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

Date	15 October 2022
Team ID	PNT2022TMID53629
Project Name	Project – 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

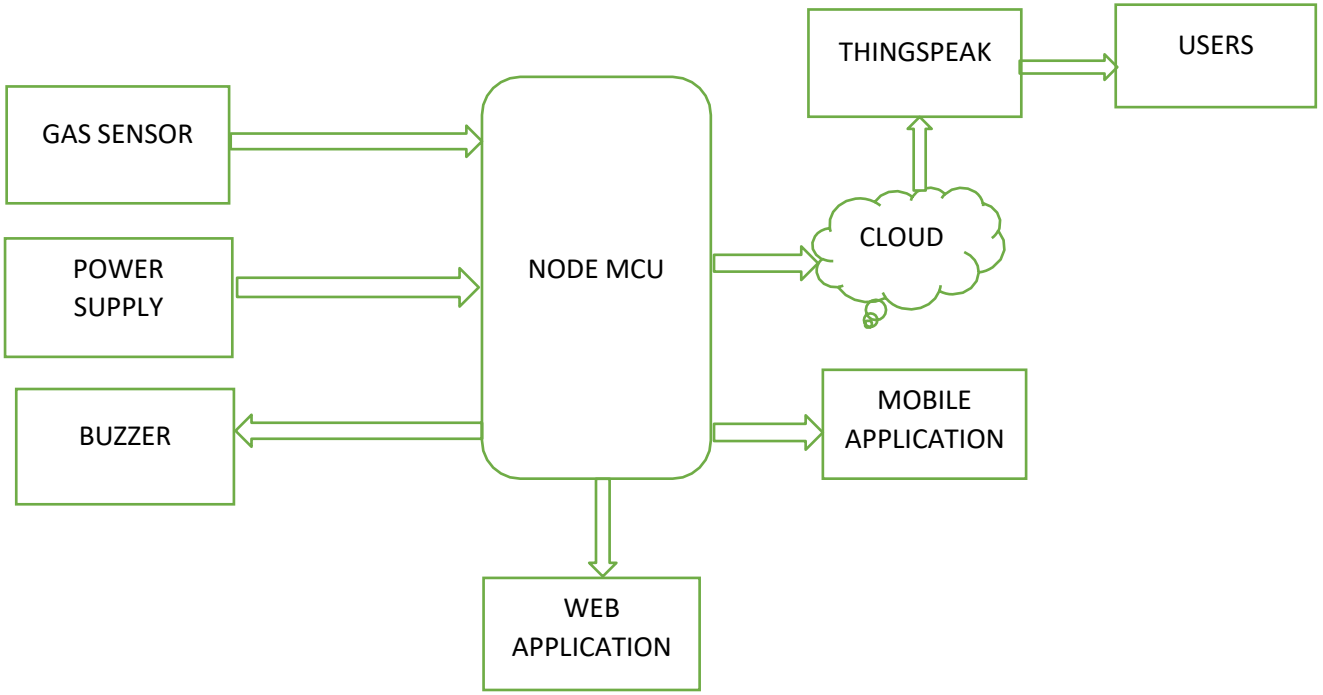

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	Gas Sensor	Gas sensor converts the components and concentrations of various gases into standard electrical signals by using specific physical and chemical effects.	Arduino Software IDE
2.	Buzzer	A buzzer or beeper is an audio signaling device, which may be mechanical, electromechanical, or piezoelectric.	Arduino Software IDE
3.	Application Building	The process of creating a computer program or a set of programs to perform the different tasks that a business requires.	Python, HTML, CSS
4.	Web Application	A Web application is an application program that is stored on a remote server and delivered over the internet through a browser interface.	MIT App Invertor
5.	Mobile Application	A software application developed specifically for use on small, wireless computing devices, such as smartphones and tablets, rather than desktop or laptop computers	MIT App Invertor
6.	Database	Data Type, Configurations etc.	MySQL, NoSQL, etc.
7.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant etc.
8.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
9.	Node MCU	The Node MCU is an open-source software and hardware development environment built around an inexpensive System-on-a-Chip (SoC) called the ESP8266	Arduino Software IDE
10.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud	Local, Cloud Foundry, Kubernetes, etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	List the open-source frameworks used	Technology of Opensource framework
2.	IOT based communication protocols	Enable IOT devices to communicate with other devices, applications, and services running in the cloud. The internet relies on standardized protocols to ensure communication between heterogeneous devices is secure and reliable	Bluetooth LE, IPv6 technologies(responsible for the logical device addressing and routing of network traffic)
3.	Scalable Architecture	Justifies the scalability of architecture (3 – tier, Micro-services)	Technology used
4.	Availability	Justifies the availability of application (e.g. use of load balancers, distributed servers etc.)	Technology used
5.	Performance	Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN’s) etc.	Technology used