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

Date	03 October 2022
Team ID	PNT2022TMID35841
Project Name	Gas Leakage Monitoring and Alerting System
Maximum Marks	4 Marks

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

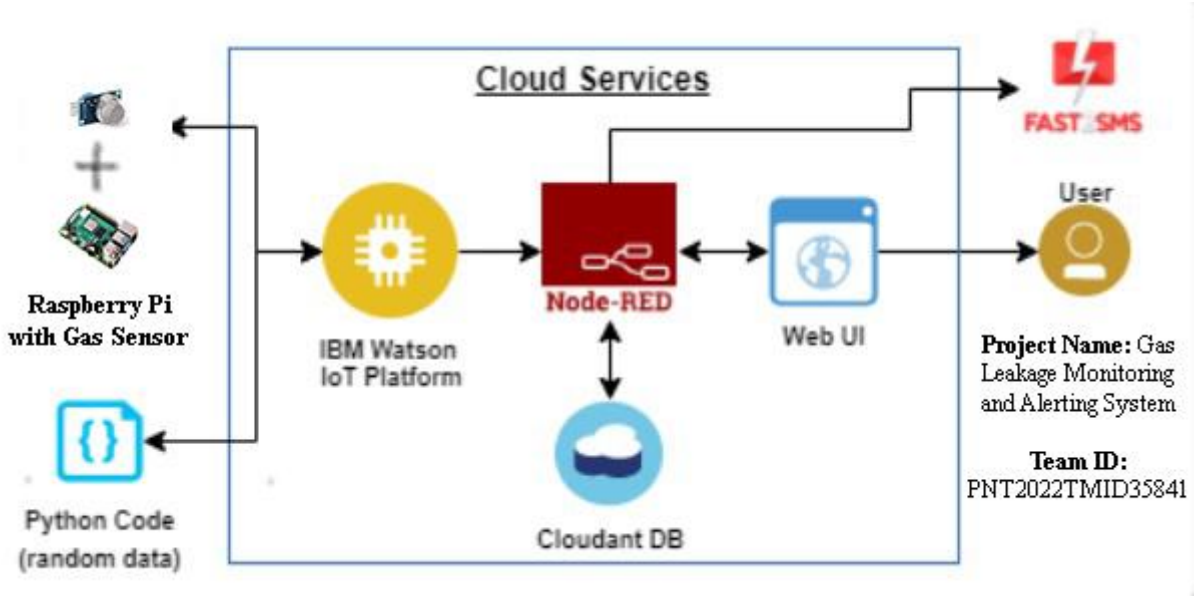

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. Web UI, Mobile App, Chatbot etc.	HTML, CSS, JavaScript
2.	Application Logic-1	Logic for sensing data	Gas Sensor + Raspberry Pi
3.	Application Logic-2	Logic for processing data	Python
4.	Application Logic-3	Logic for storing and manipulating data	IBM Watson Assistant, IBM Watson STT
5.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant
6.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
7.	External API-1	Purpose of External API used in the application	Node RED
8.	Machine Learning Model	Purpose of Machine Learning Model	Object Recognition Model, etc.
9.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Cloud Server Configuration :	Local, Cloud Foundry, Kubernetes, MIT App Inventor.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	List the open-source frameworks used	Python Libraries, Node RED, IBM Watson
2.	Security Implementations	List all the security / access controls implemented, use of firewalls etc.	Standard encryption used in message services
3.	Scalable Architecture	Justify the scalability of architecture (3 – tier, Micro-services)	Can be expanded to larger industries easily due to modularity.
4.	Availability	Justify the availability of application (e.g. use of load balancers, distributed servers etc.)	Restricted use of application

S.No	Characteristics	Description	Technology
5.	Performance	Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN's) etc.	Can only be assessed as per customer feedbacks and making necessary changes.