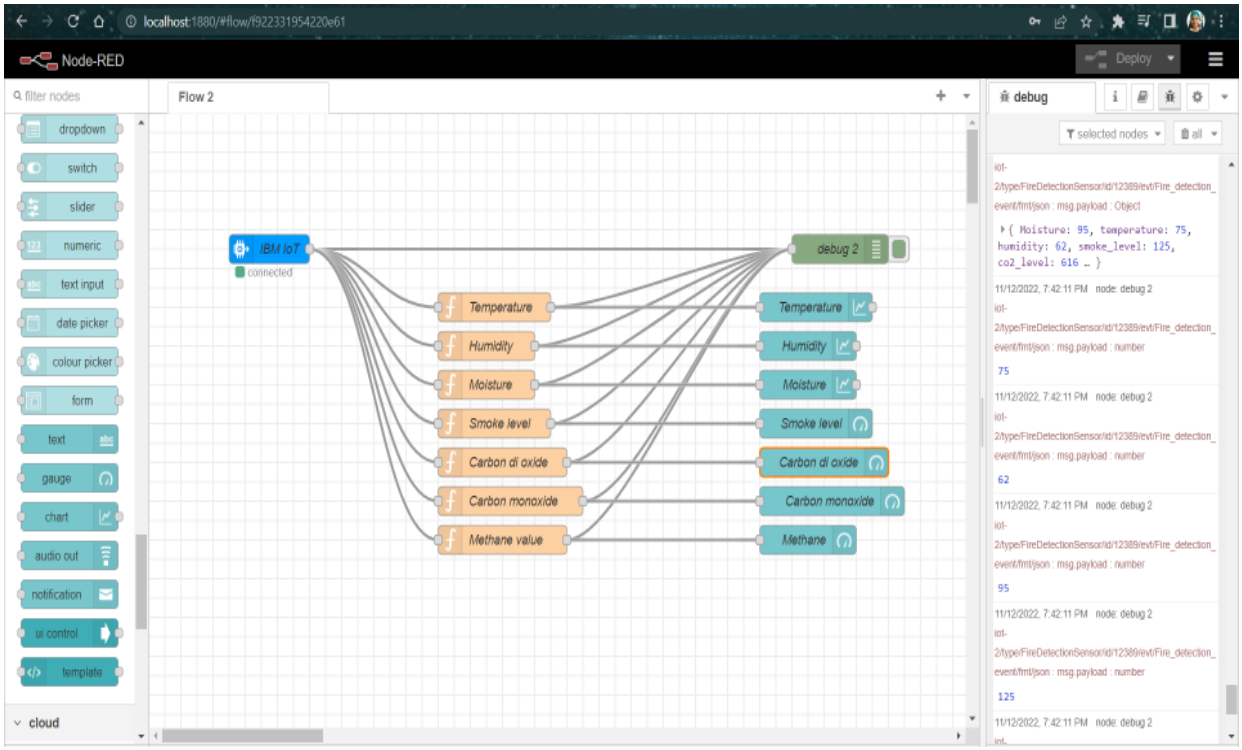
US 1 - Developing a web application using Node-red service.

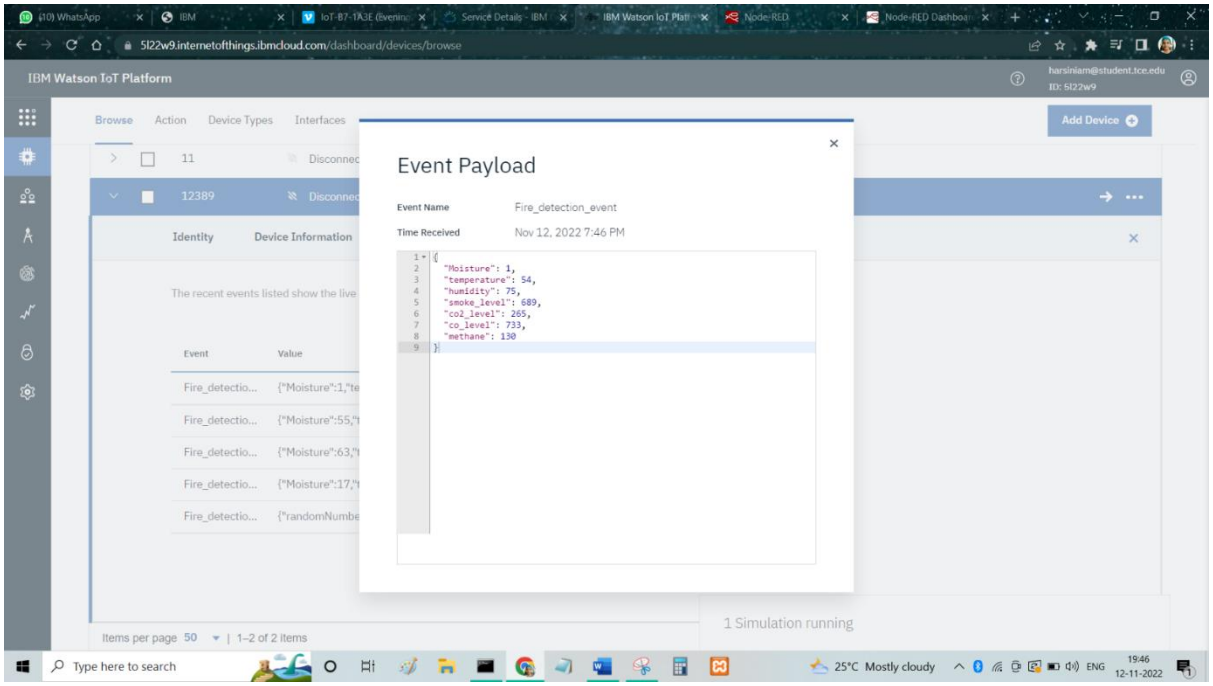


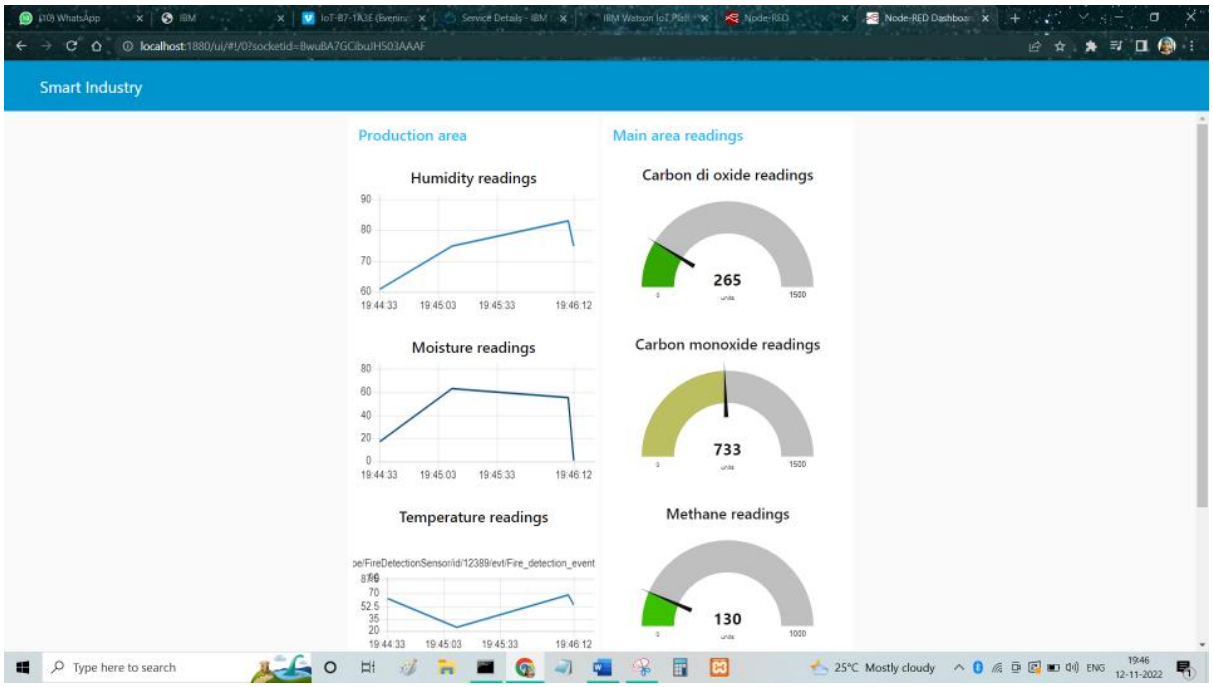

Node-RED
Deploy
Flow 2
Edit gauge node
Delete
Cancel
Done
Properties
Group
[Smart Industry] Main area readings
Size
auto
Type
Gauge
Label
Smoke level readings
Value format
{{value}}
Units
units
Range
min 0
max 2000
Colour gradient
Sectors
0 ... optional ... optional ... 2000
Class
Optional CSS class name(s) for widget
Name
Smoke level
Enabled
IBM IoT
connected
Temperature
Humidity
Moisture
Smoke level
Carbon di oxide
Carbon monoxide
Methane value
debug
selected nodes
all
cloud


localhost:1880/#flow/f922331954220e61
Node-RED
Deploy
Flow 2
filter nodes
debug
complete
catch
status
link in
link call
link out
comment
function
function
switch
change
range
template
delay
trigger
IBM IoT
connected
Temperature
Humidity
Moisture
Smoke level
Carbon di oxide
Carbon monoxide
Methane value
debug 2
debug
selected nodes
all

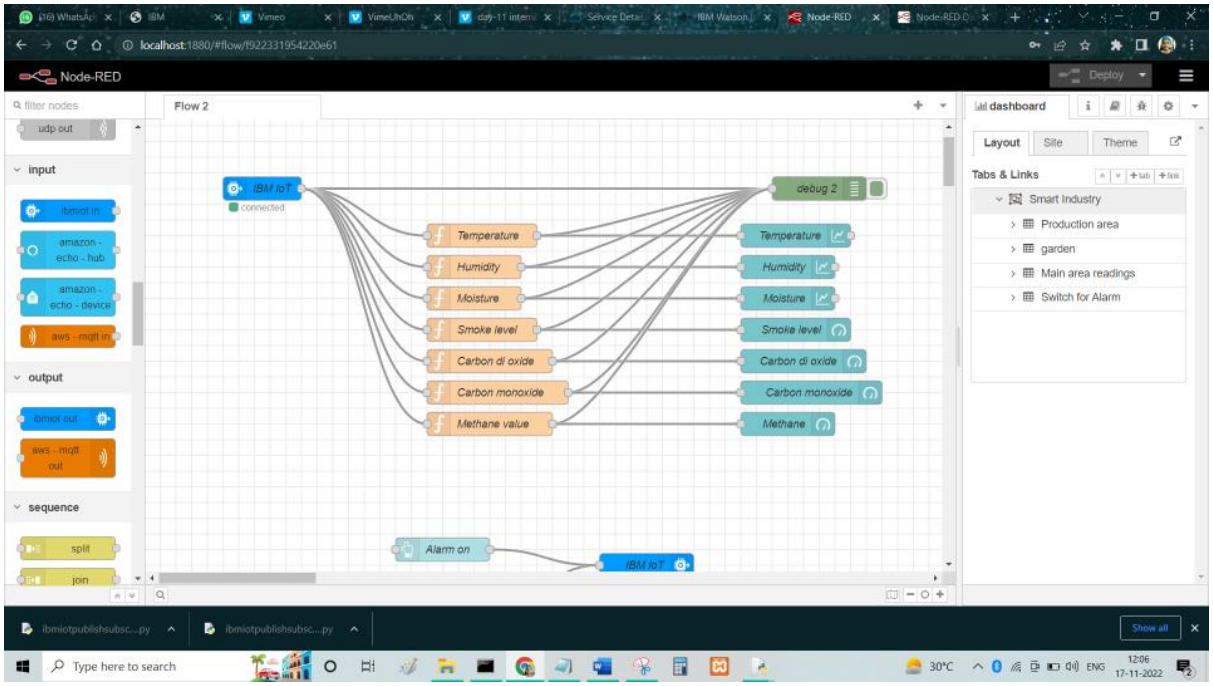

IBM Watson IoT Platform
Browse
Action
Device Types
Interfaces
Add Device
Identity
Device Information
Event Payload
Event Name
Fire_detection_event
Time Received
Nov 12, 2022 7:18 PM
{
"randomNumber": 79,
"temperature": 38,
"humidity": 73,
"smoke_level": 1685,
"co2_level": 104,
"co_level": 47,
"methane": 821
}
Event
Value
Items per page 50
1–2 of 2 items
1 of 1 page
1 Simulation running


Node-RED
Deploy
Flow 2
debug
dropdown
switch
slider
numeric
text input
date picker
colour picker
form
text
gauge
chart
audio out
notification
ui control
template
cloud
IBM IoT
connected
Temperature
Humidity
Moisture
Smoke level
Carbon di oxide
Carbon monoxide
Methane value
debug 2
Temperature
Humidity
Moisture
Smoke level
Carbon di oxide
Carbon monoxide
Methane

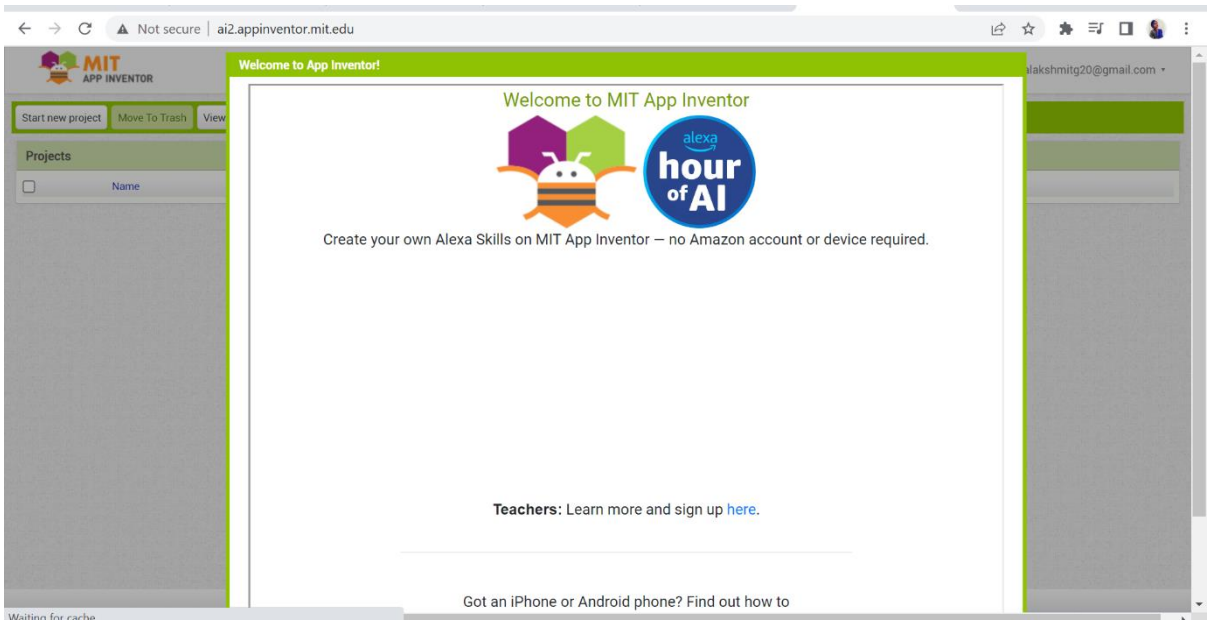


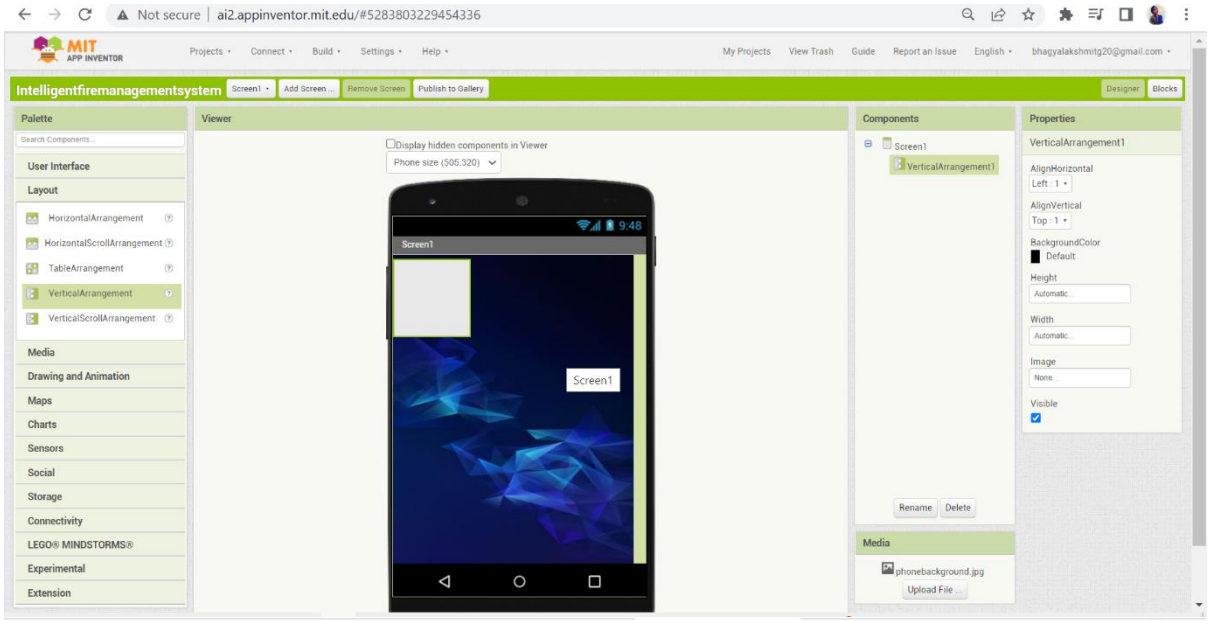


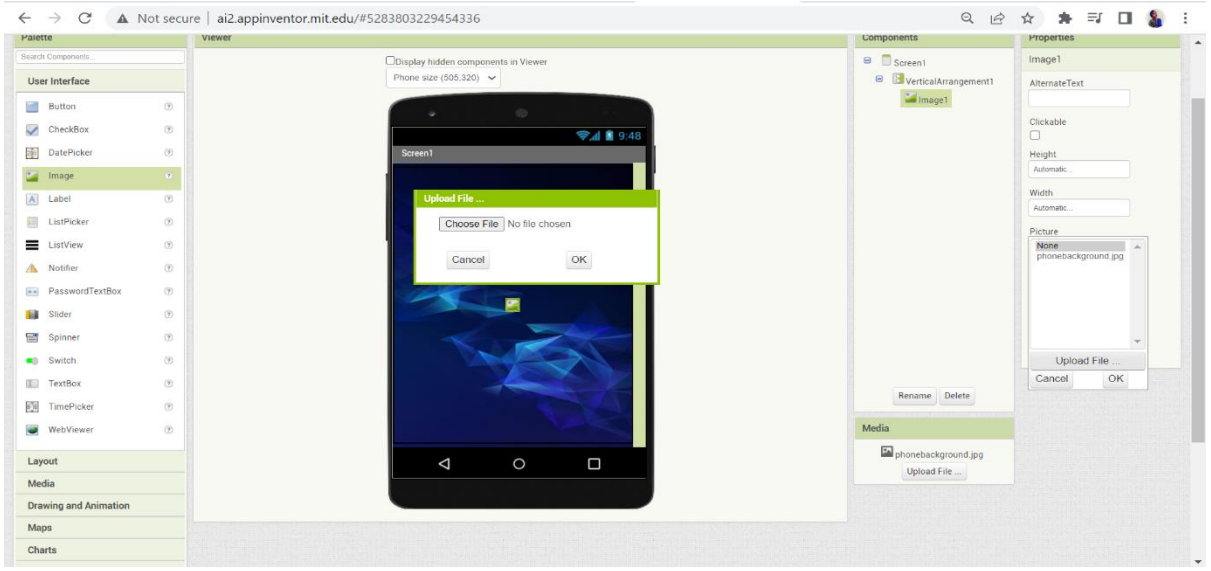

```
C:\Users\Harsini>python --version
Python 3.9.6

C:\Users\Harsini>pip install ibmiotf
Defaulting to user installation because normal site-packages is not writ
eable
```

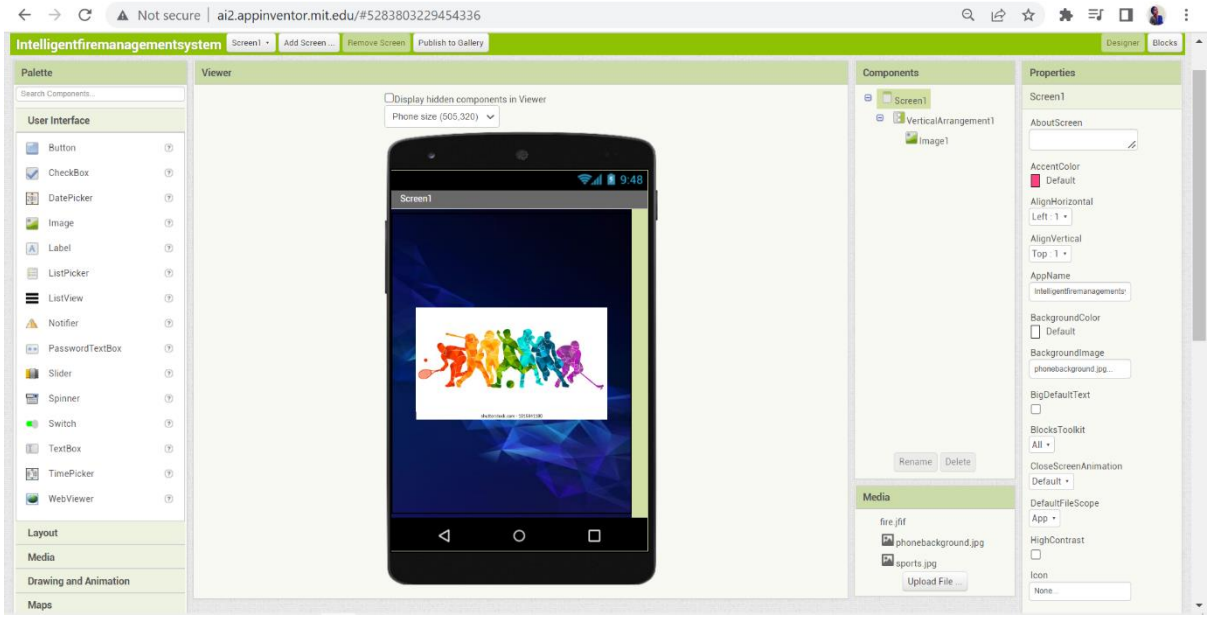


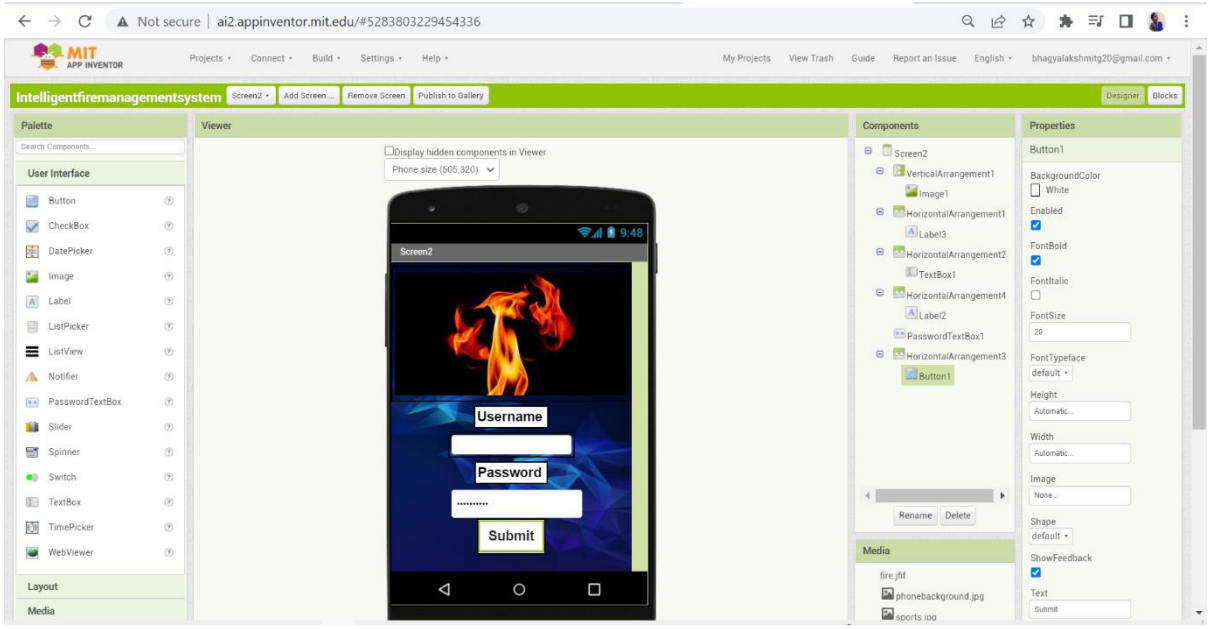
US 2 – Developing mobile application for Industry specific Intelligent Fire Management system.




Not secure | ai2.appinventor.mit.edu/#5283803229454336
MIT APP INVENTOR
Projects
Connect
Build
Settings
Help
My Projects
View Trash
Guide
Report an Issue
English
bhagyalakshmitg20@gmail.com
Intelligentfiremanagementsystem
Screen1
Add Screen ...
Remove Screen
Publish to Gallery
Designer
Blocks
Palette
User Interface
Layout
HorizontalArrangement
HorizontalScrollArrangement
TableArrangement
VerticalArrangement
VerticalScrollArrangement
Media
Drawing and Animation
Maps
Charts
Sensors
Social
Storage
Connectivity
LEGO® MINDSTORMS®
Experimental
Extension
Viewer
Display hidden components in Viewer
Phone size (505,320)
9:48
Screen1
Components
Screen1
VerticalArrangement1
Rename
Delete
Media
phonebackground.jpg
Upload File ...
Properties
VerticalArrangement1
AlignHorizontal
Left : 1
AlignVertical
Top : 1
BackgroundColor
Default
Height
Automatic...
Width
Automatic...
Image
None...
Visible


Not secure | ai2.appinventor.mit.edu/#5283803229454336
Palette
User Interface
Button
CheckBox
DatePicker
Image
Label
ListPicker
ListView
Notifier
PasswordTextBox
Slider
Spinner
Switch
TextBox
TimePicker
WebViewer
Layout
Media
Drawing and Animation
Maps
Charts
Viewer
Display hidden components in Viewer
Phone size (505,320)
9:48
Screen1
Upload File ...
Choose File
No file chosen
Cancel
OK
Components
Screen1
VerticalArrangement1
Image1
Rename
Delete
Media
phonebackground.jpg
Upload File ...
Properties
Image1
AlternateText
Clickable
Height
Automatic...
Width
Automatic...
Picture
None
phonebackground.jpg
Upload File ...
Cancel
OK


Not secure | ai2.appinventor.mit.edu/#5283803229454336
Intelligentfiremanagementsystem
Screen1
Add Screen ...
Remove Screen
Publish to Gallery
Designer
Blocks
Palette
User Interface
Button
CheckBox
DatePicker
Image
Label
ListPicker
ListView
Notifier
PasswordTextBox
Slider
Spinner
Switch
TextBox
TimePicker
WebViewer
Layout
Media
Drawing and Animation
Maps
Viewer
Display hidden components in Viewer
Phone size (505,320)
9:48
Screen1
Components
Screen1
VerticalArrangement1
Image1
Rename
Delete
Media
fire.jfif
phonebackground.jpg
sports.jpg
Upload File ...
Properties
Screen1
AboutScreen
AccentColor
Default
AlignHorizontal
Left : 1
AlignVertical
Top : 1
AppName
Intelligentfiremanagements
BackgroundColor
Default
BackgroundImage
phonebackground.jpg...
BigDefaultText
BlocksToolkit
All
CloseScreenAnimation
Default
DefaultFileScope
App
HighContrast
Icon
None...


Not secure | ai2.appinventor.mit.edu/#5283803229454336
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Projects
Connect
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Guide
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English
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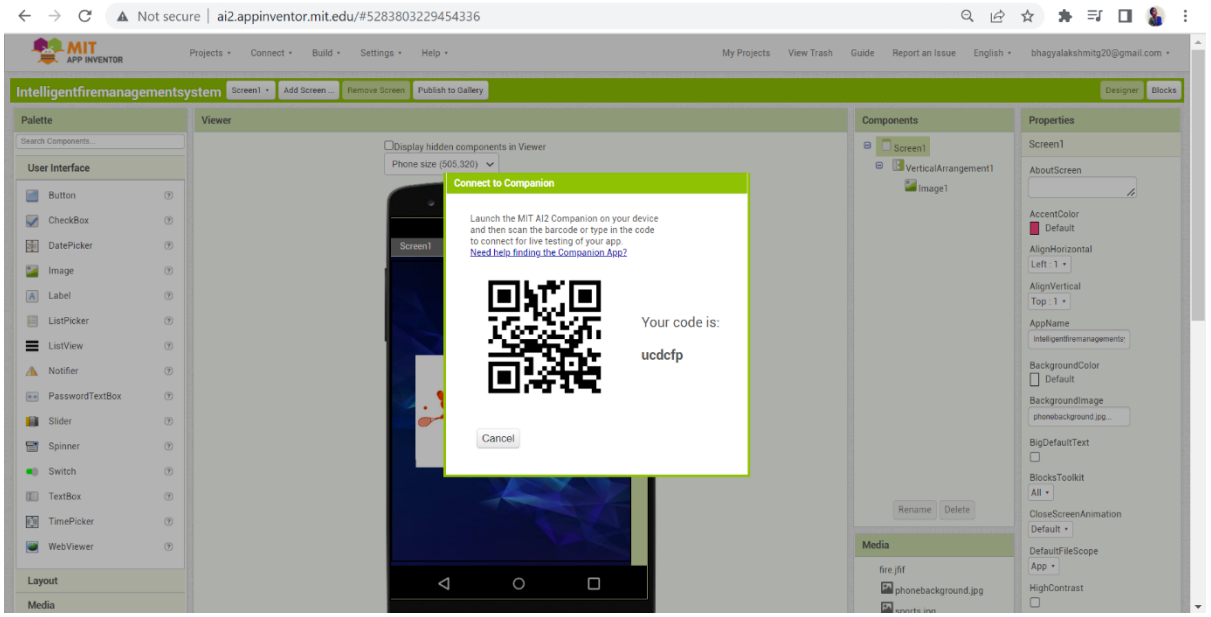
Intelligentfiremanagementsystem
Screen2
Add Screen ...
Remove Screen
Publish to Gallery
Designer
Blocks
Palette
User Interface
Button
CheckBox
DatePicker
Image
Label
ListPicker
ListView
Notifier
PasswordTextBox
Slider
Spinner
Switch
TextBox
TimePicker
WebViewer
Layout
Media
Viewer
Display hidden components in Viewer
Phone size (505,320)
9:48
Screen2
Username
Password
Submit
Components
Screen2
VerticalArrangement1
Image1
HorizontalArrangement1
Label3
HorizontalArrangement2
TextBox1
HorizontalArrangement4
Label2
PasswordTextBox1
HorizontalArrangement3
Button1
Rename
Delete
Media
fire.jfif
phonebackground.jpg
sports.jpg
Properties
Button1
BackgroundColor
White
Enabled
FontBold
FontItalic
FontSize
20
FontTypeface
default
Height
Automatic...
Width
Automatic...
Image
None...
Shape
default
ShowFeedback
Text
Submit


Not secure | ai2.appinventor.mit.edu/#5283803229454336
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Projects
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Settings
Help
My Projects
View Trash
Guide
Report an Issue
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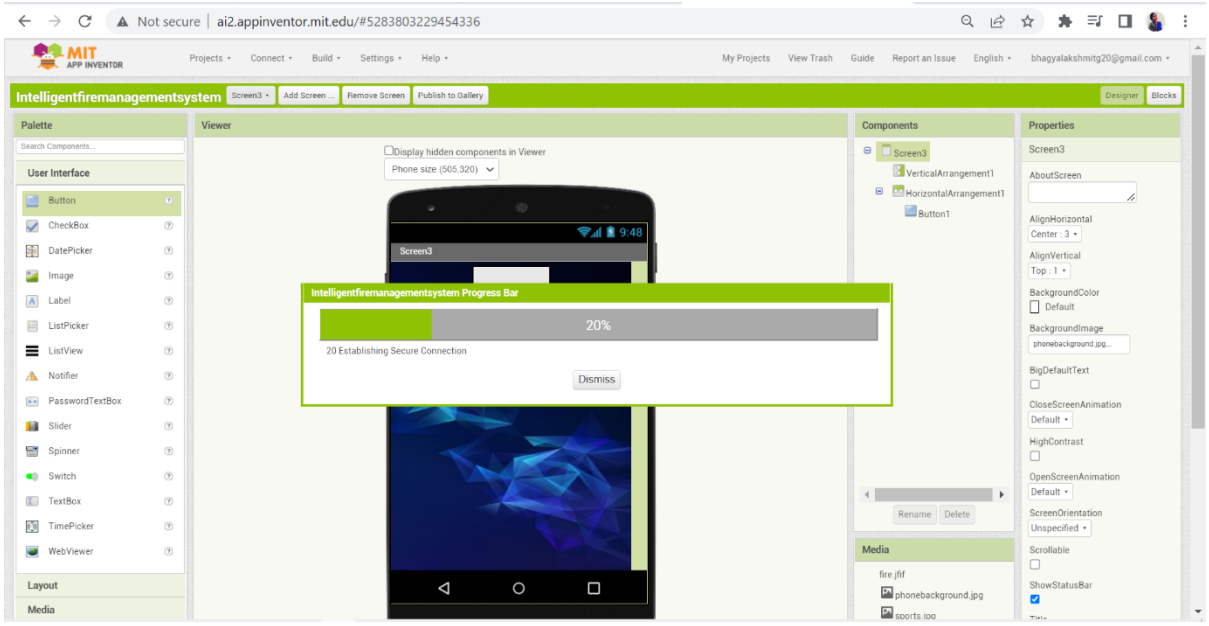
Intelligentfiremanagementsystem
Screen1
Add Screen ...
Remove Screen
Publish to Gallery
Designer
Blocks
Palette
User Interface
Button
CheckBox
DatePicker
Image
Label
ListPicker
ListView
Notifier
PasswordTextBox
Slider
Spinner
Switch
TextBox
TimePicker
WebViewer
Layout
Media
Viewer
Display hidden components in Viewer
Phone size (505,320)
Connect to Companion
Launch the MIT AI2 Companion on your device and then scan the barcode or type in the code to connect for live testing of your app.
Need help finding the Companion App?
Your code is:
ucdcfp
Cancel
Screen1
Components
Screen1
VerticalArrangement1
Image1
Rename
Delete
Media
fire.jfif
phonebackground.jpg
Properties
Screen1
AboutScreen
AccentColor
Default
AlignHorizontal
Left : 1
AlignVertical
Top : 1
AppName
BackgroundColor
Default
BackgroundImage
phonebackground.jpg
BigDefaultText
BlocksToolkit
All
CloseScreenAnimation
Default
DefaultFileScope
App
HighContrast


Not secure | ai2.appinventor.mit.edu/#5283803229454336
MIT APP INVENTOR
Projects
Connect
Build
Settings
Help
My Projects
View Trash
Guide
Report an Issue
English
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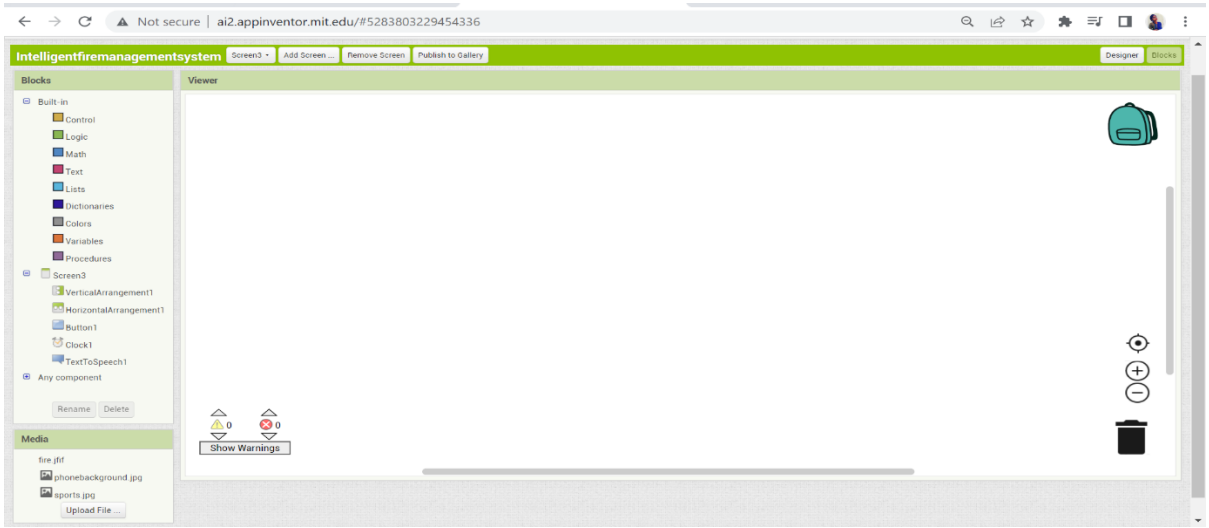
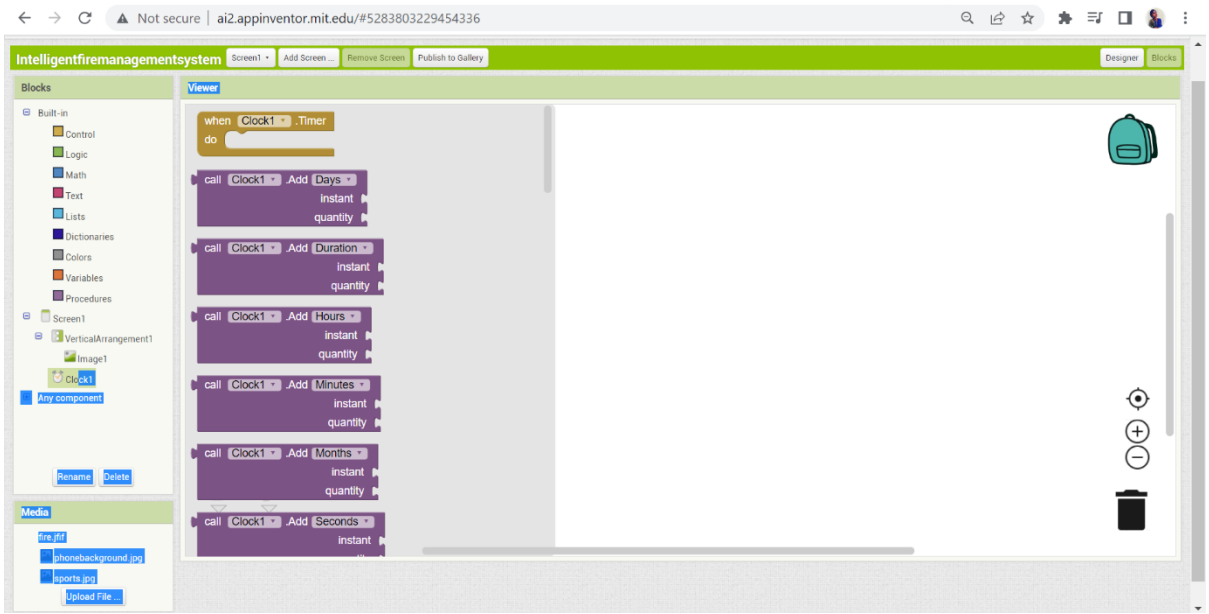
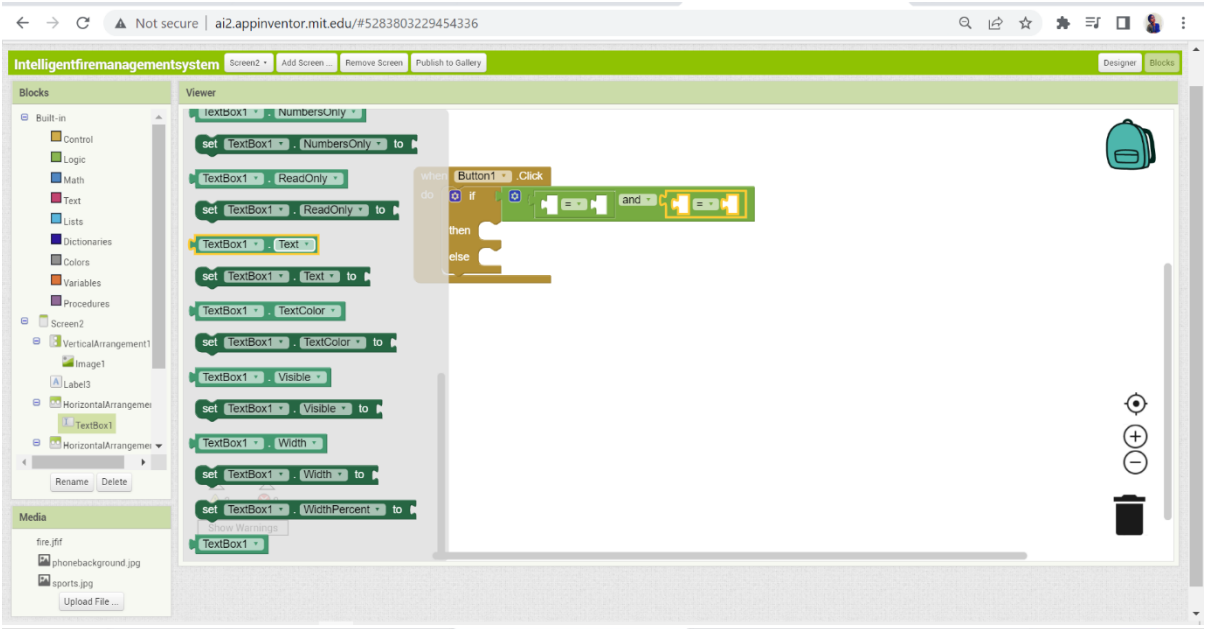
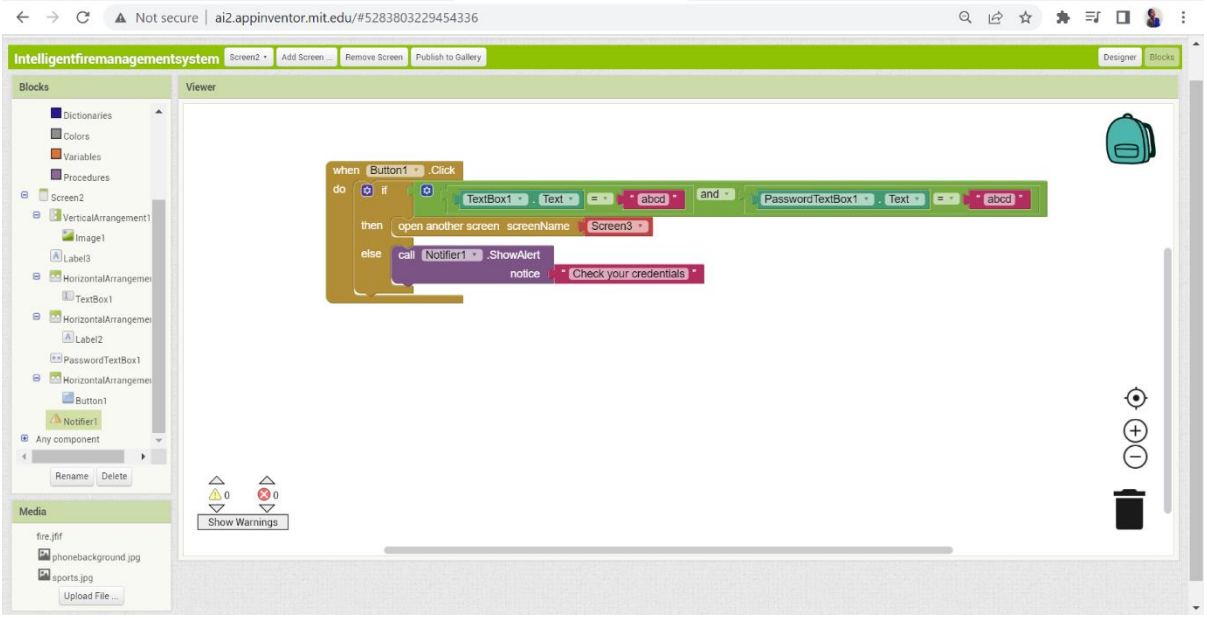
Intelligentfiremanagementsystem
Screen3
Add Screen ...
Remove Screen
Publish to Gallery
Designer
Blocks
Palette
User Interface
Button
CheckBox
DatePicker
Image
Label
ListPicker
ListView
Notifier
PasswordTextBox
Slider
Spinner
Switch
TextBox
TimePicker
WebViewer
Layout
Media
Viewer
Display hidden components in Viewer
Phone size (505,320)
Screen3
Intelligentfiremanagementsystem Progress Bar
20%
20 Establishing Secure Connection
Dismiss
Components
Screen3
VerticalArrangement1
HorizontalArrangement1
Button1
Rename
Delete
Media
fire.jfif
phonebackground.jpg
sports.jpg
Properties
Screen3
AboutScreen
AlignHorizontal
Center : 3
AlignVertical
Top : 1
BackgroundColor
Default
BackgroundImage
phonebackground.jpg...
BigDefaultText
CloseScreenAnimation
Default
HighContrast
OpenScreenAnimation
Default
ScreenOrientation
Unspecified
Scrollable
ShowStatusBar

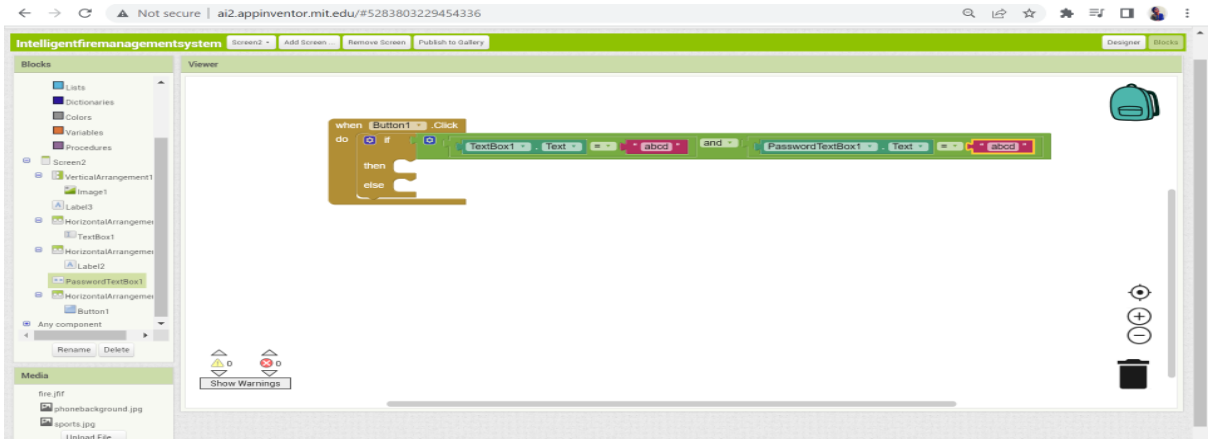

Not secure | ai2.appinventor.mit.edu/#5283803229454336
Intelligentfiremanagementsystem
Screen3
Add Screen ...
Remove Screen
Publish to Gallery
Designer
Blocks
Blocks
Built-in
Control
Logic
Math
Text
Lists
Dictionaries
Colors
Variables
Procedures
Screen3
VerticalArrangement1
HorizontalArrangement1
Button1
Clock1
TextToSpeech1
Any component
Rename
Delete
Media
fire.jfif
phonebackground.jpg
sports.jpg
Upload File ...
Viewer
Show Warnings

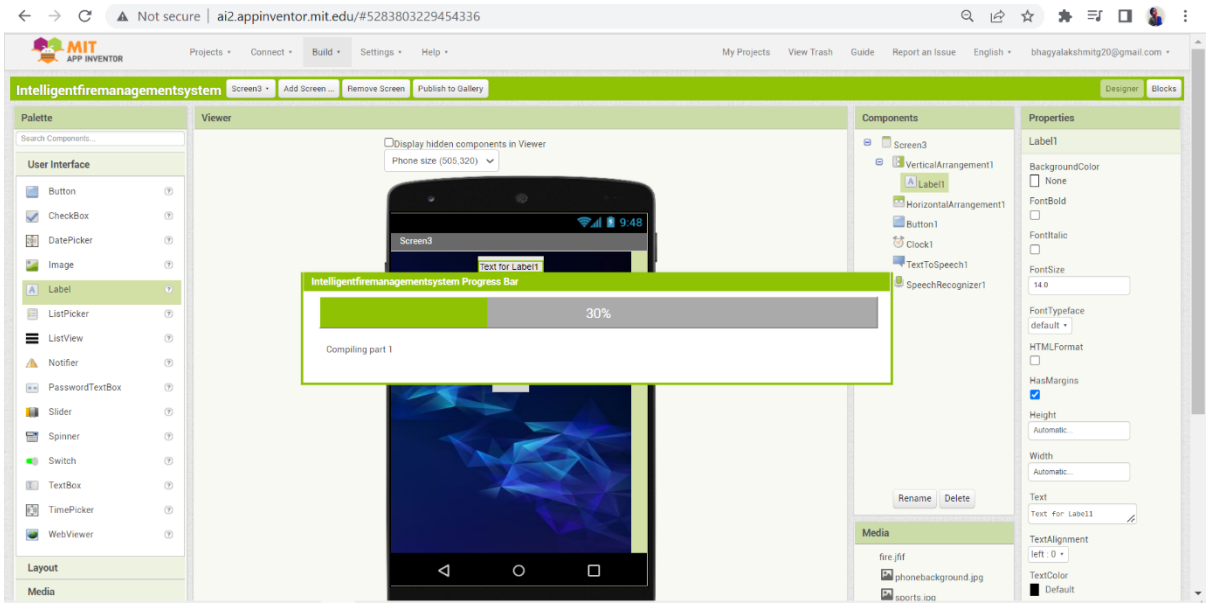

Not secure | ai2.appinventor.mit.edu/#5283803229454336
Intelligentfiremanagementsystem
Screen1
Add Screen ...
Remove Screen
Publish to Gallery
Designer
Blocks
Blocks
Built-in
Control
Logic
Math
Text
Lists
Dictionaries
Colors
Variables
Procedures
Screen1
VerticalArrangement1
Image1
Clock1
Any component
Rename
Delete
Media
fire.jfif
phonebackground.jpg
sports.jpg
Upload File ...
Viewer
when Clock1 .Timer
do
call Clock1 .Add Days
instant
quantity
call Clock1 .Add Duration
instant
quantity
call Clock1 .Add Hours
instant
quantity
call Clock1 .Add Minutes
instant
quantity
call Clock1 .Add Months
instant
quantity
call Clock1 .Add Seconds
instant

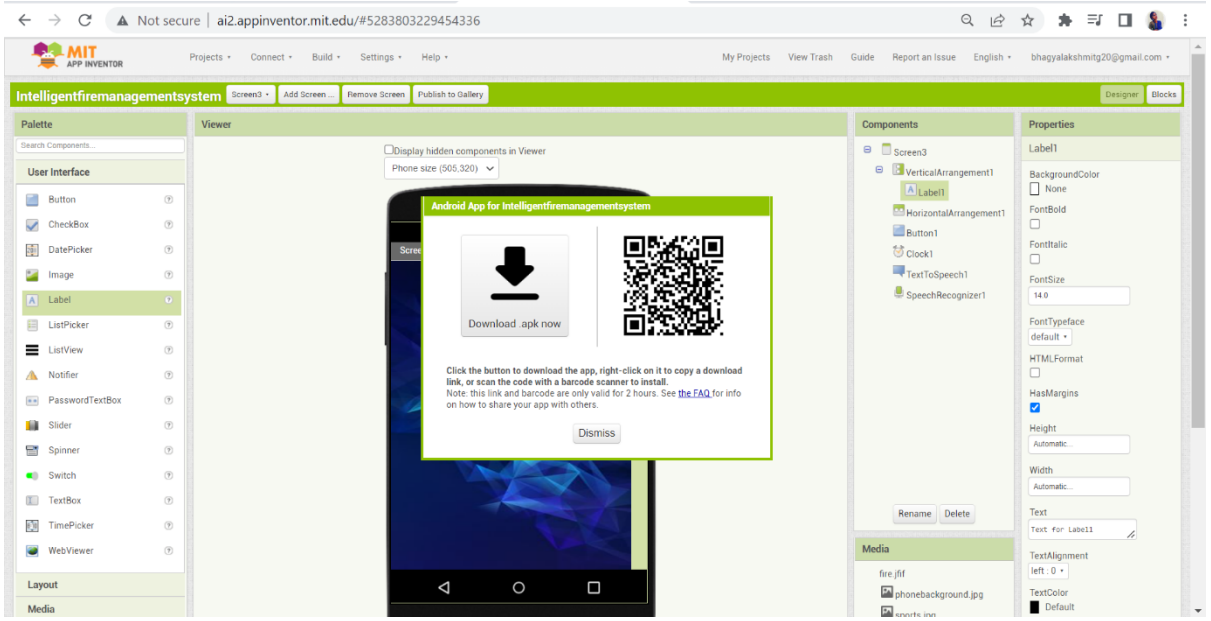

Not secure | ai2.appinventor.mit.edu/#5283803229454336
Intelligentfiremanagementsystem
Screen2
Add Screen ...
Remove Screen
Publish to Gallery
Designer
Blocks
Blocks
Viewer
Built-in
Control
Logic
Math
Text
Lists
Dictionaries
Colors
Variables
Procedures
Screen2
VerticalArrangement1
Image1
Label3
HorizontalArrangement
TextBox1
HorizontalArrangement
Rename
Delete
Media
fire.jfif
phonebackground.jpg
sports.jpg
Upload File ...
set TextBox1 . NumbersOnly to
TextBox1 . ReadOnly
set TextBox1 . ReadOnly to
TextBox1 . Text
set TextBox1 . Text to
TextBox1 . TextColor
set TextBox1 . TextColor to
TextBox1 . Visible
set TextBox1 . Visible to
TextBox1 . Width
set TextBox1 . Width to
set TextBox1 . WidthPercent to
Show Warnings
TextBox1
when Button1 .Click
do if
and
then
else


Not secure | ai2.appinventor.mit.edu/#5283803229454336
Intelligentfiremanagementsystem
Screen2
Add Screen ...
Remove Screen
Publish to Gallery
Designer
Blocks
Blocks
Viewer
Dictionaries
Colors
Variables
Procedures
Screen2
VerticalArrangement1
Image1
Label3
HorizontalArrangement
TextBox1
HorizontalArrangement
Label2
PasswordTextBox1
HorizontalArrangement
Button1
Notifier1
Any component
Rename
Delete
Media
fire.jfif
phonebackground.jpg
sports.jpg
Upload File ...
Show Warnings
when Button1 .Click
do if
TextBox1 . Text = " abcd "
and
PasswordTextBox1 . Text = " abcd "
then
open another screen screenName Screen3
else
call Notifier1 .ShowAlert
notice " Check your credentials "

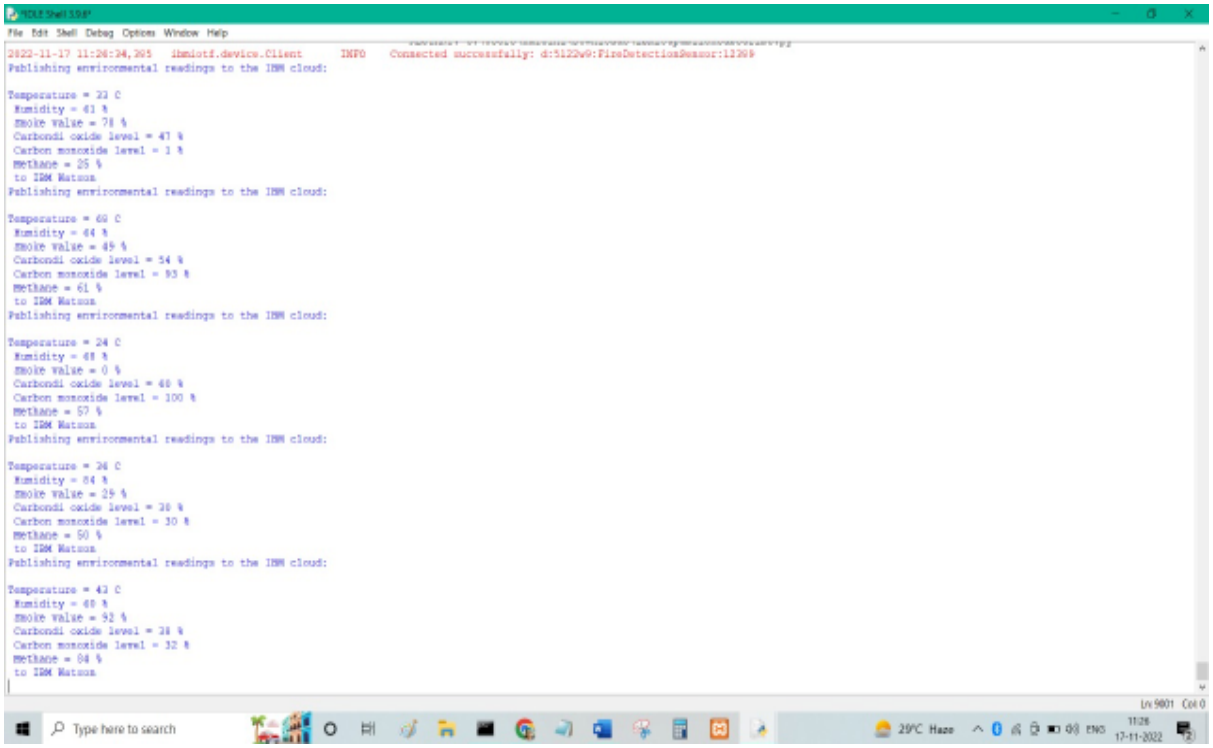

Not secure | ai2.appinventor.mit.edu/#5283803229454336
Intelligentfiremanagementsystem
Screen3
Add Screen ...
Remove Screen
Publish to Gallery
Designer
Blocks
Blocks
Viewer
Built-in
Control
Logic
Math
Text
Lists
Dictionaries
Colors
Variables
Procedures
Screen3
VerticalArrangement1
Label1
HorizontalArrangement
Button1
Clock1
TextToSpeech1
Rename
Delete
Media
fire.jfif
phonebackground.jpg
sports.jpg
Upload File ...
Show Warnings
when Button1 .Click
do call SpeechRecognizer1 .GetText
when SpeechRecognizer1 .AfterGettingText
result partial
do set Label1 . Text to get result

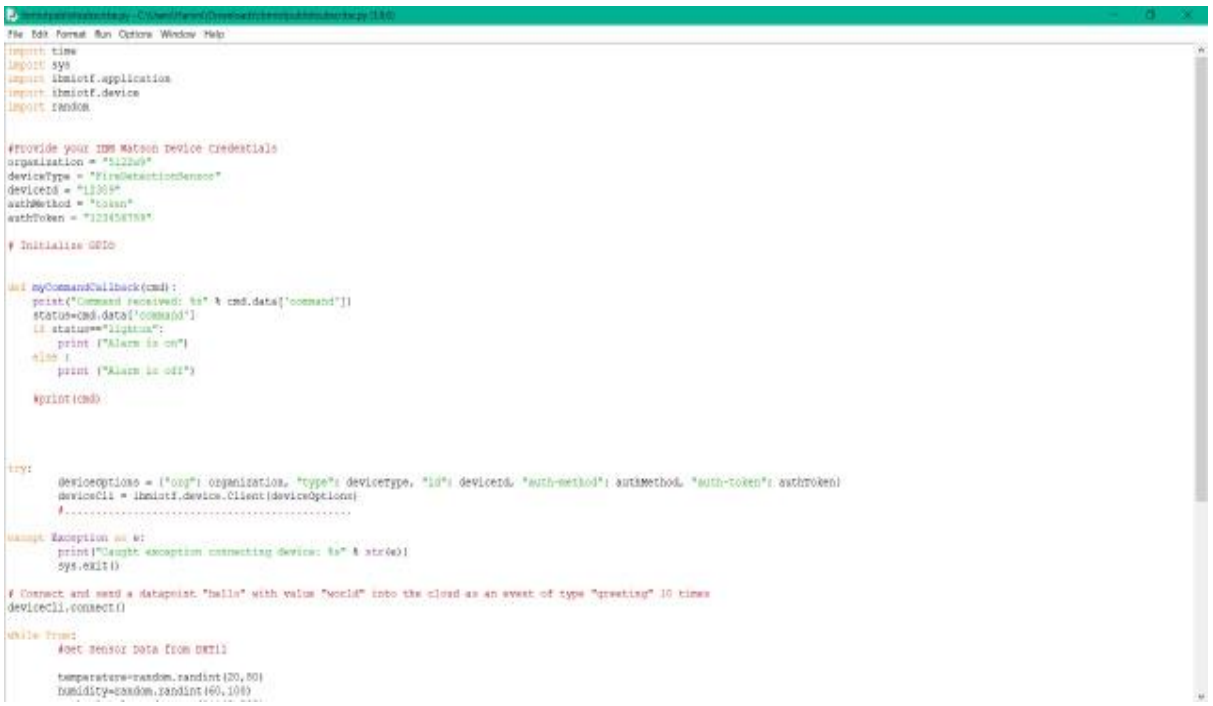

Not secure | ai2.appinventor.mit.edu/#5283803229454336
Intelligentfiremanagementsystem
Blocks
Viewer
when Button1 .Click
do if TextBox1 . Text = abcd and PasswordTextBox1 . Text = abcd
then
else
Show Warnings

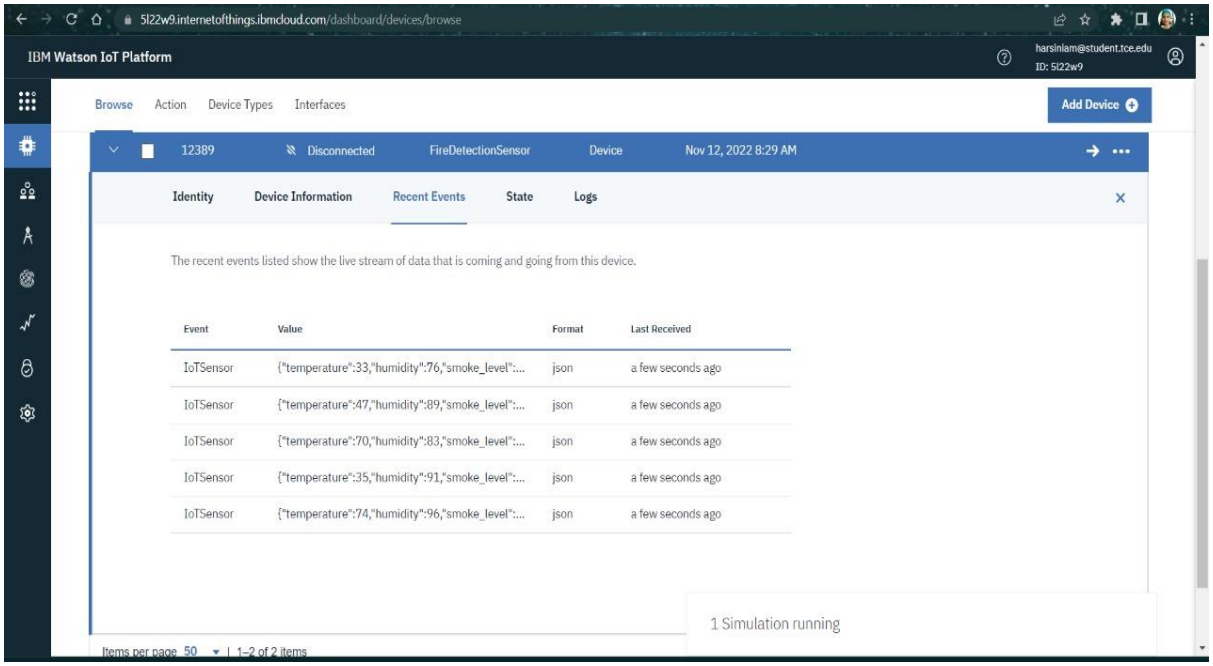

Not secure | ai2.appinventor.mit.edu/#5283803229454336
MIT APP INVENTOR
Intelligentfiremanagementsystem
Palette
Viewer
Components
Properties
Intelligentfiremanagementsystem Progress Bar
30%
Compiling part 1

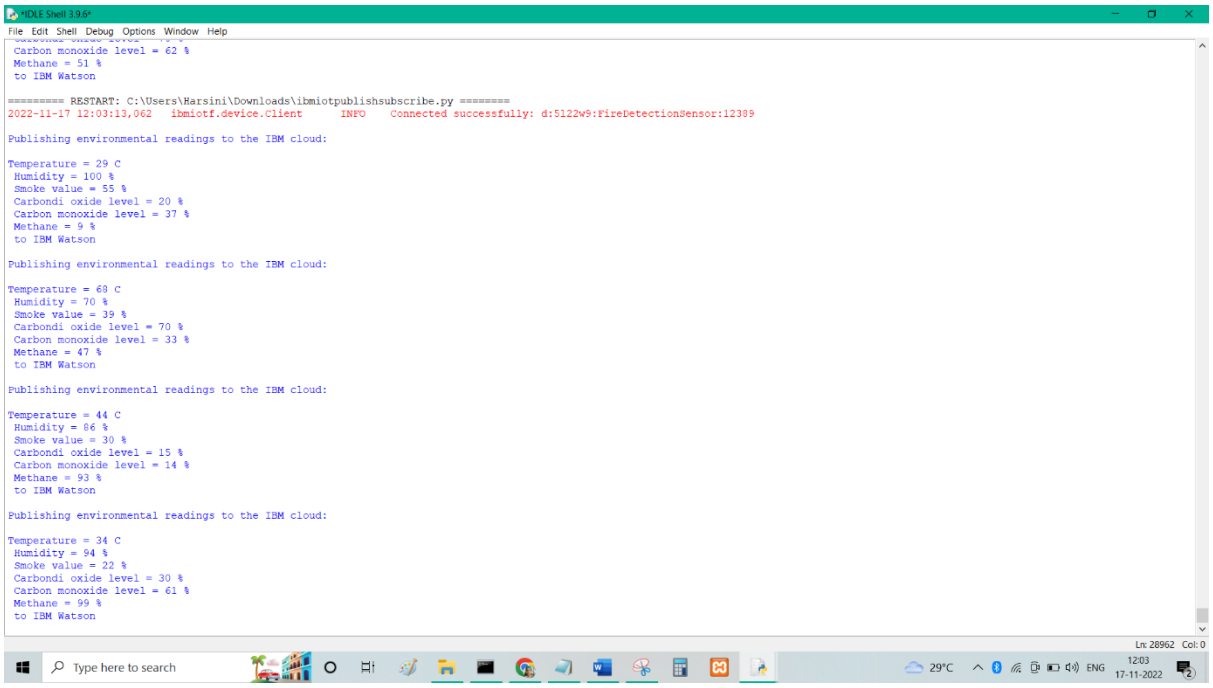

Not secure | ai2.appinventor.mit.edu/#5283803229454336
MIT APP INVENTOR
Intelligentfiremanagementsystem
Palette
Viewer
Components
Properties
Android App for Intelligentfiremanagementsystem
Download .apk now
Click the button to download the app, right-click on it to copy a download link, or scan the code with a barcode scanner to install.
Note: this link and barcode are only valid for 2 hours. See the FAQ for info on how to share your app with others.
Dismiss

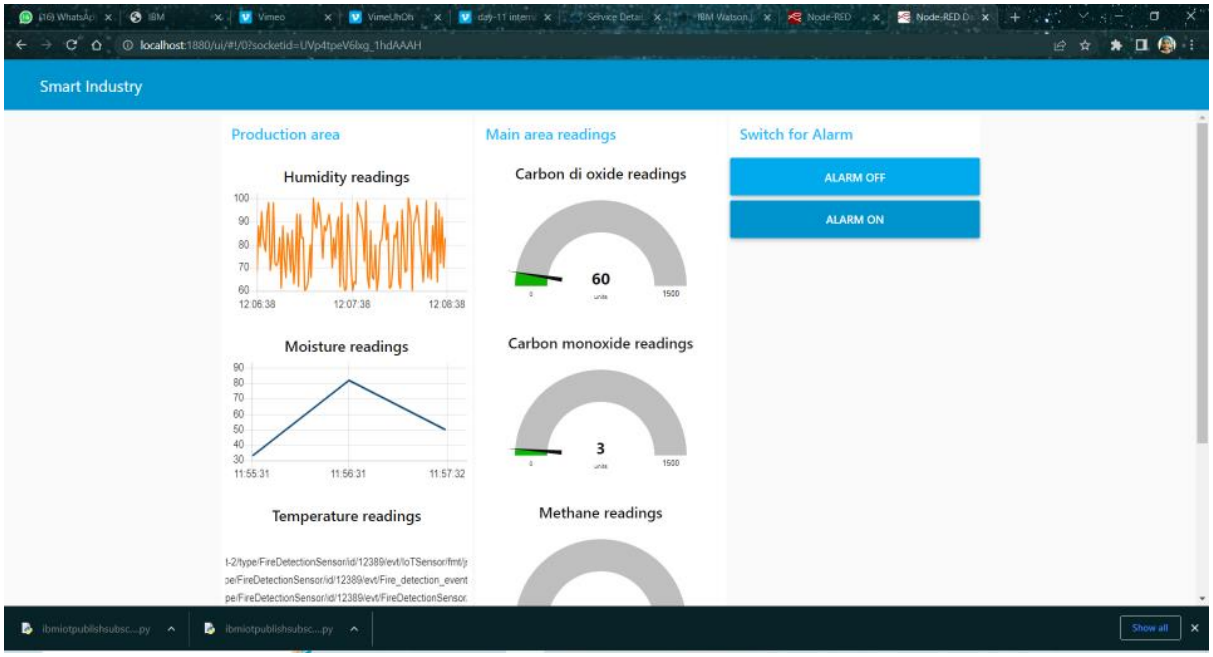
US 3 - Developing python script for publishing values to IBM Watson IOT platform.

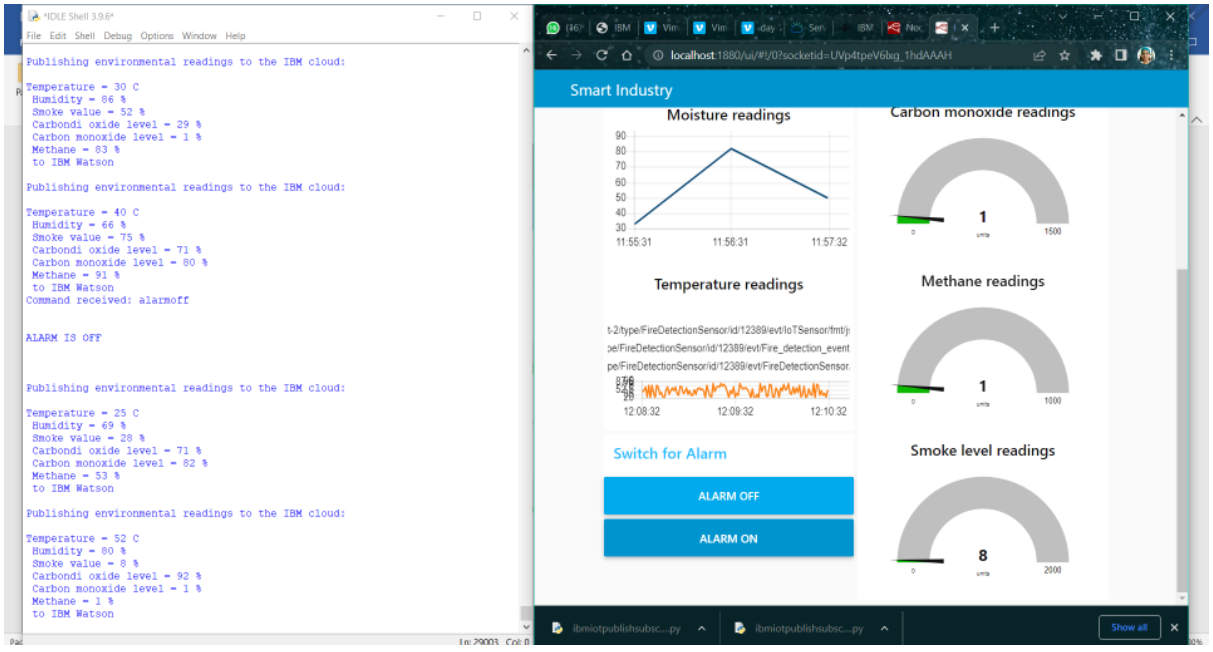





5l22w9.internetofthings.ibmcloud.com/dashboard/devices/browse
IBM Watson IoT Platform
harsiniam@student.tce.edu
ID: 5l22w9
Browse
Action
Device Types
Interfaces
Add Device
12389
Disconnected
FireDetectionSensor
Device
Nov 12, 2022 8:29 AM
Identity
Device Information
Recent Events
State
Logs
The recent events listed show the live stream of data that is coming and going from this device.
Event
Value
Format
Last Received
IoTSensor
{"temperature":33,"humidity":76,"smoke_level":...
json
a few seconds ago
IoTSensor
{"temperature":47,"humidity":89,"smoke_level":...
json
a few seconds ago
IoTSensor
{"temperature":70,"humidity":83,"smoke_level":...
json
a few seconds ago
IoTSensor
{"temperature":35,"humidity":91,"smoke_level":...
json
a few seconds ago
IoTSensor
{"temperature":74,"humidity":96,"smoke_level":...
json
a few seconds ago
1 Simulation running
Items per page 50
1–2 of 2 items


IDLE Shell 3.9.6*
File Edit Shell Debug Options Window Help
Carbon monoxide level = 62 %
Methane = 51 %
to IBM Watson
========= RESTART: C:\Users\Harsini\Downloads\ibmiotpublishsubscribe.py ========
2022-11-17 12:03:13,062 ibmiotf.device.Client INFO Connected successfully: d:5l22w9:FireDetectionSensor:12389
Publishing environmental readings to the IBM cloud:
Temperature = 29 C
Humidity = 100 %
Smoke value = 55 %
Carbondi oxide level = 20 %
Carbon monoxide level = 37 %
Methane = 9 %
to IBM Watson
Publishing environmental readings to the IBM cloud:
Temperature = 68 C
Humidity = 70 %
Smoke value = 39 %
Carbondi oxide level = 70 %
Carbon monoxide level = 33 %
Methane = 47 %
to IBM Watson
Publishing environmental readings to the IBM cloud:
Temperature = 44 C
Humidity = 86 %
Smoke value = 30 %
Carbondi oxide level = 15 %
Carbon monoxide level = 14 %
Methane = 93 %
to IBM Watson
Publishing environmental readings to the IBM cloud:
Temperature = 34 C
Humidity = 94 %
Smoke value = 22 %
Carbondi oxide level = 30 %
Carbon monoxide level = 61 %
Methane = 99 %
to IBM Watson
Ln: 28962 Col: 0
Type here to search
29°C
ENG
12:03
17-11-2022


Smart Industry
Production area
Humidity readings
Moisture readings
Temperature readings
Main area readings
Carbon di oxide readings
60
Carbon monoxide readings
3
Methane readings
Switch for Alarm
ALARM OFF
ALARM ON


Publishing environmental readings to the IBM cloud:
Temperature = 30 C
Humidity = 86 %
Smoke value = 52 %
Carbondi oxide level = 29 %
Carbon monoxide level = 1 %
Methane = 83 %
to IBM Watson
Publishing environmental readings to the IBM cloud:
Temperature = 40 C
Humidity = 66 %
Smoke value = 75 %
Carbondi oxide level = 71 %
Carbon monoxide level = 80 %
Methane = 91 %
to IBM Watson
Command received: alarmoff
ALARM IS OFF
Publishing environmental readings to the IBM cloud:
Temperature = 25 C
Humidity = 69 %
Smoke value = 28 %
Carbondi oxide level = 71 %
Carbon monoxide level = 82 %
Methane = 53 %
to IBM Watson
Publishing environmental readings to the IBM cloud:
Temperature = 52 C
Humidity = 80 %
Smoke value = 8 %
Carbondi oxide level = 92 %
Carbon monoxide level = 1 %
Methane = 1 %
to IBM Watson
Smart Industry
Moisture readings
Carbon monoxide readings
Temperature readings
Methane readings
Switch for Alarm
ALARM OFF
ALARM ON
Smoke level readings