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

Date	22 October 2022
Project Name	Project – Gas Leakage Monitoring and Alerting System
Team ID	PNT2022TMID35909

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2
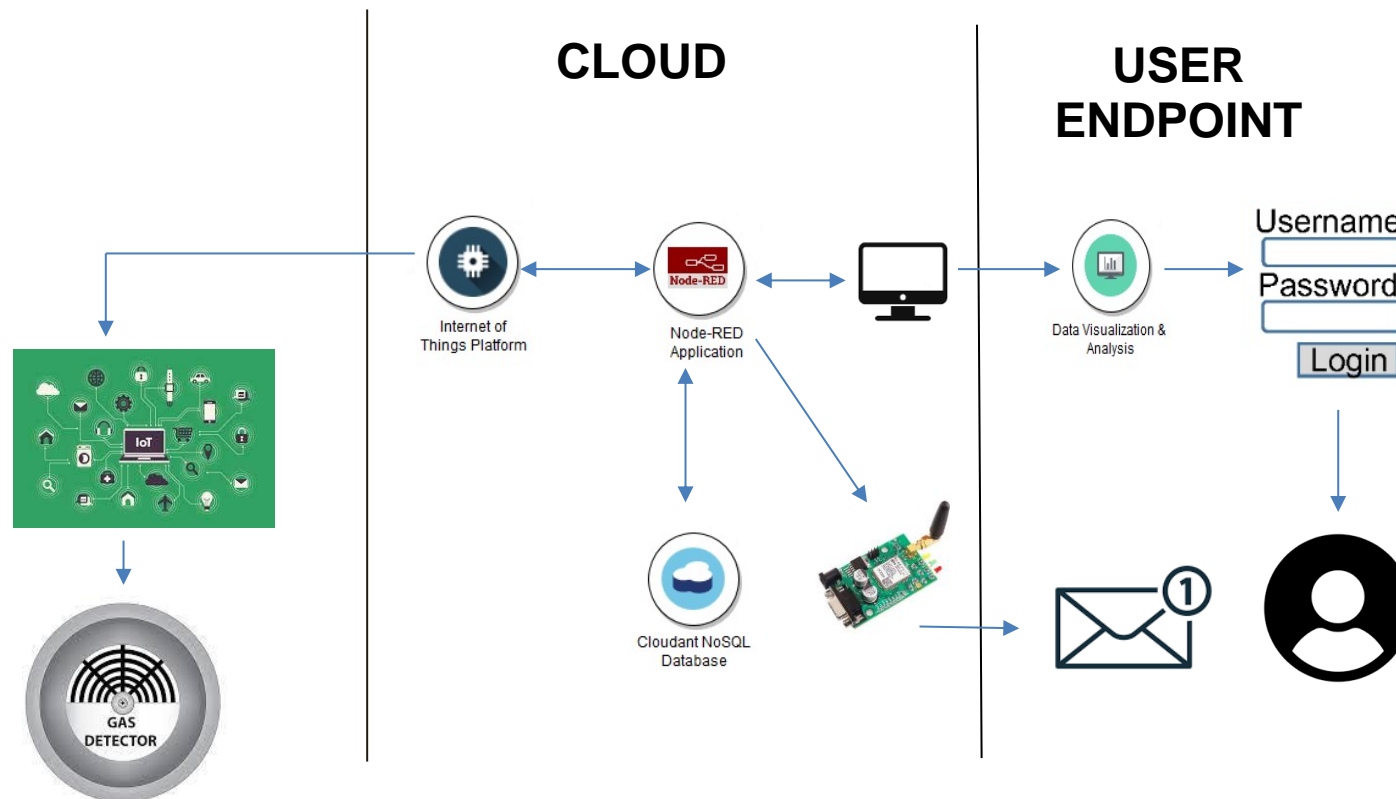
Table-1 : Components & Technologies:

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 a process in the application	MIT app inventor,
3.	Application Logic-2	Logic for a process in the application	IBM Watson STT service
4.	Application Logic-3	If gas leakage occurs an alert message is send to the owner	IBM Watson Assistant
5.	Database	Data Type in the form of text from cloud iot device	MySQL
6.	Cloud Database	Database Service on Cloud	IBM DB2, Firebase
7.	File Storage	File storage requirements	IBM Block Storage

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Open source software is code that is designed to be publicly accessible anyone can see. modify, and distribute the code as they see fit.	React JS, Flutter
2.	Security Implementations	Alert notification are sent to the user using GSM module	SHA-256, Encryptions, Encryptions of data regarding gas level, firewalls, Antivirus
3.	Scalable Architecture	Simultaneous gas level monitoring and failure detection and instant updation	3 – Tier architecture
4.	Availability	1) sensor to detect the gas level and detect the gas leakage 2) If gas leakage happens, notification is sent to the user	GSM module, Iot device
5.	Performance	Immediate actions are taken after detection.	Regular power supply