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

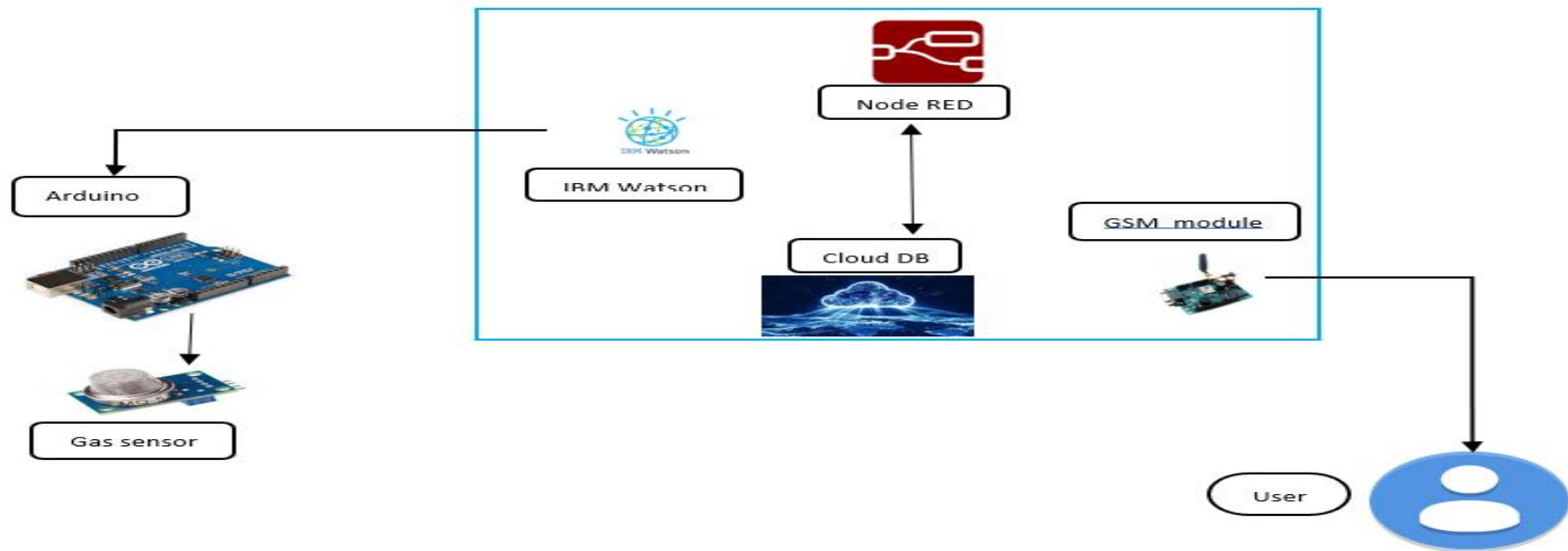| Date	03 October 2022
Team ID	PNT2022TMID22125
Project Name	Gas leakage monitoring and alerting system
Maximum Marks	4 Marks

Technical Architecture:

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	User has to register and we can able to view the other device. ex: using web UI, mobile app etc.	HTML, CSS, JavaScript / React Js etc.
2.	IOT Application Logic-1	Industry Owner's device should be connected to the system	Java / Python
3.	Application Logic-2	User 'sdevice should be in on condition	IBM Watson STT service
4.	Application Logic-3	Sensor will give buzzer sound	IBM Watson Assistant
5.	Database	Database will be depended on owner	MySQL , etc.
6.	Cloud Database	It will have all the database will be storage in cloud	IBM DB2, IBM Cloudant etc.
7.	File Storage	Its require full storage devices	IBM Block Storage or Other Storage Service or Local Filesystem
8.	External API-1	Purpose of using catalytic diffusion sensors	IBM Weather API, etc.
9.	External API-2	Purpose of detection of noxious and harmful gases	Aadhar API, etc.
10.	Machine Learning Model	Its to collect the data from database	Object Recognition Model, etc.
11.	Infrastructure (Server / Cloud)	Application Deployment on Cloud, Cloud Server Configuration :	Local, Cloud Foundry, Kubernetes, etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Device that removes much of the manual work needed to write and configure code. It provides rapid development ,is easy to setup and has a strong support base	IOT Zeta for nonstop streaming of detecting gas leakage level
2.	Security Implementations	Alert notification Enabled with GPS module received	e.g. SHA-256, Encryptions, IAM

S.No	Characteristics	Description	Technology
		in owner mobile.	Controls, OWASP etc.
3.	Scalable Architecture	If a problem arises owner can see the problems and check gas level	Multiple Data store Technologies , Reliable, Micro services
4.	Availability	*sensor to detect the leakage and LCD Displa	GSM module, raspberry pi
5.	Performance	Then the performance will better	Used in future technogy

References:

https://c4model.com/

https://developer.ibm.com/patterns/online-order-processing-system-during-pandemic/

https://www.ibm.com/cloud/architecture

https://aws.amazon.com/architecture

https://medium.com/the-internal-startup/how-to-draw-useful-technical-architecture-diagrams-2d20c9fda90d