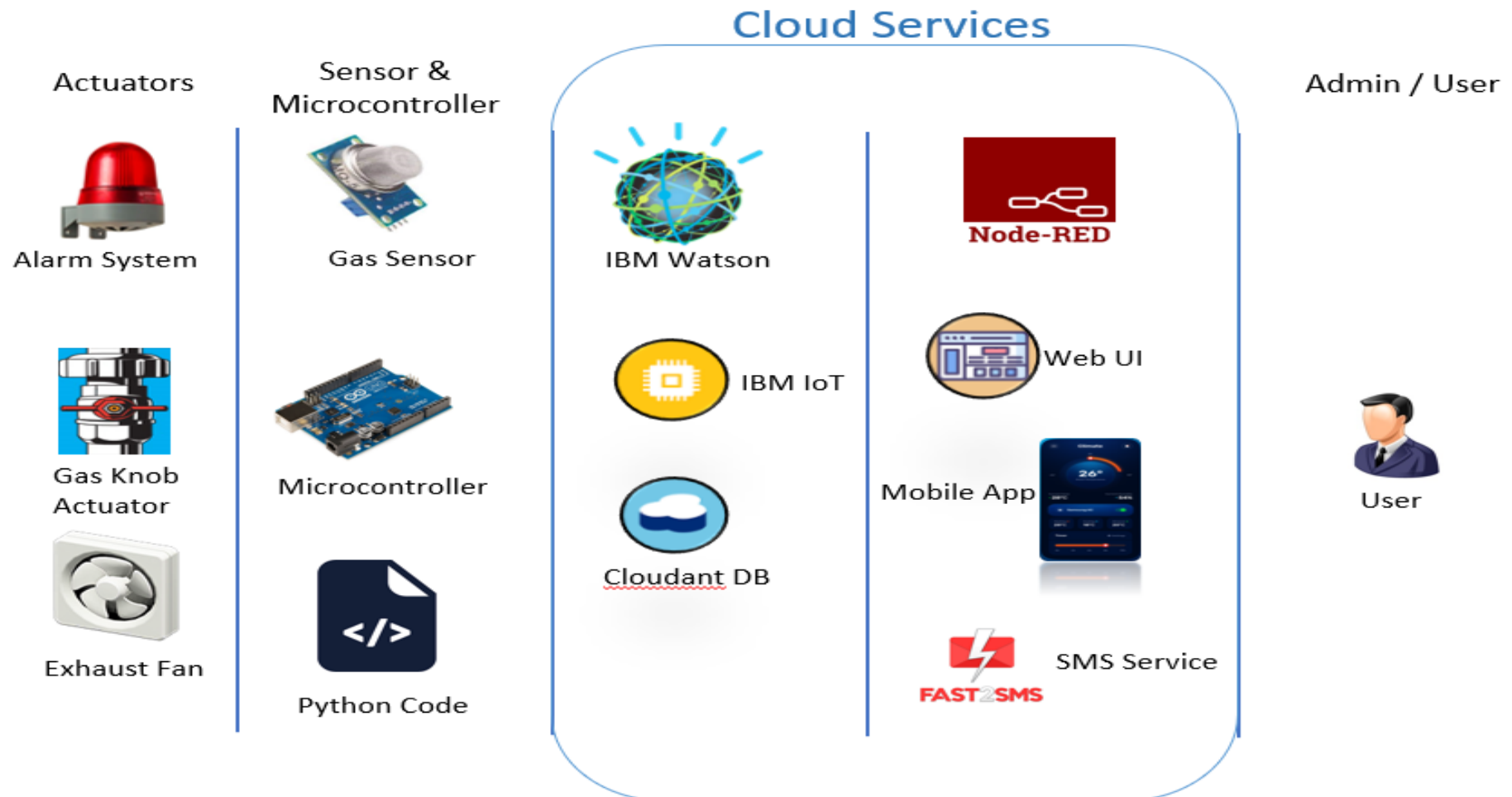


**Project Design Phase-II**  
**Technology Stack (Architecture & Stack)**

|               |                                                         |
|---------------|---------------------------------------------------------|
| Date          | 11 October 2022                                         |
| Team ID       | PNT2022TMID19226                                        |
| Project Name  | Gas Leakage Monitoring & Alerting System for Industries |
| Maximum Marks | 4 Marks                                                 |

**Technical Architecture:**



**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 / Angular Js / React Js etc.             |
| 2.   | Application Logic-1             | Logic for a process in the application                                                                        | Java / Python                                                  |
| 3.   | Application Logic-2             | Logic for a process in the application                                                                        | IBM Watson STT service                                         |
| 4.   | Application Logic-3             | Logic for a process in the application                                                                        | IBM Watson Assistant                                           |
| 5.   | Database                        | Data Type, Configurations etc.                                                                                | MySQL, NoSQL, etc.                                             |
| 6.   | Cloud Database                  | Database Service on Cloud                                                                                     | IBM DB2, IBM Cloudant etc.                                     |
| 7.   | File Storage                    | File storage requirements                                                                                     | IBM Block Storage or Other Storage Service or Local Filesystem |
| 8.   | External API-1                  | Purpose of External API used in the application                                                               | IBM Watson IoT Platform, etc.                                  |
| 9.   | External API-2                  | Purpose of External API used in the application                                                               | Fast SMS API, etc.                                             |
| 10.  | Infrastructure (Server / Cloud) | Application Deployment on Local System / Cloud<br>Local Server Configuration:<br>Cloud Server Configuration : | Local, Cloud Foundry, Cloudant DB, etc.                        |

**Table-2: Application Characteristics:**

| S.No | Characteristics          | Description                                                                                                                                                                       | Technology                                             |
|------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|
| 1.   | Open-Source Frameworks   | List the open-source frameworks used                                                                                                                                              | Python, Node RED Dashboard, MIT App Inventor, Fast SMS |
| 2.   | Security Implementations | List all the security / access controls implemented, use of firewalls etc.                                                                                                        | e.g. SHA-256, Encryptions, IAM Controls etc.           |
| 3.   | Scalable Architecture    | The user can also increase the range of the gas leakage monitoring system by increasing the number of sensors installed in the industry. Thus, making the system highly scalable. |                                                        |
| 4.   | Availability             | It allows realtime monitoring of gas leakage system anywhere even in remote areas.                                                                                                |                                                        |
| 5.   | Performance              | Fast SMS, Node RED provides realtime monitoring of sensor status.                                                                                                                 |                                                        |