

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

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| Date | 22October2022 |
| Project Name | Project –GasLeakage Monitoring and Alerting System |
| Team ID | PNT2022TMID26645 |

Technical Architecture:

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

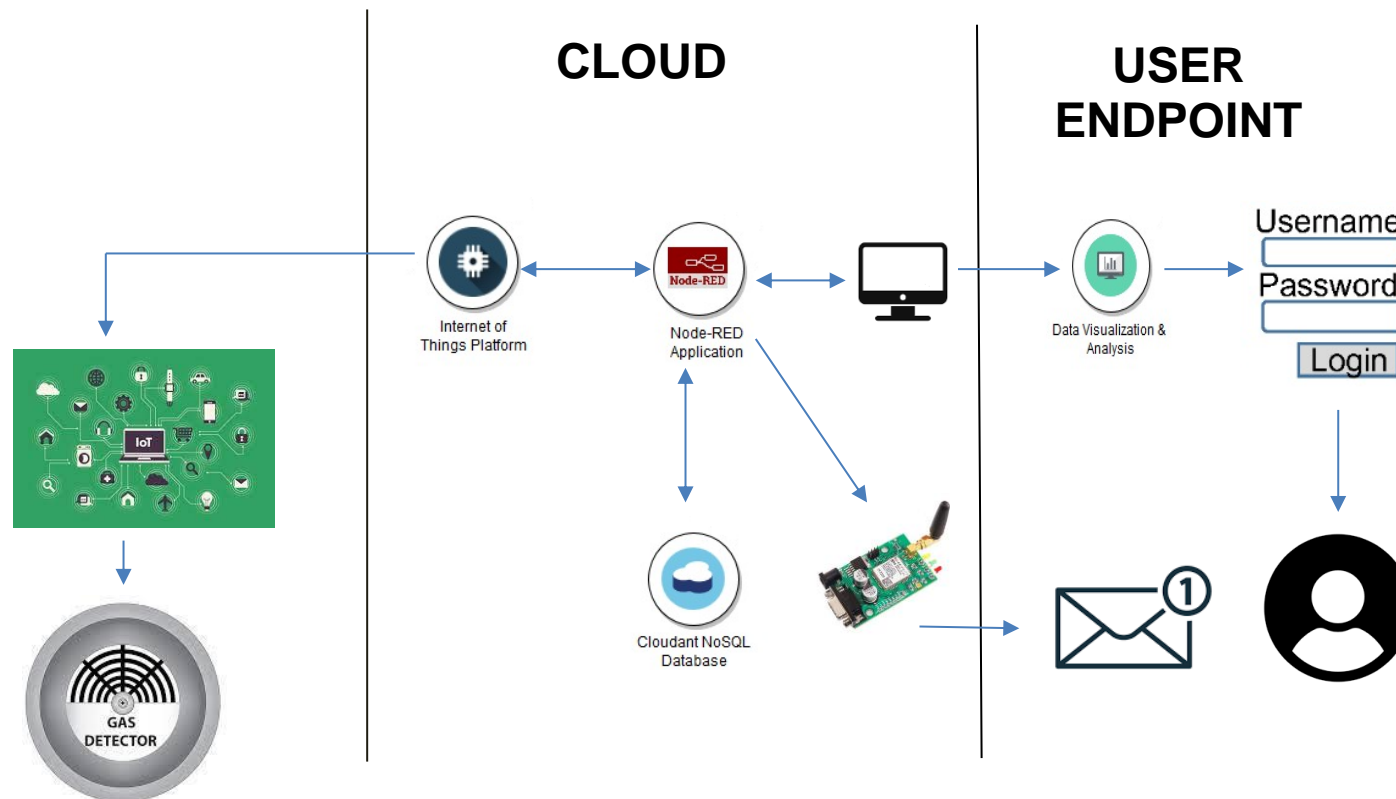


Table-1 : Components & Technologies:

| 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 |