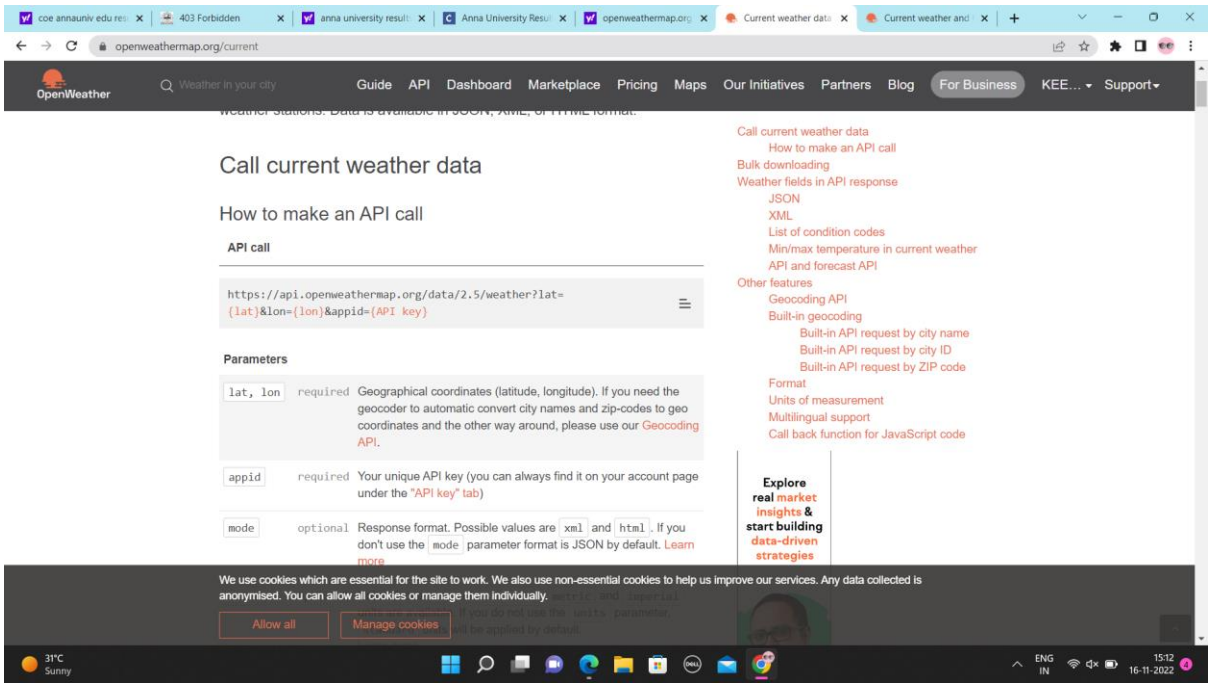
SPRINT 4

Date	15 November 2022
Team ID	PNT2022TMID29675
Project Name	Signs with smart connectivity for Better Road Safety
Maximum Marks	4 Marks

ACCOUNT CREATION IN WEARHER API:



PYTHON CODE:

```
#IBM Watson IOT Platform

#pip install wiotp-sdk

import wiotp.sdk.device

import time
```

```
import random
myConfig = {
   "identity": {
      "orgId": "afblzo",
      "typeId": "raspberrypi",
      "deviceId":"1234"
   },
   "auth": {
      "token": "123456789"


   }
}

def myCommandCallback(cmd):
   print("Message received from IBM IoT Platform: %s" %
cmd.data['command'])
   m=cmd.data['command']

client = wiotp.sdk.device.DeviceClient(config=myConfig, logHandlers=None)
client.connect()

while True:
   temperature=random.randint(-20,125)
   vehiclescount=random.randint(0,100)
   workingarea_distance=random.randint(0,60)
   accidentalarea_distance=random.randint(1,25)
   p="Your Prefered Speed"
```

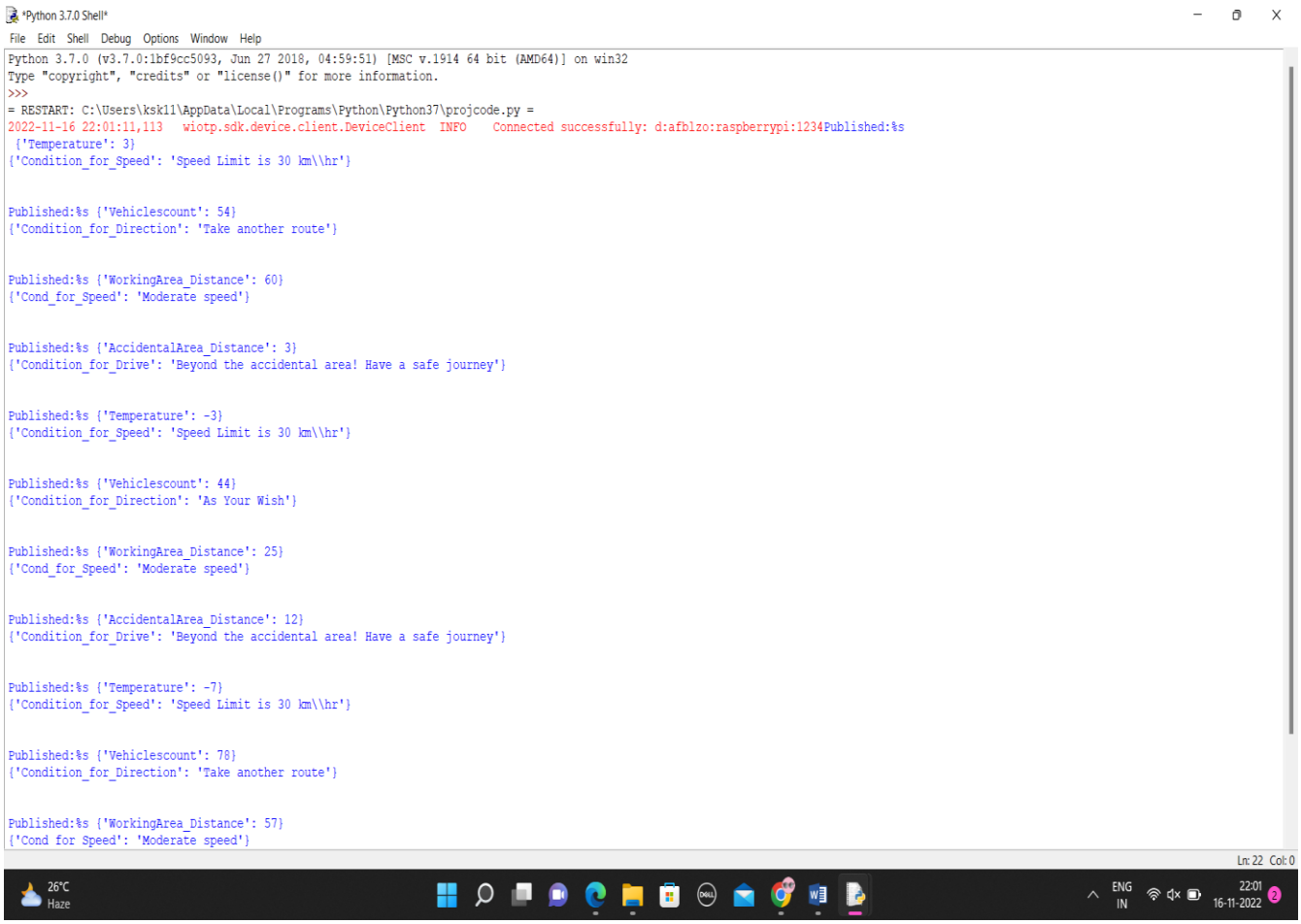
```
q="Speed Limit is 30 km\hr"
r="Take another route"
s="As Your Wish"
t="Go Slow"
u="Moderate speed"
v="it's accidental area, Be Carefull"
w="Beyond the accidental area! Have a safe journey"

a={'Condition_for_Speed':p}
b={'Condition_for_Speed':q}
c={'Condition_for_Direction':r}
d={'Condition_for_Direction':s}
e={'Cond_for_Speed':t}
f={'Cond_for_Speed':u}
g={'Condition_for_Drive':v}
h={'Condition_for_Drive':w}


myData1={'Temperature':temperature}
myData2={'Vehiclescount':vehiclescount}
myData3={'WorkingArea_Distance':workingarea_distance}
myData4={'AccidentalArea_Distance':accidentalarea_distance}


client.publishEvent(eventId="status",msgFormat="json",data=myData1,qos=0,
onPublish=None)
```

```
    print("Published:%s",myData1)
    if temperature>=21:


        client.publishEvent(eventId="status",
msgFormat="json",data=a,qos=0,onPublish=None)
        print(a)
        print("\n")
    else :
        client.publishEvent(eventId="status",
msgFormat="json",data=b,qos=0,onPublish=None)
        print(b)
        print("\n")



client.publishEvent(eventId="status",msgFormat="json",data=myData2,qos=0,
onPublish=None)
    print("Published:%s",myData2)
    if vehiclescount>=53:

client.publishEvent(eventId="status",msgFormat="json",data=c,qos=0,onPublis
h=None)
        print(c)
        print("\n")
    else:

client.publishEvent(eventId="status",msgFormat="json",data=d,qos=0,onPubli
sh=None)
        print(d)
        print("\n")
```

```
client.publishEvent(eventId="status",msgFormat="json",data=myData3,qos=0,
onPublish=None)
    print("Published:%s",myData3)
    if workingarea_distance>=4:
        client.publishEvent(eventId="status",
msgFormat="json",data=f,qos=0,onPublish=None)
        print(f)
        print("\n")
    else :
        client.publishEvent(eventId="status",
msgFormat="json",data=e,qos=0,onPublish=None)
        print(e)
        print("\n")


client.publishEvent(eventId="status",msgFormat="json",data=myData4,qos=0,
onPublish=None)
    print("Published:%s",myData4)
    if accidentalarea_distance>=3:
        client.publishEvent(eventId="status",
msgFormat="json",data=h,qos=0,onPublish=None)
        print(h)
        print("\n")
    else :
        client.publishEvent(eventId="status",
msgFormat="json",data=g,qos=0,onPublish=None)
        print(g)
```

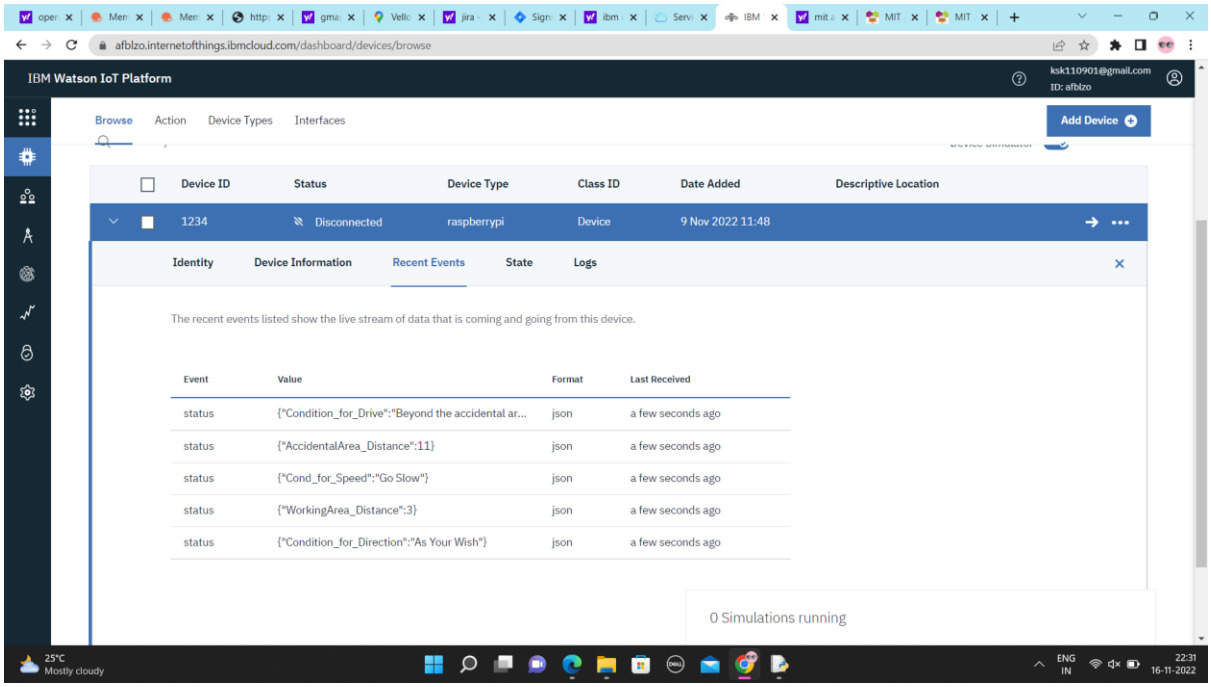
```
    print("\n")


    client.commandCallback=myCommandCallback
    time.sleep(10)
client.disconnect()
```

OUTPUT:

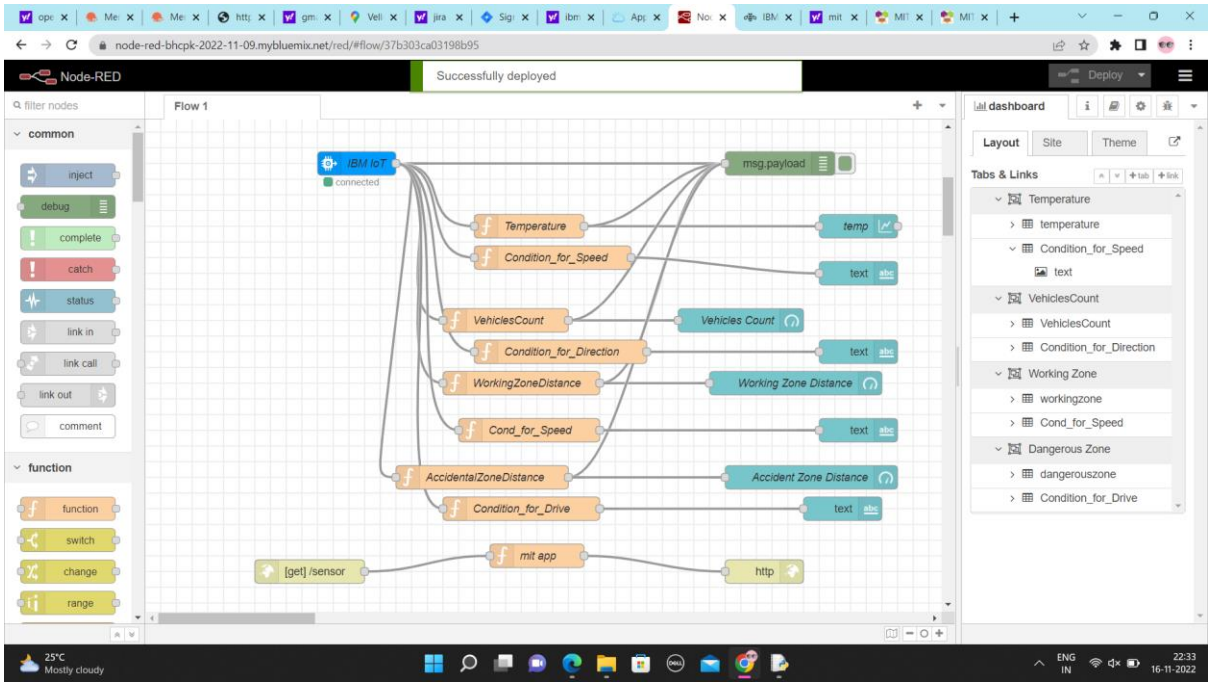


```
*Python 3.7.0 Shell*
File  Edit  Shell  Debug  Options  Window  Help
Python 3.7.0 (v3.7.0:1bf9cc5093, Jun 27 2018, 04:59:51) [MSC v.1914 64 bit (AMD64)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:\Users\ksk11\AppData\Local\Programs\Python\Python37\projcode.py =
2022-11-16 22:01:11,113   wiotp.sdk.device.client.DeviceClient  INFO    Connected successfully: d:afblzo:raspberrypi:1234Published:%s
 {'Temperature': 3}
{'Condition_for_Speed': 'Speed Limit is 30 km\\hr'}


Published:%s {'Vehiclescount': 54}
{'Condition_for_Direction': 'Take another route'}


Published:%s {'WorkingArea_Distance': 60}
{'Cond_for_Speed': 'Moderate speed'}


Published:%s {'AccidentalArea_Distance': 3}
{'Condition_for_Drive': 'Beyond the accidental area! Have a safe journey'}


Published:%s {'Temperature': -3}
{'Condition_for_Speed': 'Speed Limit is 30 km\\hr'}


Published:%s {'Vehiclescount': 44}
{'Condition_for_Direction': 'As Your Wish'}


Published:%s {'WorkingArea_Distance': 25}
{'Cond_for_Speed': 'Moderate speed'}


Published:%s {'AccidentalArea_Distance': 12}
{'Condition_for_Drive': 'Beyond the accidental area! Have a safe journey'}


Published:%s {'Temperature': -7}
{'Condition_for_Speed': 'Speed Limit is 30 km\\hr'}


Published:%s {'Vehiclescount': 78}
{'Condition_for_Direction': 'Take another route'}


Published:%s {'WorkingArea_Distance': 57}
{'Cond_for_Speed': 'Moderate speed'}
Ln: 22  Col: 0
26°C
Haze
ENG
IN
22:01
16-11-2022
```

IBM WATSON CLOUD OUTPUT:

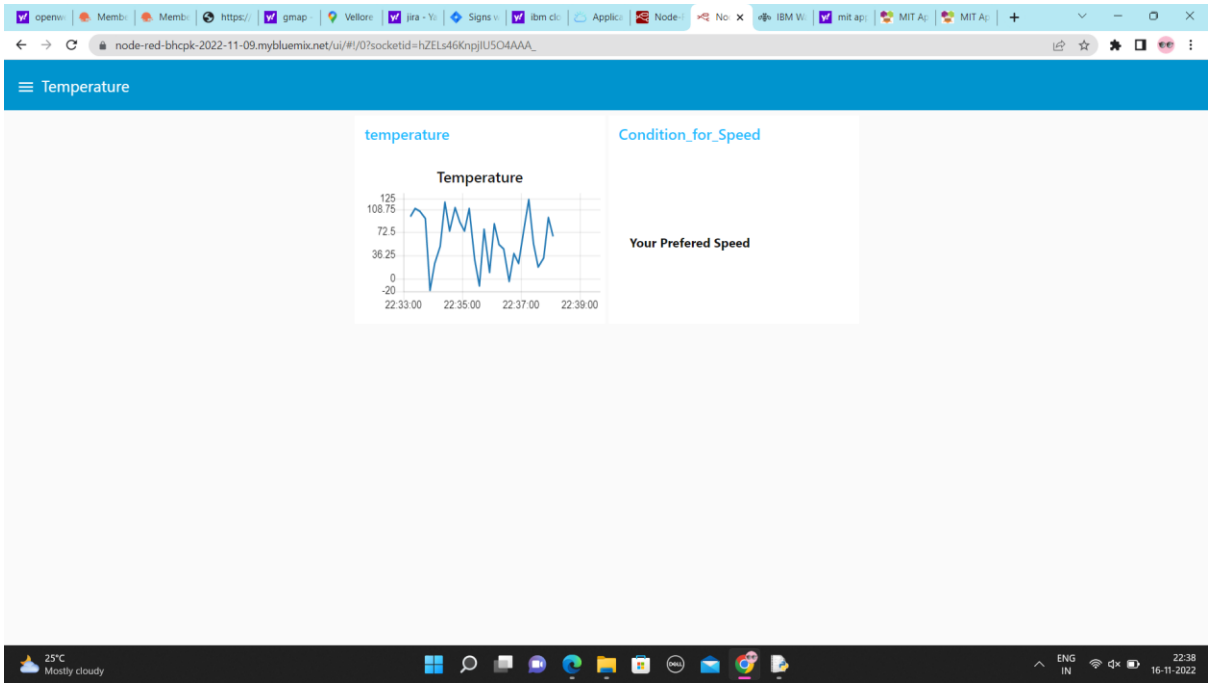


NODERED FUNCTION:

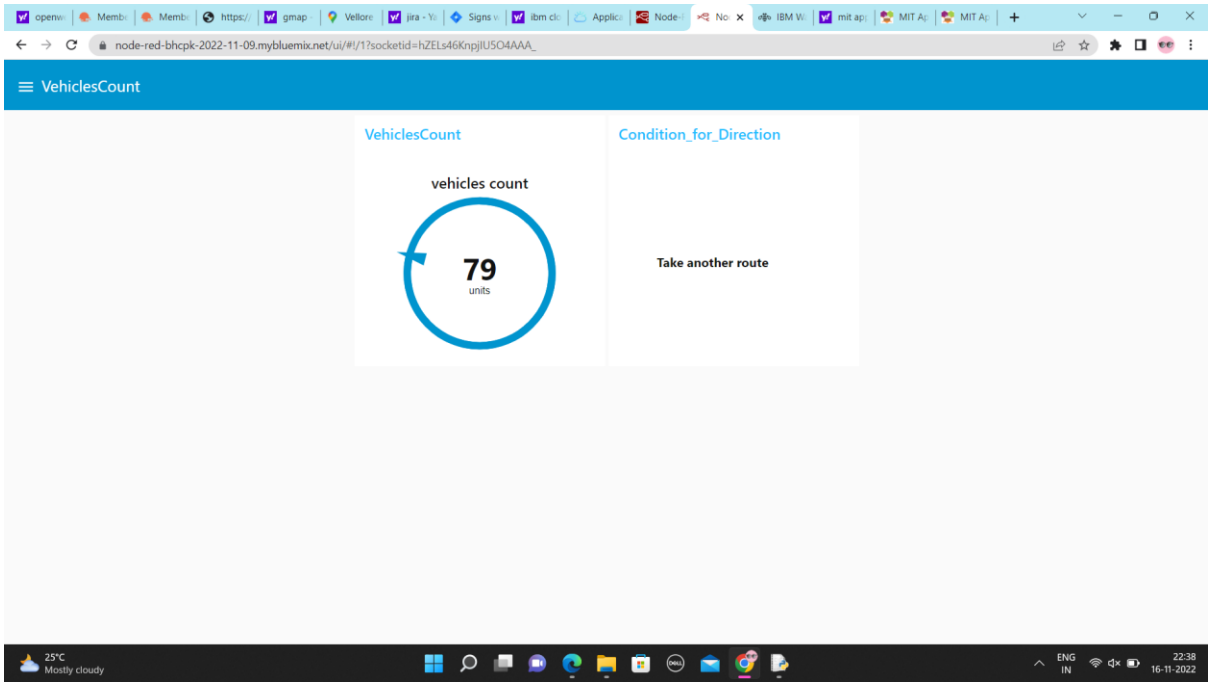


NODERED OUTPUT:

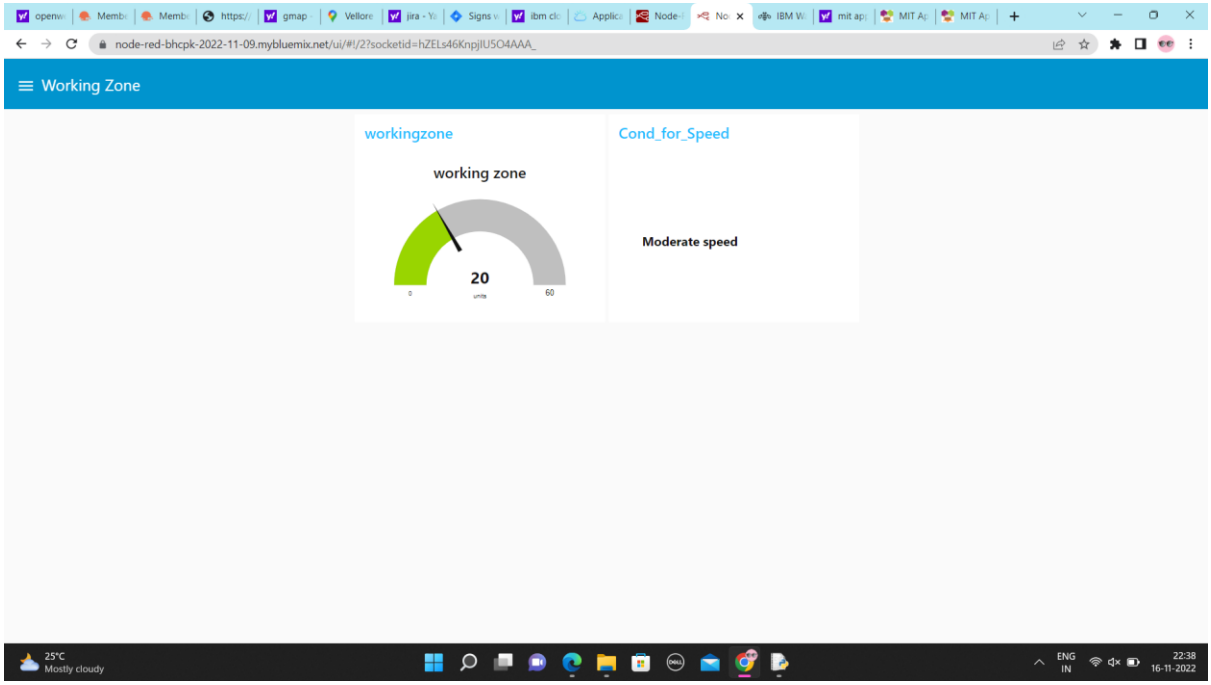
TEMPERATURE:



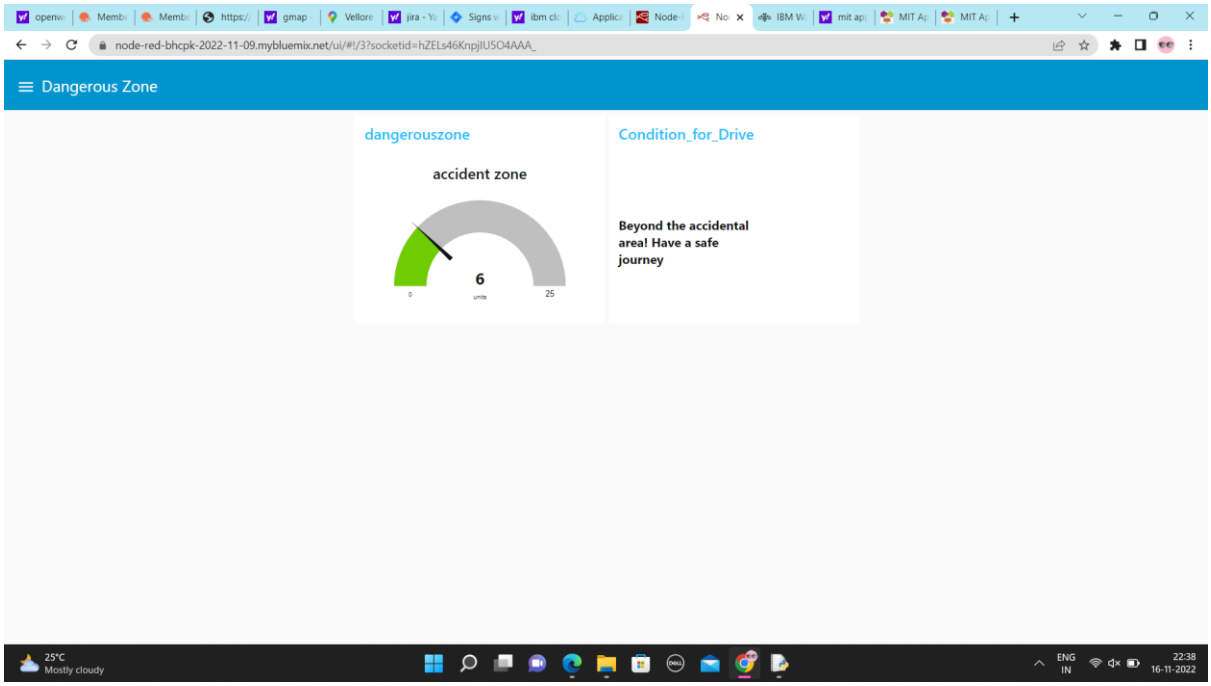
VEHICLESCOUNT:



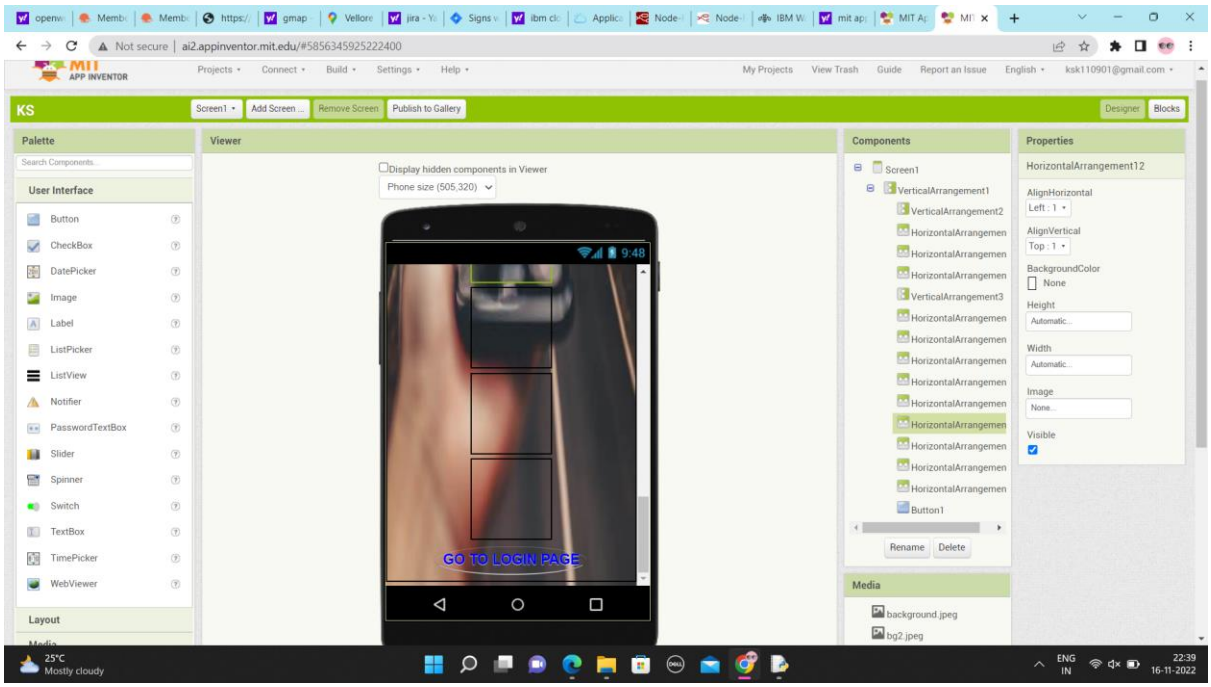
WORKING ZONE:

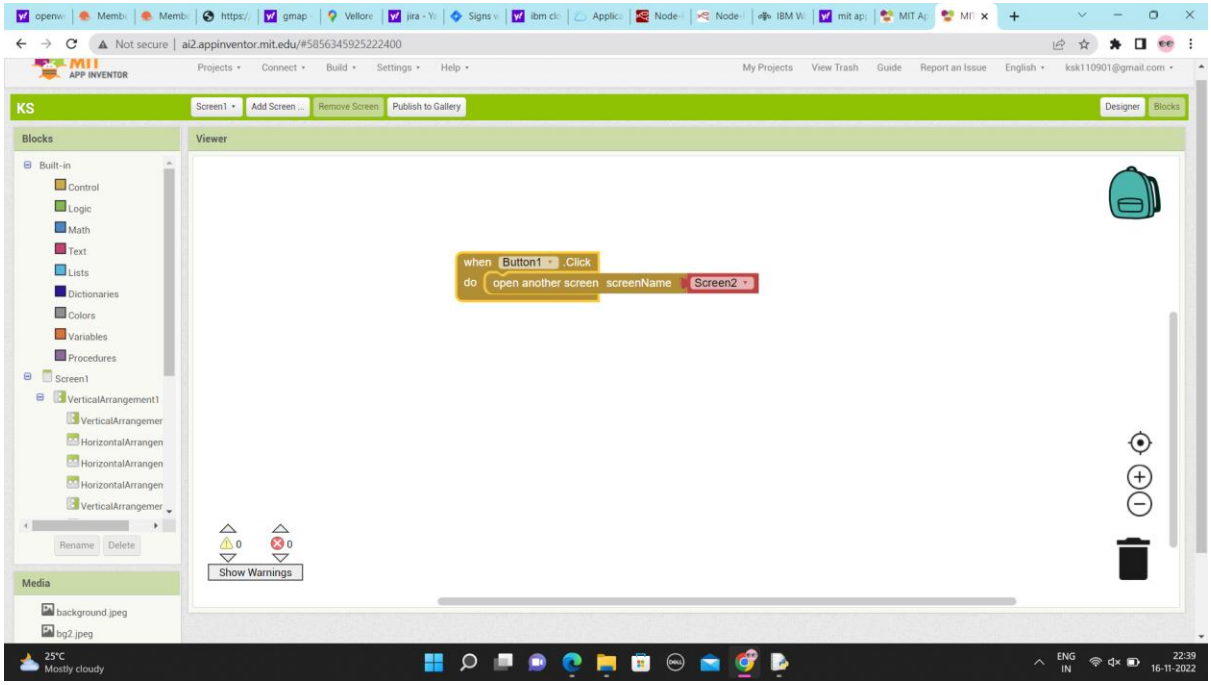


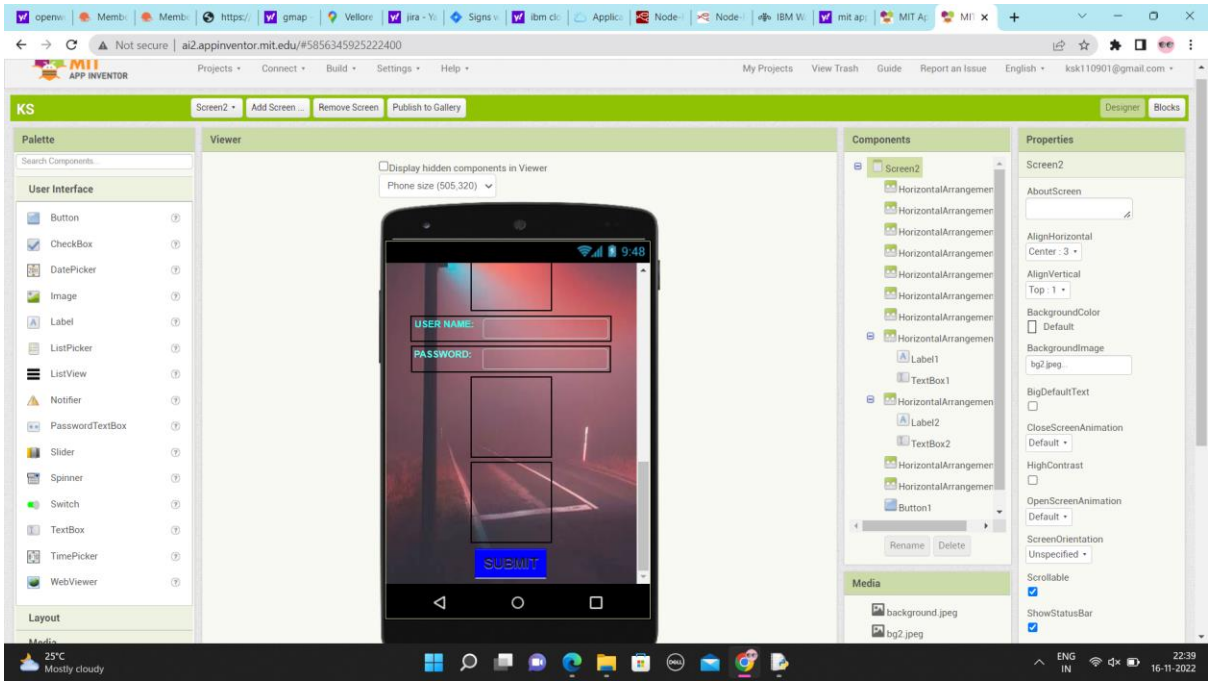
DANGEROUS ZONE:

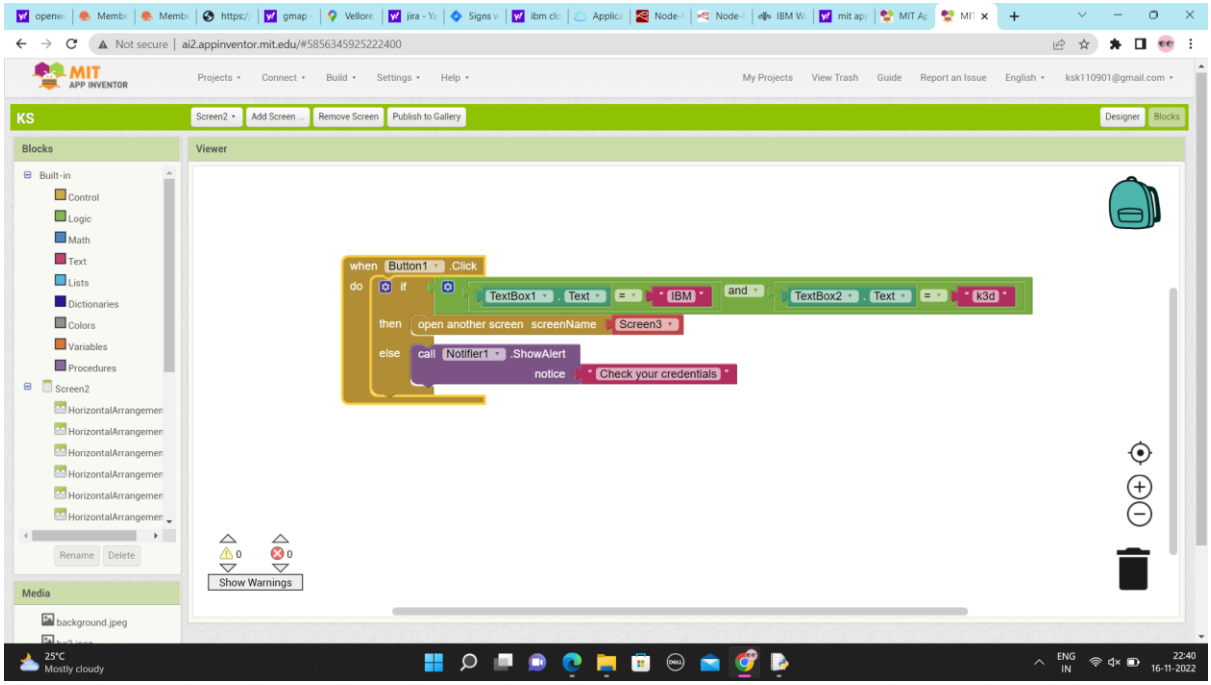


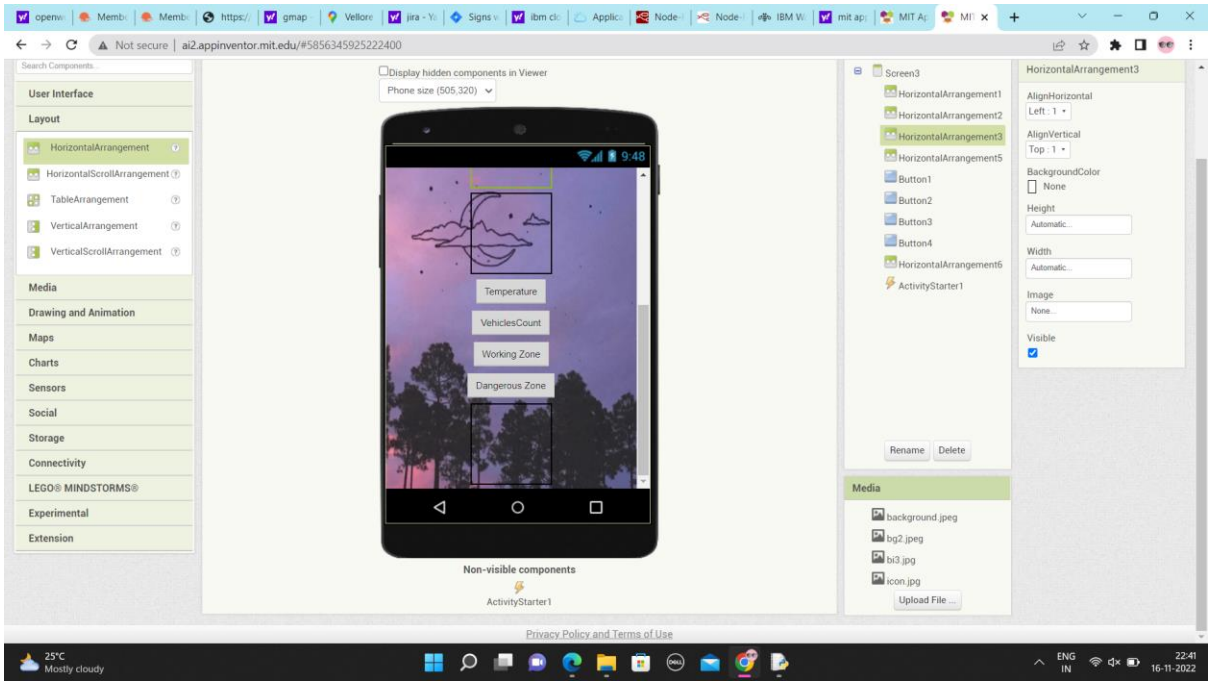
MIT APP INVENTER:

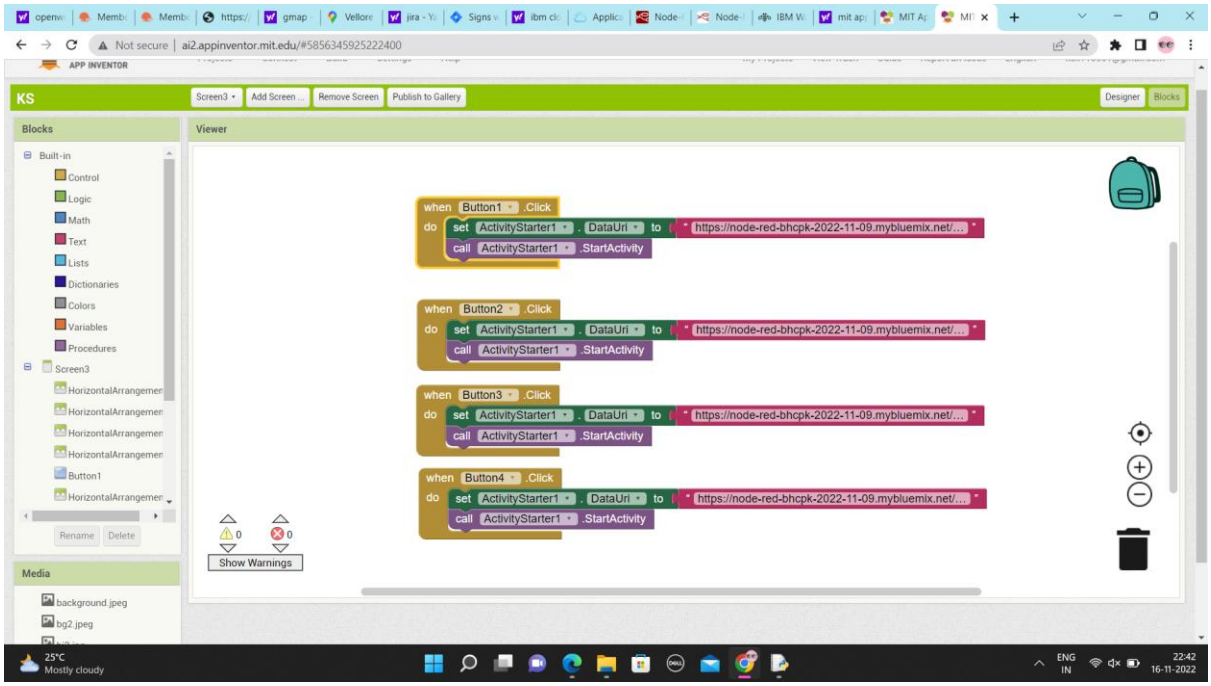




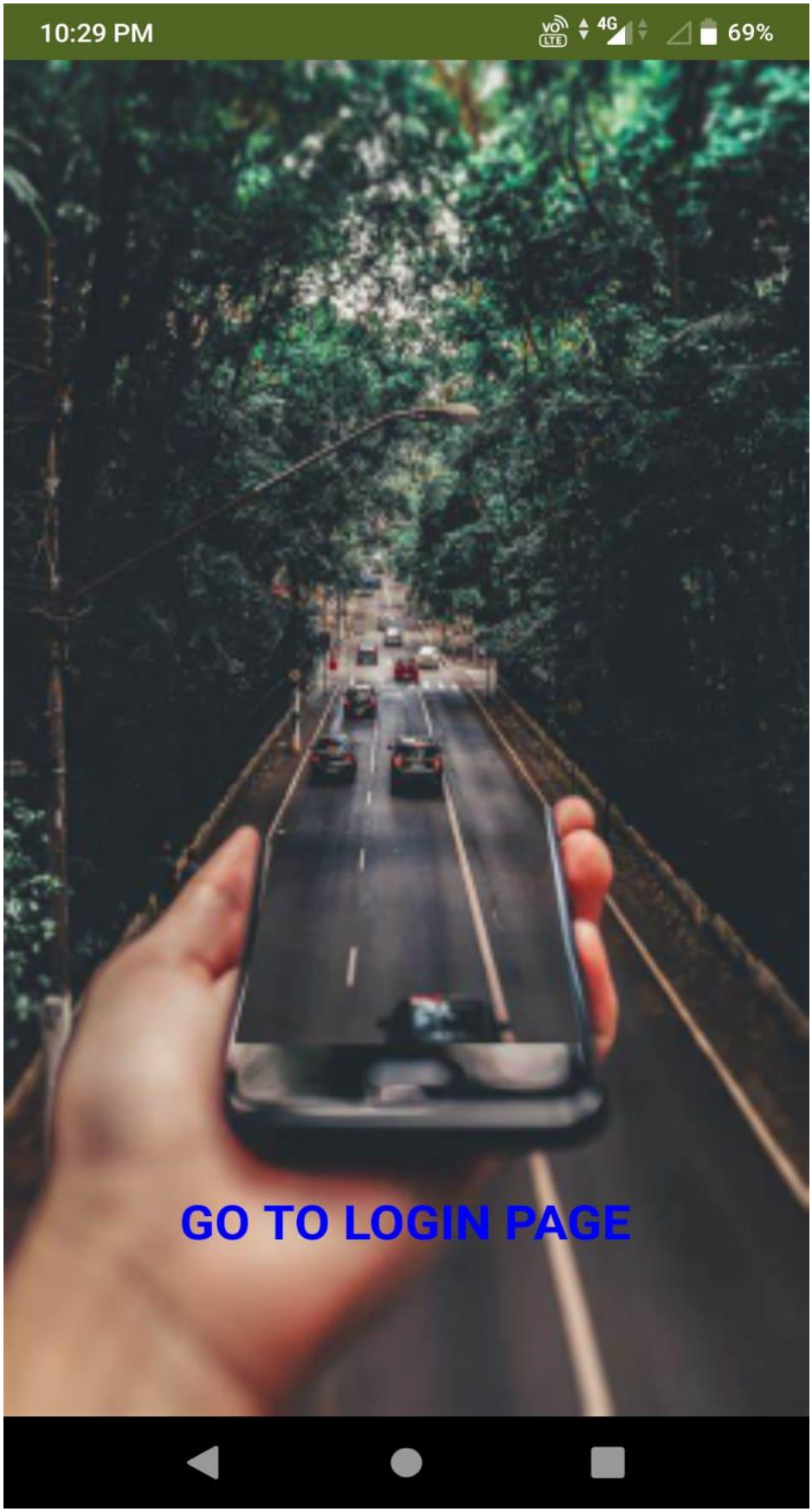

Not secure | ai2.appinventor.mit.edu/#5856345925222400
MIT APP INVENTOR
Projects
Connect
Build
Settings
Help
My Projects
View Trash
Guide
Report an Issue
English
ksk110901@gmail.com
KS
Screen2
Add Screen ...
Remove Screen
Publish to Gallery
Designer
Blocks
Palette
Search Components...
User Interface
Button
CheckBox
DatePicker
Image
Label
ListPicker
ListView
Notifier
PasswordTextBox
Slider
Spinner
Switch
TextBox
TimePicker
WebViewer
Layout
Viewer
Display hidden components in Viewer
Phone size (505,320)
9:48
USER NAME:
PASSWORD:
SUBMIT
Components
Screen2
HorizontalArrangement
Label1
TextBox1
Label2
TextBox2
Button1
Rename
Delete
Media
background.jpeg
bg2.jpeg
Properties
Screen2
AboutScreen
AlignHorizontal
Center : 3
AlignVertical
Top : 1
BackgroundColor
Default
BackgroundImage
bg2.jpeg
BigDefaultText
CloseScreenAnimation
Default
HighContrast
OpenScreenAnimation
Default
ScreenOrientation
Unspecified
Scrollable
ShowStatusBar
25°C
Mostly cloudy
ENG
IN
22:39
16-11-2022

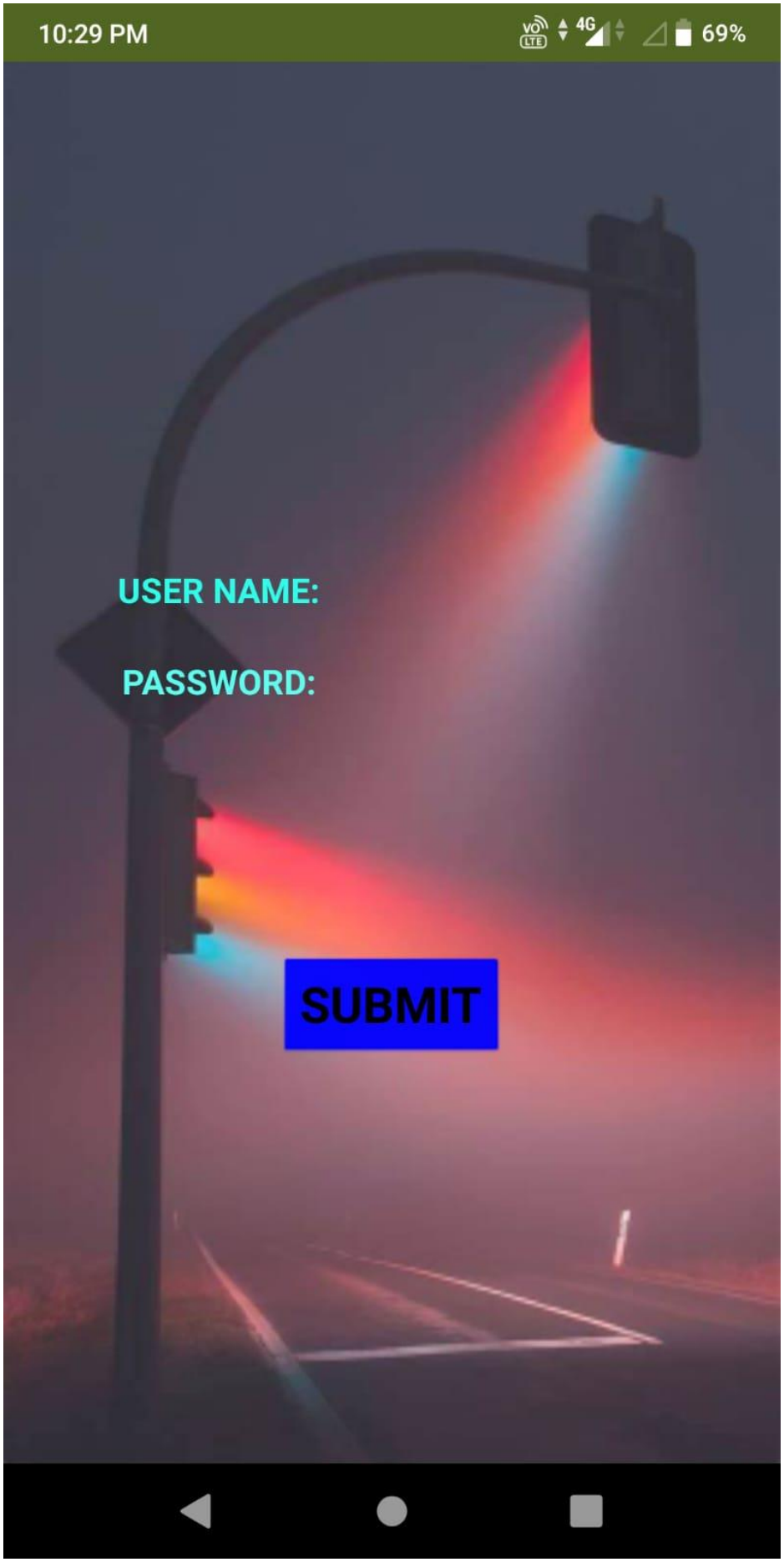

Not secure | ai2.appinventor.mit.edu/#5856345925222400
MIT APP INVENTOR
Projects
Connect
Build
Settings
Help
My Projects
View Trash
Guide
Report an Issue
English
ksk110901@gmail.com
KS
Screen2
Add Screen ...
Remove Screen
Publish to Gallery
Designer
Blocks
Blocks
Built-in
Control
Logic
Math
Text
Lists
Dictionaries
Colors
Variables
Procedures
Screen2
HorizontalArrangement
Rename
Delete
Media
background.jpeg
Viewer
when Button1 .Click
do if TextBox1 . Text = " IBM " and TextBox2 . Text = " k3d "
then open another screen screenName Screen3
else call Notifier1 .ShowAlert
notice " Check your credentials "
0
0
Show Warnings
25°C
Mostly cloudy
ENG
IN
22:40
16-11-2022

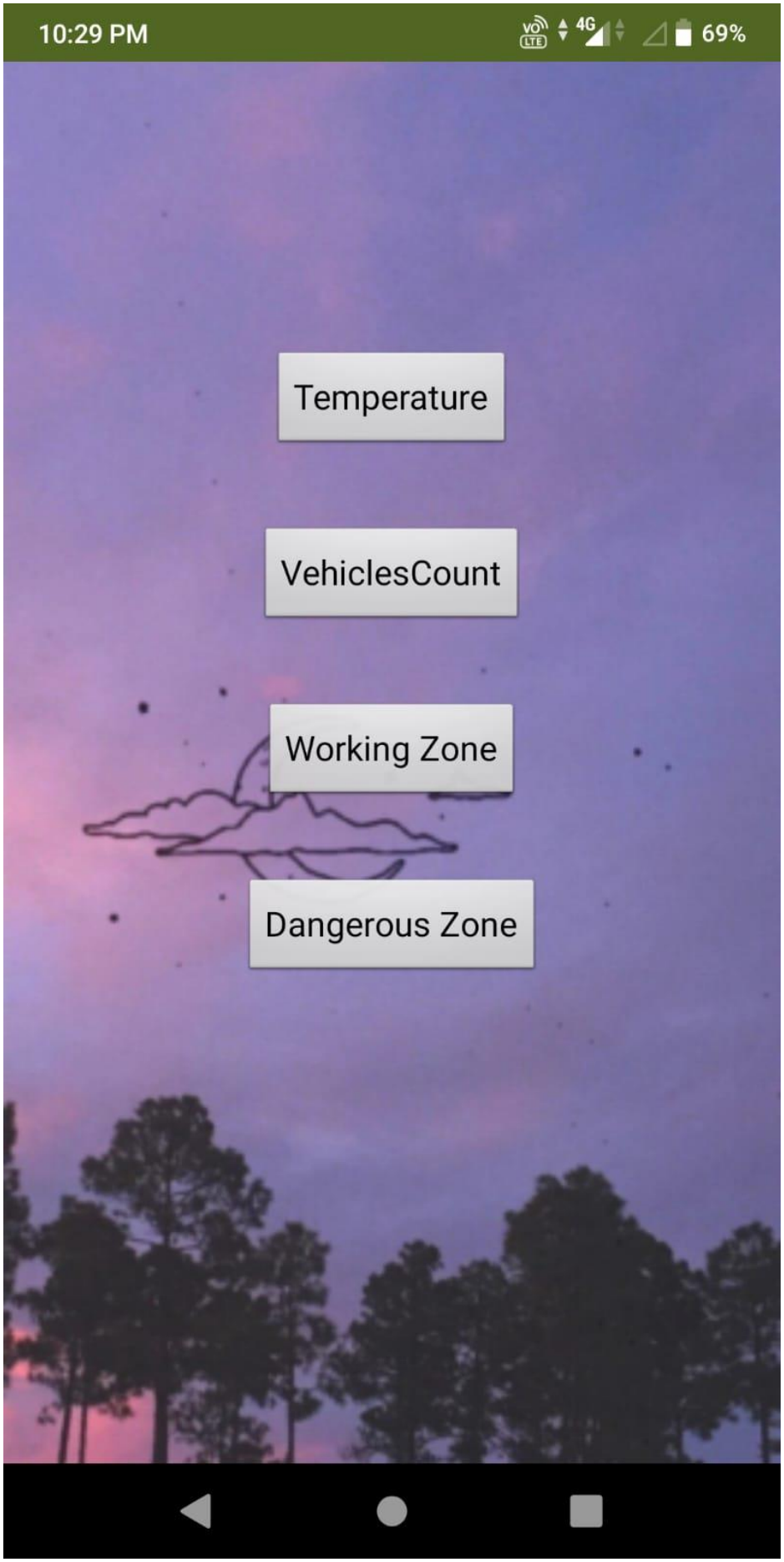

Not secure | ai2.appinventor.mit.edu/#5856345925222400
User Interface
Layout
HorizontalArrangement
HorizontalScrollArrangement
TableArrangement
VerticalArrangement
VerticalScrollArrangement
Media
Drawing and Animation
Maps
Charts
Sensors
Social
Storage
Connectivity
LEGO® MINDSTORMS®
Experimental
Extension
Display hidden components in Viewer
Phone size (505,320)
9:48
Temperature
VehiclesCount
Working Zone
Dangerous Zone
Non-visible components
ActivityStarter1
Screen3
HorizontalArrangement1
HorizontalArrangement2
HorizontalArrangement3
HorizontalArrangement5
Button1
Button2
Button3
Button4
HorizontalArrangement6
ActivityStarter1
Rename
Delete
Media
background.jpeg
bg2.jpeg
bi3.jpg
icon.jpg
Upload File ...
HorizontalArrangement3
AlignHorizontal
Left : 1
AlignVertical
Top : 1
BackgroundColor
None
Height
Automatic...
Width
Automatic...
Image
None...
Visible
Privacy Policy and Terms of Use
25°C
Mostly cloudy
ENG
IN
22:41
16-11-2022


Not secure | ai2.appinventor.mit.edu/#5856345925222400
APP INVENTOR
KS
Screen3
Add Screen ...
Remove Screen
Publish to Gallery
Designer
Blocks
Blocks
Built-in
Control
Logic
Math
Text
Lists
Dictionaries
Colors
Variables
Procedures
Screen3
Button1
Rename
Delete
Media
background.jpeg
bg2.jpeg
Viewer
when Button1 .Click
do set ActivityStarter1 . DataUri to " https://node-red-bhcpk-2022-11-09.mybluemix.net/... "
call ActivityStarter1 .StartActivity
when Button2 .Click
when Button3 .Click
when Button4 .Click
Show Warnings
25°C
Mostly cloudy
ENG
IN
22:42
16-11-2022

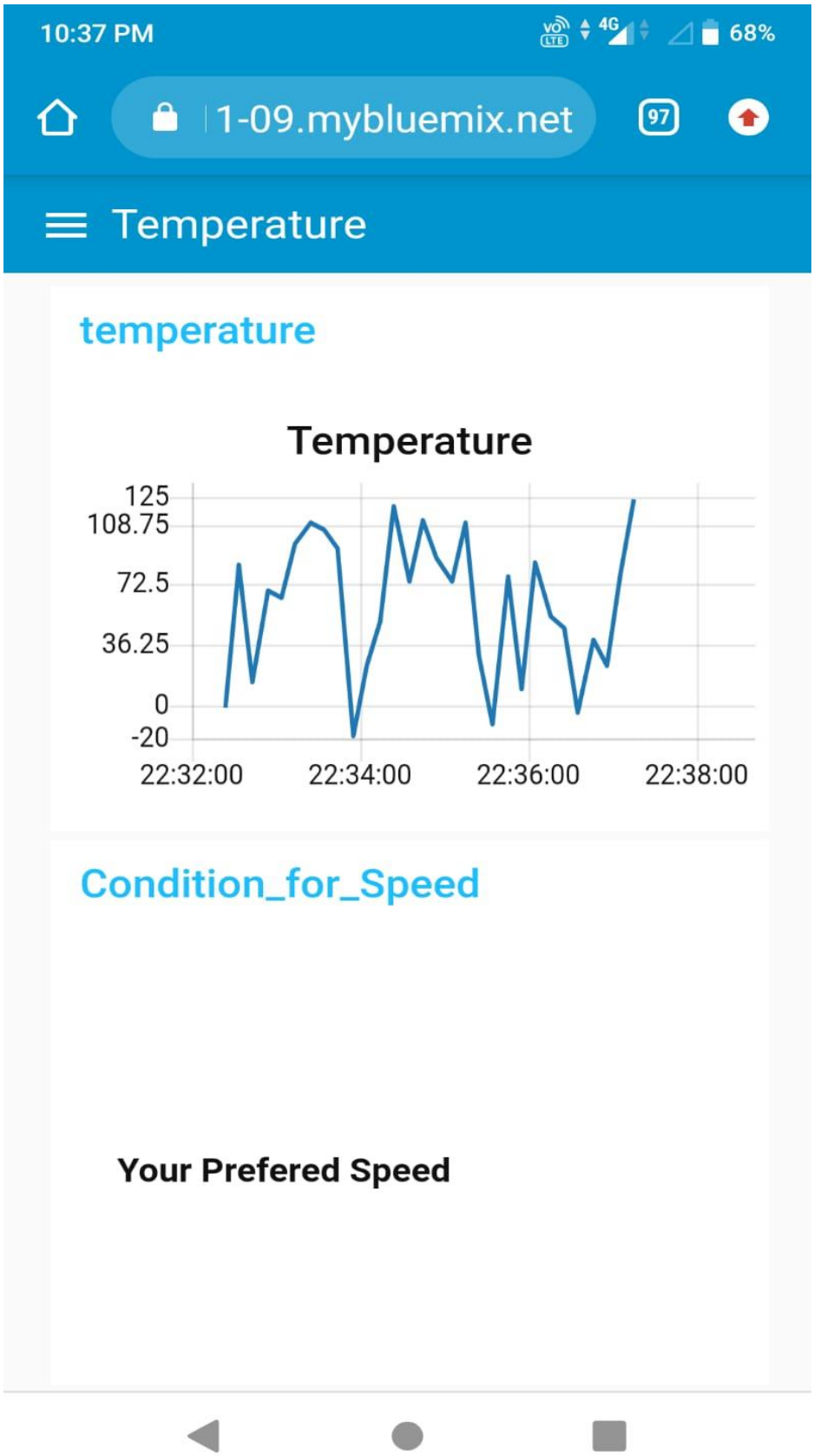
APP IN MOBILE:

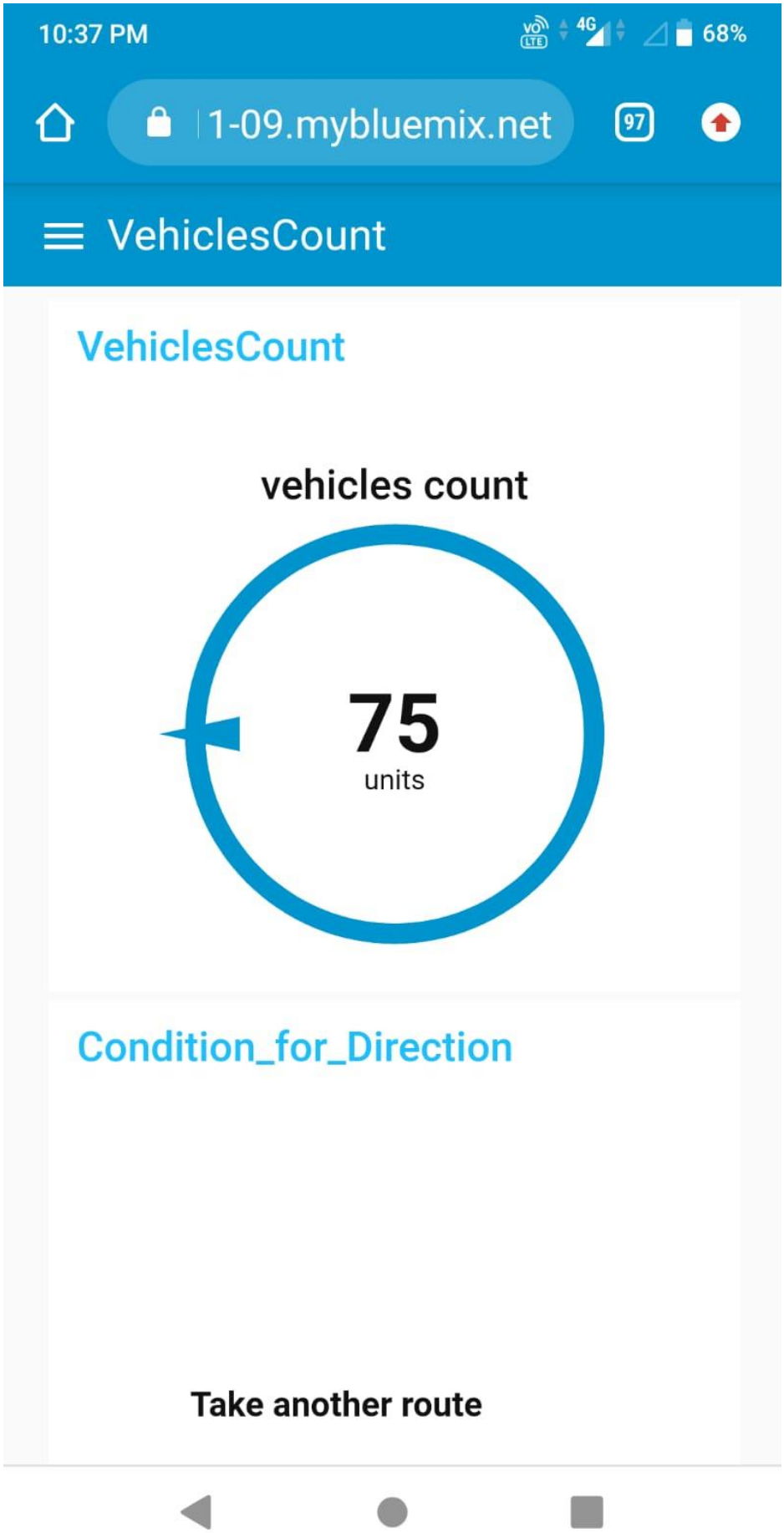


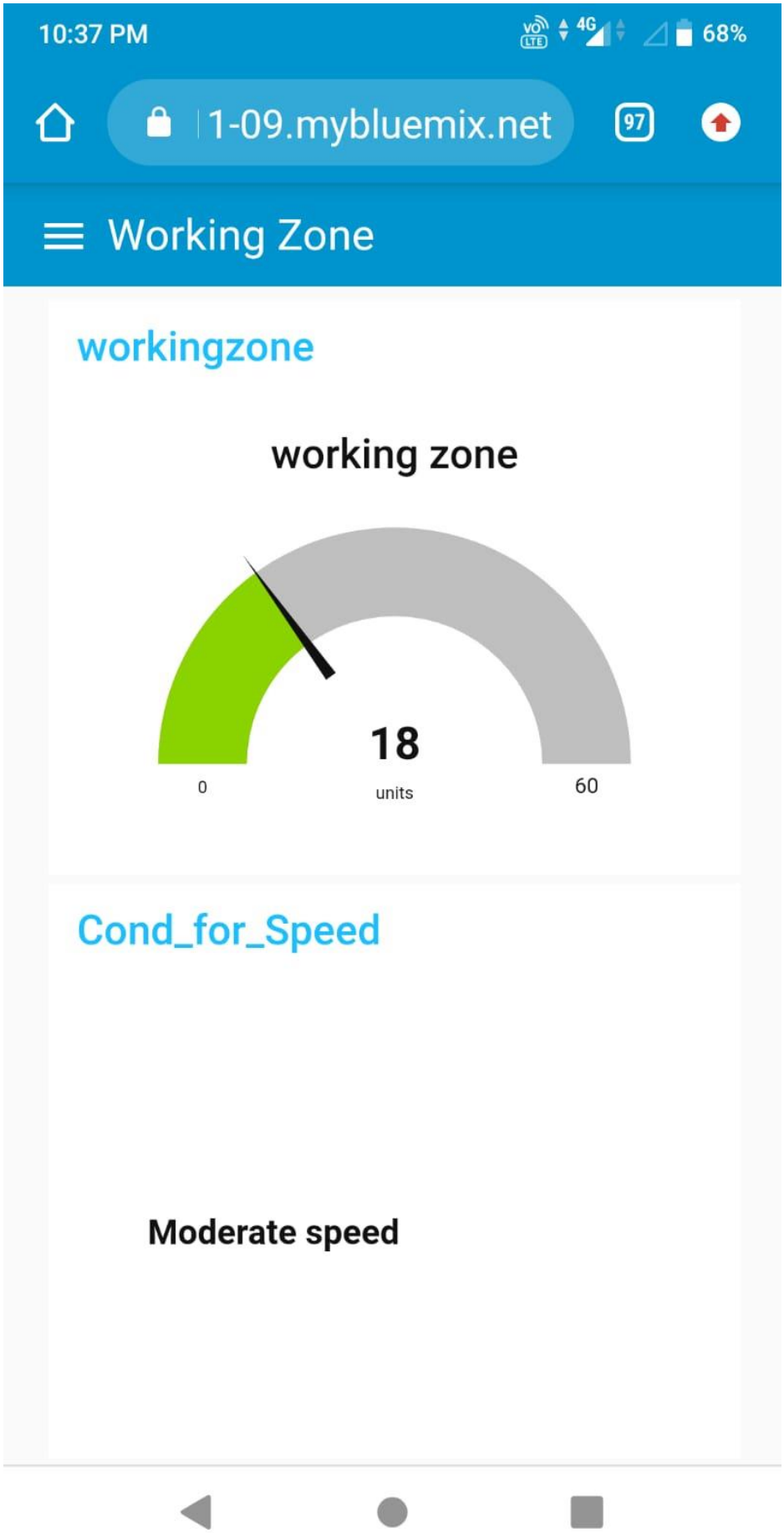

10:29 PM
69%
USER NAME:
PASSWORD:
SUBMIT

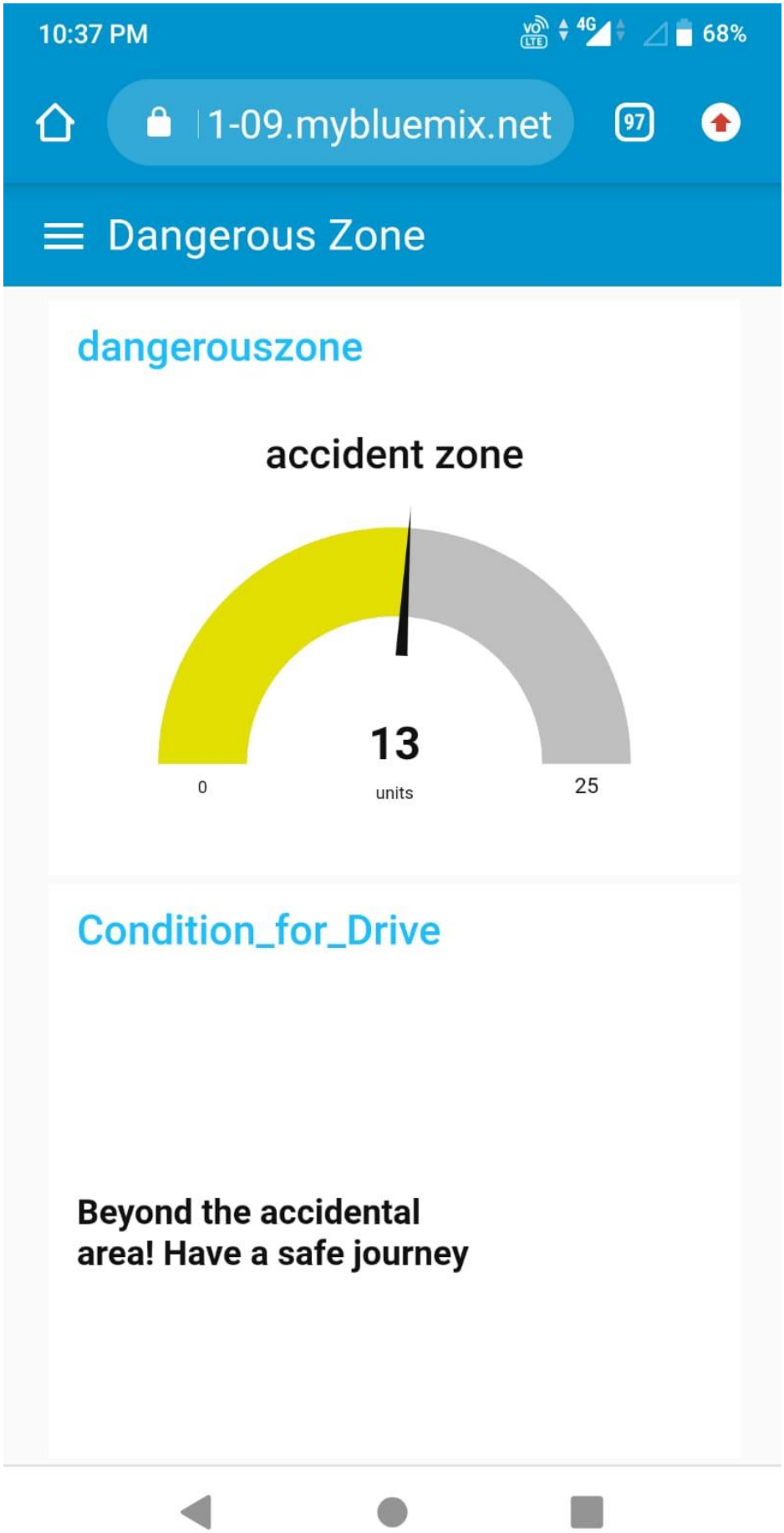

10:29 PM
69%
Temperature
VehiclesCount
Working Zone
Dangerous Zone

OUTPUT FROM MOBILE APP:




10:37 PM
68%
1-09.mybluemix.net
97
VehiclesCount
VehiclesCount
vehicles count
75
units
Condition_for_Direction
Take another route


10:37 PM
68%
1-09.mybluemix.net
97
Working Zone
workingzone
working zone
18
units
0
60
Cond_for_Speed
Moderate speed


10:37 PM
68%
1-09.mybluemix.net
97
Dangerous Zone
dangerouszone
accident zone
13
units
0
25
Condition_for_Drive
Beyond the accidental area! Have a safe journey