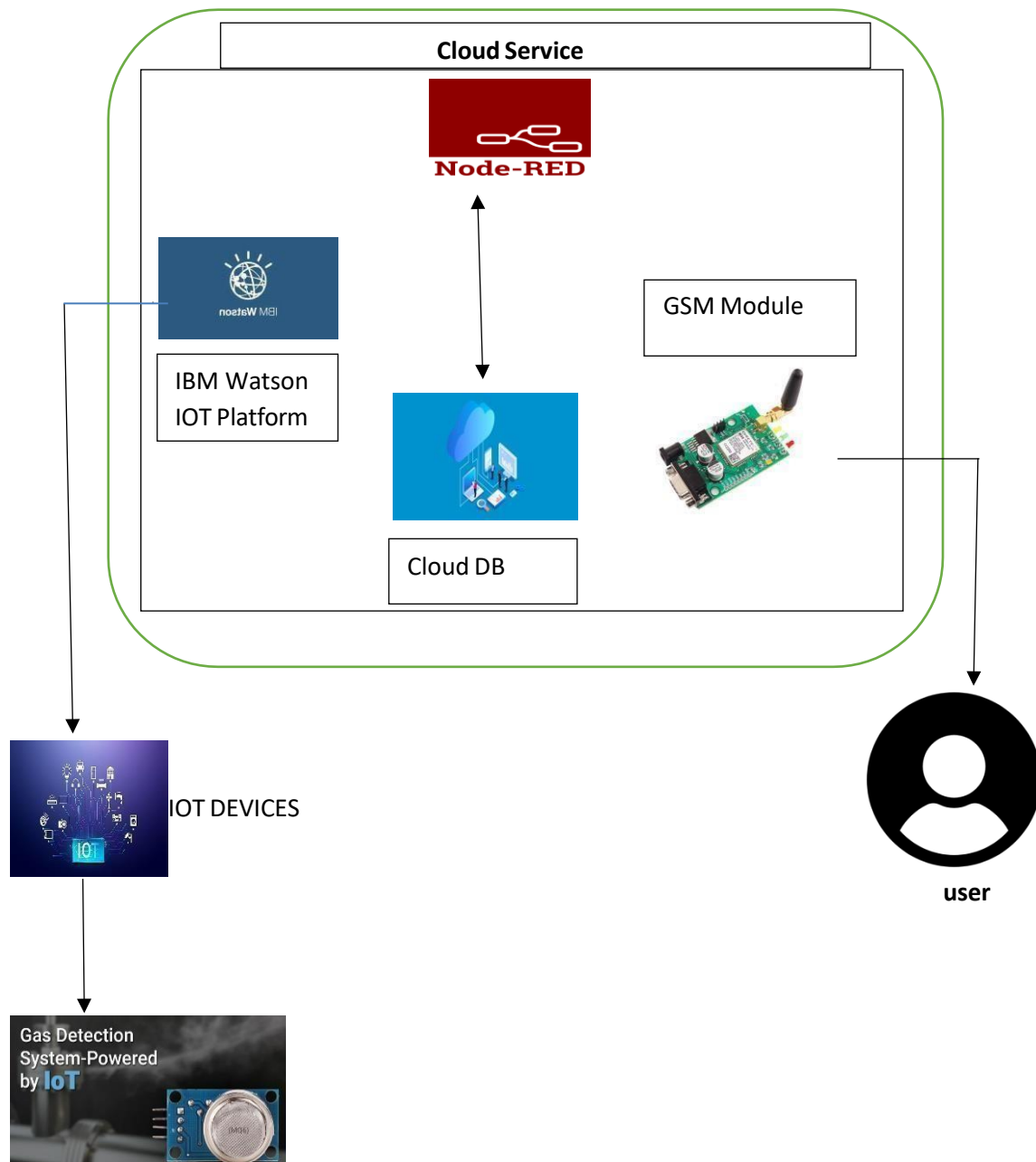


## Project Design Phase-II Technology Stack (Architecture & Stack)

Date	25 October 2022
Team ID	PNT2022TMID09820
Project Name	Project – Gas Leakage Monitoring and Alerting System Using Io
Maximum Marks	4 Marks

**Technical architecture:**

**FIGURE: GAS LEAKAGE MONITORING AND ALERTING SYSTEM**



**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
2.	IOT Application Logic-1	Owner's device should beconnected to the system	Python
3.	IOT Application Logic-2	Owner's device should be in on condition	IBM Watson STT service
4.	IOT Application Logic-3	If gas leakage is detected the notification message is send to theowner	IBM Watson Assistant
5.	Database	Data type can be any form such as text, User defined blob of data sentfrom cloud IOT core device etc.,	SQ lite, In Flux DB
6.	File Storage	File with be labelled with what theycontain and how long they should be kept	IBM Block Storage orLocal File system
7.	External API-1	Purpose of External API used in the device is to use the internet forcommunicating and conducting allotted operations efficiency.	Aadhar API, etc.
8.	Machine Learning Model	IOT and machine learning deliversinsights otherwise hidden in data for rapid automated response and improved decision making	Object Recognition Model, Danger predictionModel 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 in owner mobile.	e.g. SHA-256, Encryptionsof data regarding gas level, firewalls, Antivirus, data loss prevention etc.,
3.	Scalable Architecture	If a problem arises owner can see the problems and check gas level simultaneously	Multiple Data store Technologies , Reliable, Micro services Automated Bootstrapping
4.	Availability	*sensor to detect the leakage and LCD Display to show gas level *whenever the gas leakage is sensed the message is delivered to the owner	GSM module, raspberry pi
5.	Performance	*the alert notification is sentto the owner without any delay when leakage is detected *immediate actions are taken after detection.	High durable device battery