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

Date	06 May 2023
Team ID	NM2023TMID14254
Project Name	Go No Queue-Rush Estimator for Corporate Cafeteria

Technical Architecture:

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

ARCHITECTURE: Gas Pipeline Monitoring System for Hospitals

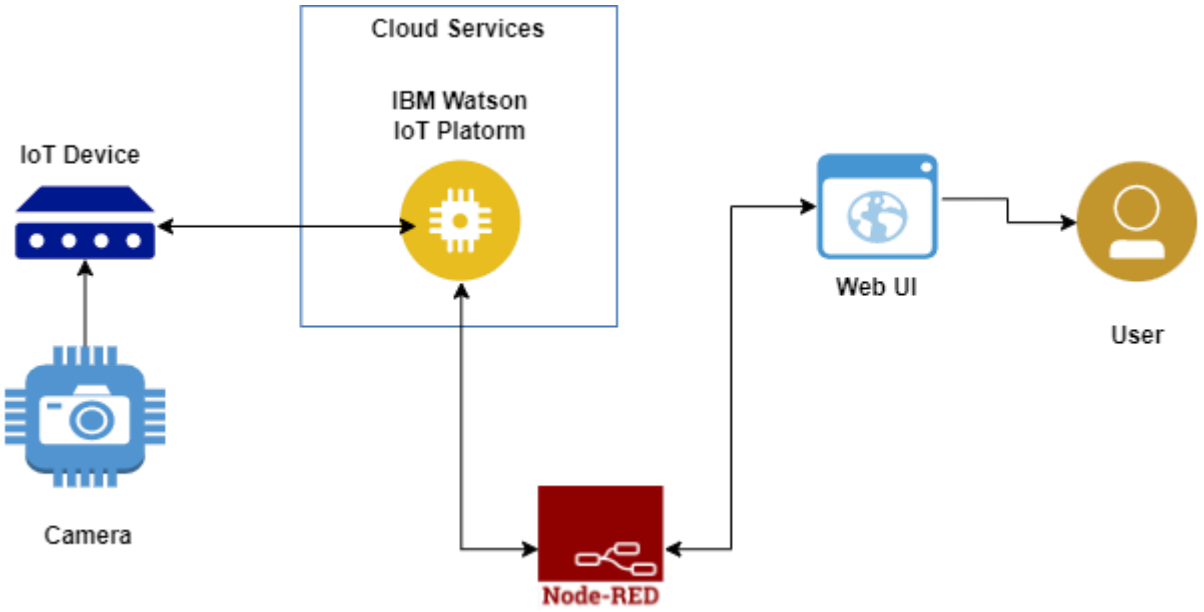

Table-1: Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	User registration and web UI	HTML, CSS, JavaScript
2.	IoT Application Logic-1	Camera Initialization	NodeRED
3.	IoT Application Logic-2	Device should be in connected state	IBM Watson IoT service
4.	IoT Application Logic-3	Person entering and leaving the cafeteria, the notification is sent to the staff or user	IBM Watson Assistant
5.	Cloud Database	Data are captured and sent to cloud services	IBM Watson IoT cloud platform
6.	File Storage	File storage requirements	IBM Block Storage or Local Filesystem
7.	Infrastructure (Server / Cloud)	Application deployed on cloud server	IBM Watson IoT cloud platform

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Real-time Data Collection	The application should be capable of continuously monitoring the number of people entering and exiting the cafeteria in real time. This can be achieved by integrating IoT devices such as occupancy sensors or people counters at the entrance.	Working with IoT devices, etc.
2.	Security Implementations	Implement a system to send alerts or notifications to cafeteria staff or employees when the queue length exceeds a certain threshold or during predicted rush hours. This can help staff prepare in advance and manage the crowd effectively.	Sensors and real-time IoT devices
3.	Scalable Architecture	Ensure that the application is designed to handle a large number of users and can scale as the cafeteria's demand increases. Employ techniques such as load balancing and fault tolerance to ensure reliable operation.	Multiple Data store Technologies, Reliable
4.	User-Friendly Interface	Develop a user interface using Node-RED, a visual programming tool, to display real-time queue length and rush hour information. The interface can be designed to be easily accessible on desktops, mobile devices, or digital signage within the cafeteria.	Easy to detect and manage the food resources properly.
5.	Performance	Alert notifications is sent to the user or staff about the queue length and people leaving and entering the cafeteria	High Quality Performance