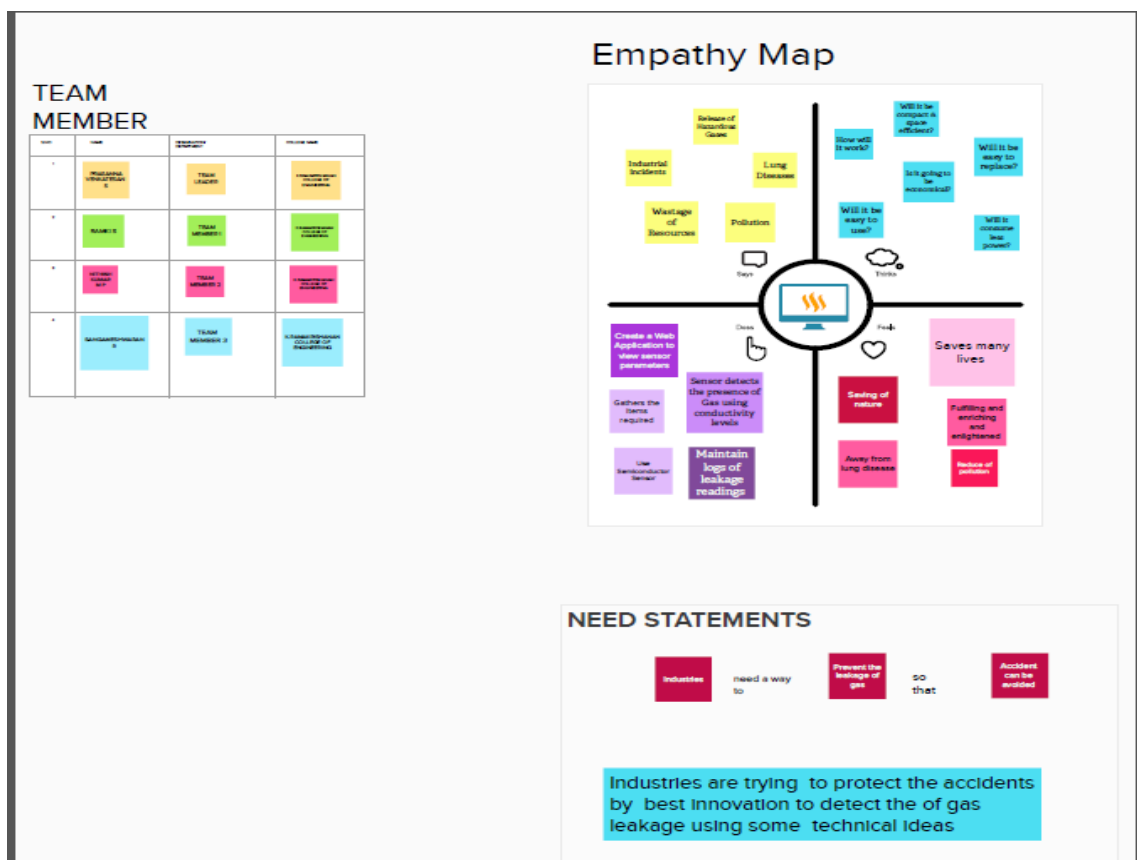


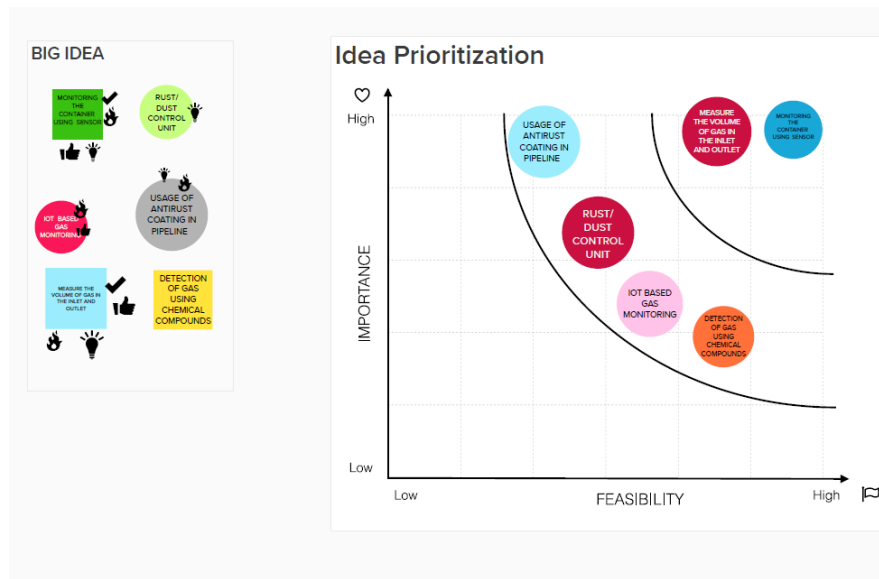
# Gas Leakage Monitoring and Alerting System

Team ID	PNT2022TMID11052
Team Leader	S.Prasanna Venkatesan(811519106103)
Team Member 1	R.Sangameshwaran(811519106121)
Team Member 2	S.Ramki(811519106111)
Team Member 3	M.P.Nithish Kumar(811519106096)

## Empathy Map:-



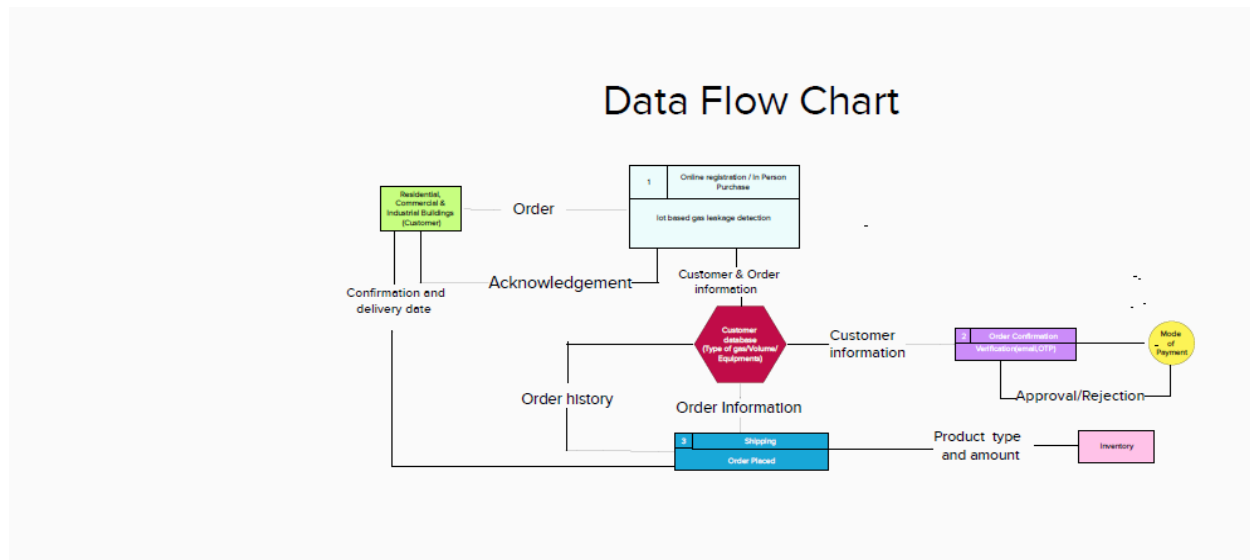
## Big Idea Creation:-



## Customer Journey Map:-

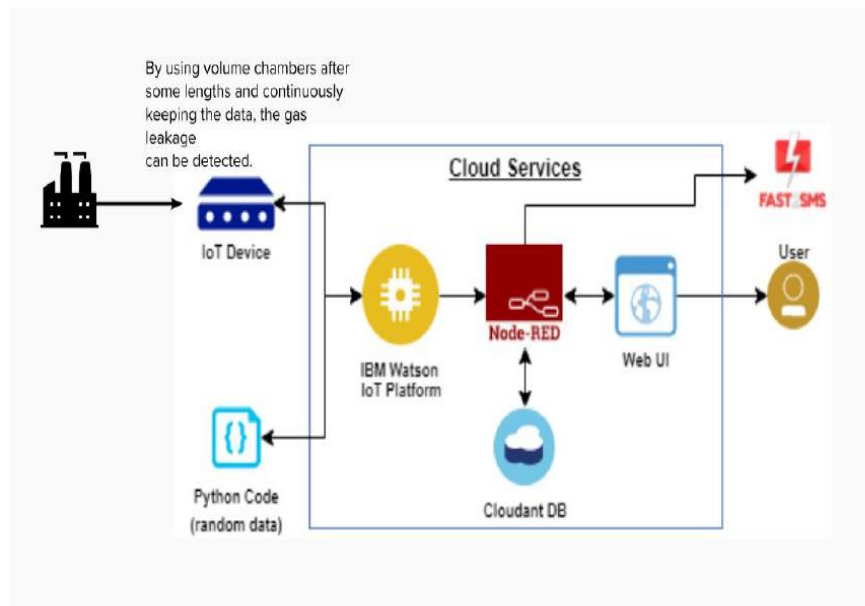
PHASES	Phase 1 : Motivation	Phase 2 : Online Search and in person	Phase 3 : Checks the specifications	Phase 4 : Reads the review of the products	Phase 5 : Contacting the dealer	Phase 6 : Payment	Phase 7 : Installation	Phase 8 : Maintenance
Activities performed	Looking to purchase a gas leakage detector	Searches for a cost- effective detector online and in person through dealers.	Checks the specification for the detector which would suit their requirement.	Acquires the positive and negative feedback from people who already use it.	Contacts the dealer through online or in person and makes arrangement for the purchase	Makes the payment for the suitable detector.	The technician arrives at the customer's place for installing the gas leakage detector	Reports the issue on the detector to the company and the company sends a or a team of service engineers to resolve the issue.
Emotions	Happy and a bit concerned	Happy as the customer finds numerous options	Disappointed as the first product didn't match his requirements	Very happy as he finds positive reviews on a suitable product.	Happy as he easily finds the contact- details of the dealer online	Happy and relieved as he was finally able buy the required product	Excited to see how the detector works	Worried as the issue needs to be fixed
Overall Experiences	Good	Good	Bad	Good	Good	Average as he has to wait till the product reaches his place	Good	Average as the customer is uncertain about the working condition
Customer Expectations	Easy availability of quality product which is cost effective and durable	A marketplace which is either physical or online to buy the product	Should be able to find a product which exactly satisfies his requirements	A product with higher ratings, positive reviews and good track record.	A dealer who is located in close proximity to the customer is preferred.	A safe and secure payment and process, quick and efficient delivery of the product.	A well experienced technician who installs the product the safely and properly.	A highly skilled service engineer who quickly and effectively identifies and resolves the issue

## Data Flow Chart:-



## Solution Architecture:-

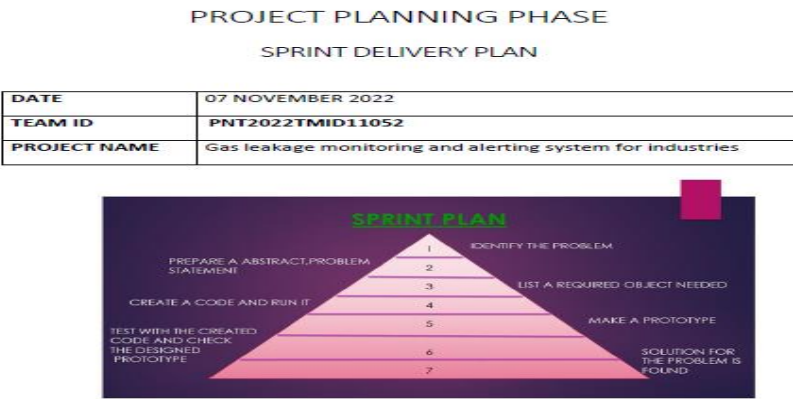
Solution Architecture Diagram:



Milestone & activity:-



Sprint Delivery Plan:-



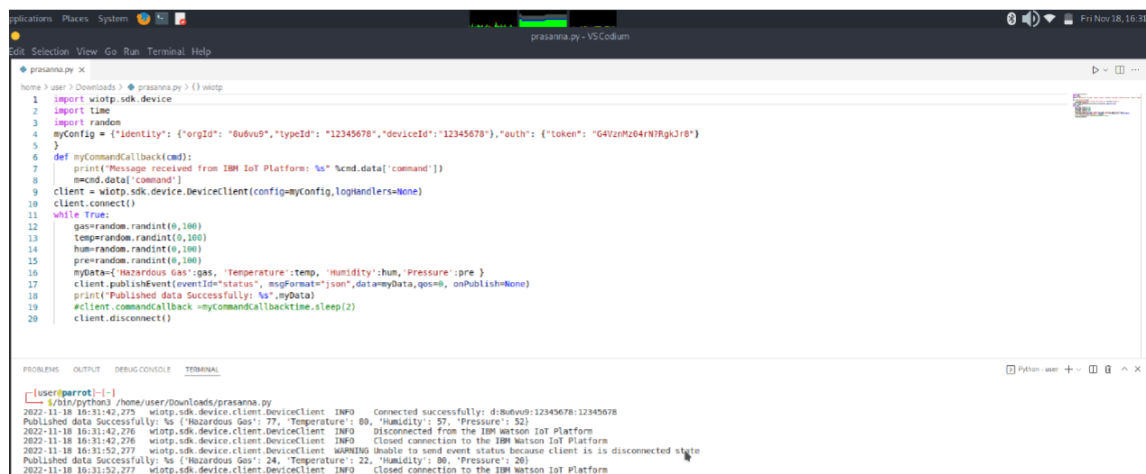
## Code:-

### PYTHON CODE

Date	10 NOVEMBER 2022
Team ID	PNT2022TMID11052
Project Name	GAS LEAKAGE MONITORING AND ALERTING SYSTEM FOR INDUSTRIES

```
import wiotp.sdk.device
import time
import random
myConfig = {"identity": {"orgId": "8u6vu9","typeId":
"12345678","deviceId":"12345678"},"auth": {"token":
"G4VznMz04rN?RgkJr8"}
}
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:
    gas=random.randint(0,100)
    temp=random.randint(0,100)
    hum=random.randint(0,100)
    pre=random.randint(0,100)
    myData={'Hazardous Gas':gas, 'Temperature':temp,
'Humidity':hum,'Pressure':pre }
    client.publishEvent(eventId="status",
msgFormat="json",data=myData,qos=0, onPublish=None)
    print("Published data Successfully: %s",myData)
    #client.commandCallback =myCommandCallbacktime.sleep(2)
    client.disconnect()
```

## Output:-



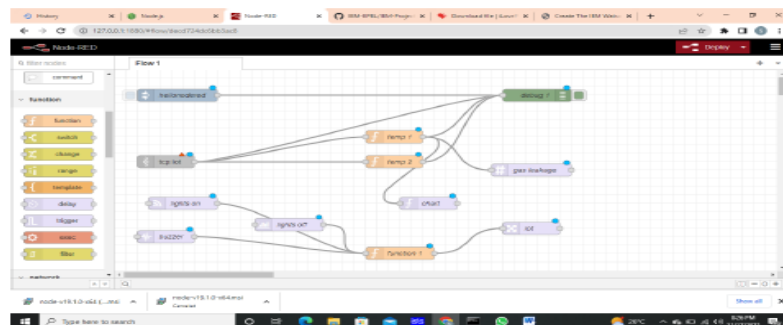
```
prasanana.py - VS Code
prasanana.py x
home > user > Downloads > prasanana.py > {} wiotp
1 import wiotp.sdk.device
2 import time
3 import random
4 myConfig = {"identity": {"orgId": "8u6vu9","typeId": "12345678","deviceId":"12345678"},"auth": {"token": "G4VznMz04rN?RgkJr8"}
5 }
6 def myCommandCallback(cmd):
7     print("Message received from IBM IoT Platform: %s" %cmd.data['command'])
8     m=cmd.data['command']
9 client = wiotp.sdk.device.DeviceClient(config=myConfig,logHandlers=None)
10 client.connect()
11 while True:
12     gas=random.randint(0,100)
13     temp=random.randint(0,100)
14     hum=random.randint(0,100)
15     pre=random.randint(0,100)
16     myData={'Hazardous Gas':gas, 'Temperature':temp, 'Humidity':hum, 'Pressure':pre }
17     client.publishEvent(eventId="status", msgFormat="json",data=myData,qos=0, onPublish=None)
18     print("Published data Successfully: %s",myData)
19     #client.commandCallback =myCommandCallbacktime.sleep(2)
20     client.disconnect()

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
Python: user + - - - x
[user@parrot:~]$ python3 /home/user/Downloads/prasanana.py
2022-11-18 18:31:42.275 wiotp.sdk.device.client.DeviceClient INFO Connected successfully: d:8u6vu9:12345678:12345678
Published data Successfully: %s {'Hazardous Gas': 77, 'Temperature': 80, 'Humidity': 97, 'Pressure': 52}
2022-11-18 18:31:42.276 wiotp.sdk.device.client.DeviceClient INFO Disconnected from the IBM Watson IoT Platform
2022-11-18 18:31:42.276 wiotp.sdk.device.client.DeviceClient INFO Closed connection to the IBM Watson IoT Platform
2022-11-18 18:31:52.277 wiotp.sdk.device.client.DeviceClient WARNING Unable to send event status because client is in disconnected state
Published data Successfully: %s {'Hazardous Gas': 24, 'Temperature': 22, 'Humidity': 80, 'Pressure': 20}
2022-11-18 18:31:52.277 wiotp.sdk.device.client.DeviceClient INFO Closed connection to the IBM Watson IoT Platform
```

### **Node-red:-**

## Develop The Web Application Using Node-RED

<b>Date</b>	7 NOVEMBER 2022
<b>Team ID</b>	PNT2022TMIA11052
<b>Project Name</b>	GAS LEAKAGE MONITORING AND ALERTING SYSTEM FOR INDUSTRIES



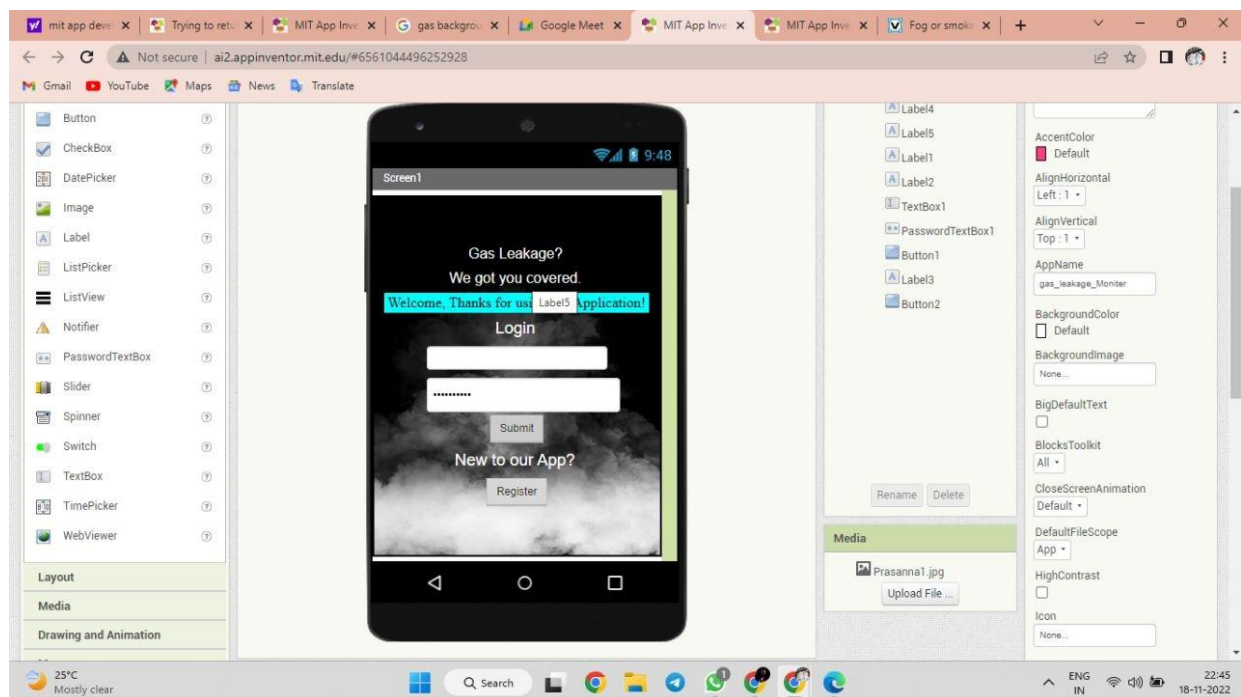
Output:-

## Use Dashboard Nodes for Creating UI

Date	10 NOVEMBER 2022
Team ID	PNT2022TMID11052
Project Name	GAS LEAKAGE MONITORING AND ALERTING SYSTEM FOR INDUSTRIES



Final app:-



Output:-

