

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

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| Date | 18 October 2022 |
| Team ID | PNT2022TMID035113 |
| Project Name | GAS-Leakage Monitoring and Alerting System |
| Maximum Marks | 4 Marks |

Technical Architecture:

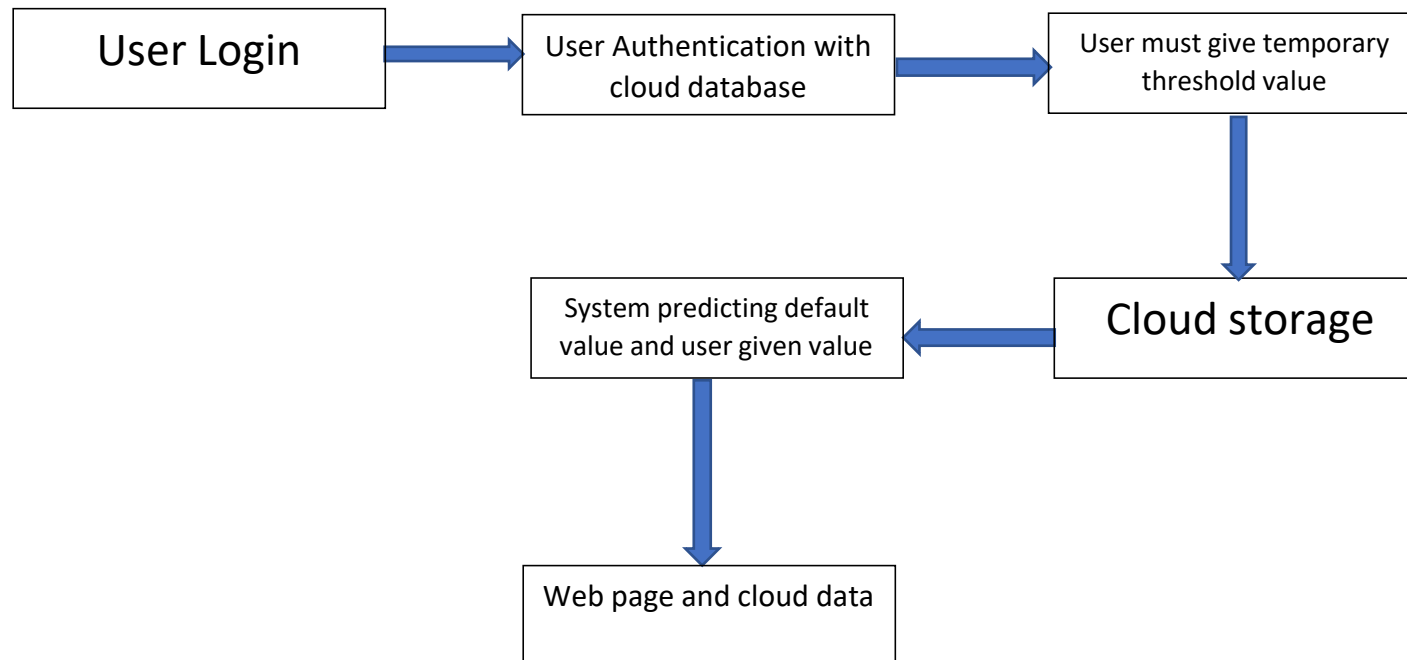


Table-1 : Components & Technologies:

| S.No | Component | Description | Technology |
|------|---------------------------------|---|--------------------------------------|
| 1. | User Interface | Web Application | HTML, CSS, JavaScript / Angular Js . |
| 2. | Application Logic-1 | Logic for a process in the application | C |
| 3. | Application Logic-2 | Logic for a process in the application | IBM Watson Assisant |
| 4. | Database | Data Type, Configurations etc. | MySQL |
| 5. | Cloud Database | Database Service on Cloud | IBM cloud |
| 6. | File Storage | File storage requirements | IBM Block Storage , Local Filesystem |
| 7. | External API-1 | Purpose of External API used in the application | IBM Weather API, etc. |
| 8. | Machine Learning Model | Purpose of Machine Learning Model | Infrared Imaging Technology |
| 9. | Infrastructure (Server / Cloud) | Application Deployment on Local System / Cloud Local Server Configuration: Cloud Server Configuration : | Local,Zigpee |

Table-2: Application Characteristics:

| S.No | Characteristics | Description | Technology |
|------|--------------------------|---|--|
| 1. | Open-Source Frameworks | C | Tensorflow , stdlib.h |
| 2. | Security Implementations | User data will be stored according to CIA model | End to end encryption(SHA-256) |
| 3. | Scalable Architecture | IBM cloud and firebase both used for better performance in storage and authentication | IBM Watson, Firebase, Mysql |
| 4. | Availability | Handle huge requests, avoid DDOS and XSS attack | Effective coding and restrictive user access based on need |
| 5. | Performance | Handle more than 1000 user to use server at a time | Flask |