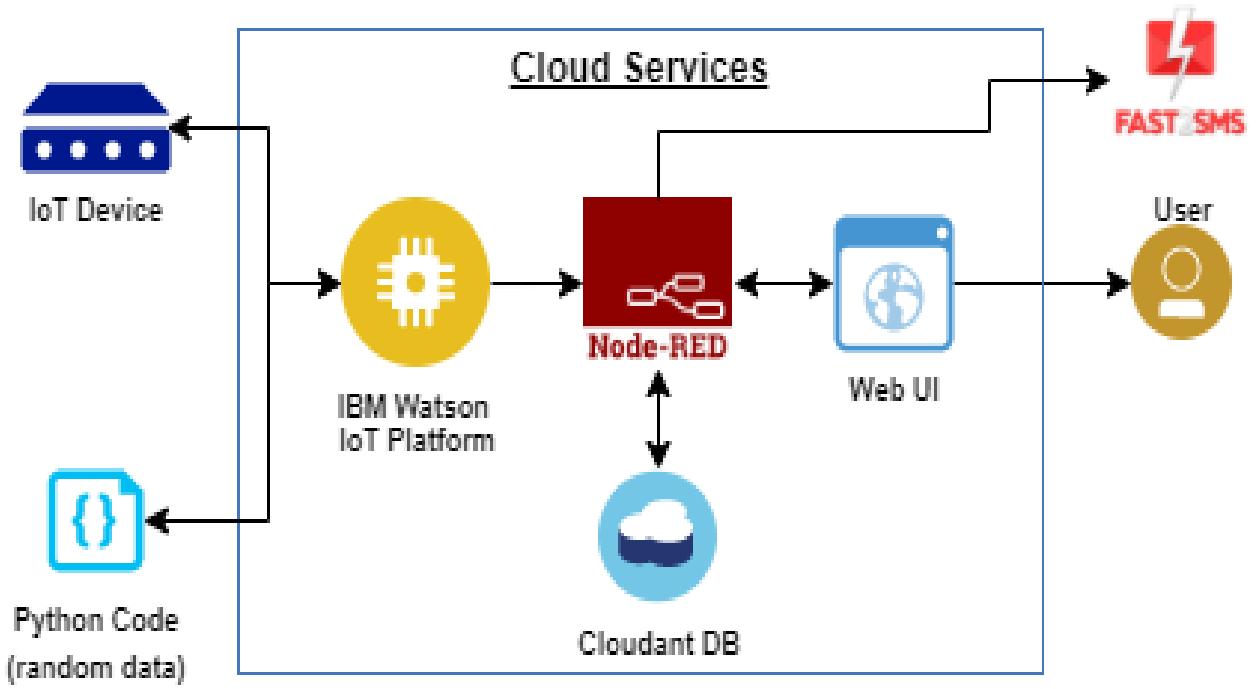
Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	03 October 2022
Team ID	PNT2022TMID45387
Project Name	Project – Gas Leakage Monitoring and Altering system
Maximum Marks	4 Marks

Technical Architecture:



Guidelines:

1. Include all the processes (As an application logic / Technology Block)
2. Provide infrastructural demarcation (Local / Cloud)
3. Indicate external interfaces (third party API's etc.)
4. Indicate Data Storage components / services
5. Indicate interface to machine learning models (if applicable)

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Web UI,Node-RED,MIT app	IBM IoT Platform, IBM Node red, IBM Cloud
2.	Application Logic-1	Create IBM Watson IoT platform and create node-red service	IBM Watson, IBM cloud ant service, IBM nodered
3.	Application Logic-2	Develop python script to publish and subscribe to IBM IoT Platform	Python
4.	Application Logic-3	Build a web application using node-red service	IBM Node-red
5.	Database	Data Type, Configurations etc	MySQL
6.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloud ant etc.
7.	File Storage	Developing mobile application to store and receive the sensors information and to react accordingly	Web UI, python

8.	External API-1	Using this IBM Gas Leakege management API we can track the Gas of the incident place and where the Gas had been attacked.	IBM Gas Leakege management API
9.	External API-2	Using this IBM Sensors it detects the fire, gas leaks , temperature and provides the activation of sprinklers to web UI	IBM Sensor
10.	Machine Learning Model	Using this we can derive the object recognition model	Object Recognition Model
11.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Cloud Server Configuration	IBM cloud ant, IBM IoT Platform

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	MIT app Inventor	MIT License
2.	Security Implementations	IBM Services	Encryptions, IBM Controls
3.	Scalable Architecture	sensor-IoT Cloud based architecture	cloud computing and AI
4.	Availability	Mobile, laptop, desktop	MIT app
5.	Performance	Detects the Fire, gas leak, temperature	Sensors