Project Design Phase-I

Solution Architecture

Date	09 May 2023
Team ID	NM2023TMID16327
Project Name	Gas Pipeline Monitoring system for hospitals
Maximum Marks	4 Marks

Solution Architecture:

A gas pipeline monitoring system for hospitals is a critical component of ensuring patient safety and preventing potential hazards. The solution architecture for such a system should address the following components:

1. Sensor Network: The first step is to establish a sensor network that monitors gas pipelines in real-time. This network should include gas sensors placed throughout the hospital's gas pipelines to detect potential leaks, pressure drops, and other issues.

2. Data Collection and Processing: Once the sensor network is established, the data collected from the sensors needs to be collected, processed, and analyzed. This requires a robust data collection system, which should be able to collect and process large amounts of data in real-time.

3. Data Storage and Management: The data collected from the sensors needs to be stored in a secure and scalable data storage system. This system should allow for easy access to data for analysis, reporting, and alerting.

4. Alerting and Notification: In case of any abnormal conditions detected by the gas pipeline monitoring system, it should generate alerts and notifications in real-time. This will enable hospital staff to take immediate action to address the problem.

5. Integration: The gas pipeline monitoring system should be integrated with other hospital systems, such as the building management system, fire alarm system, and emergency response system. This will enable a coordinated response to any gas pipeline-related emergencies.

6. User Interface: A user-friendly interface should be developed that provides access to real-time data, alerts, and notifications generated by the gas pipeline monitoring system. The interface should also allow for the customization of alerts and notifications based on user preferences.

7. Maintenance and Support: Finally, a robust maintenance and support plan should be put in place to ensure that the gas pipeline monitoring system operates smoothly and any issues are resolved in a timely manner.

In summary, a gas pipeline monitoring system for hospitals should be designed to ensure patient safety and prevent potential hazards. The solution architecture should include a sensor network, data collection and processing, data storage and management, alerting and notification, integration, user interface, and maintenance and support.

Requirement: IBM Cloud,IBM IoT Platform,IBM Nodered,IBM Cloudant DB

Example - Solution Architecture Diagram: