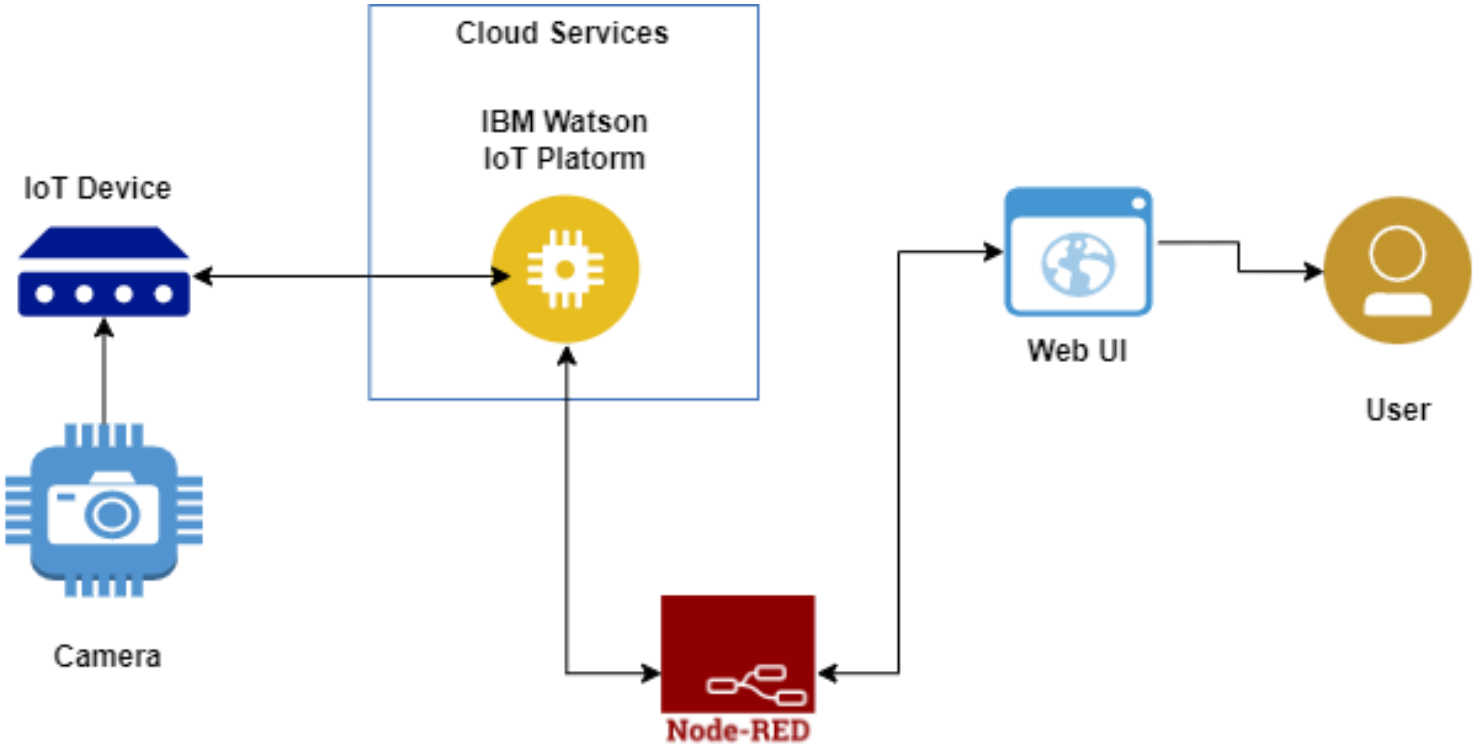
Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	18 May 2023
Team ID	NM2023TMID17628
Project Name	Go No Queue-Rush Estimator for corporate cafeteria

Technical Architecture:



Go No Queue-Rush Estimator for corporate cafeteria

Table-1 : Components & Technologies:

S.no	Component	Description	Technology
1.	Video Processing	Handles video processing, people counting, and analytics	Python
2.	UI Development	UI development and integration platform	Node-RED
3.	Database	Cloud platform for data storage and analysis	IBM Watson
4.	Computer Vision	Computer vision library for video processing	OpenCV
5.	Audio Output	Text-to-speech library for audio output	pyttsx3
6.	IoT Connectivity	Connectivity and data management for IoT devices	IBM IoT Platform
7.	Data Storage	Relational database for storing and querying data	IBM Watson Platform

Table-2: Application Characteristics:

S.no	Characteristic	Description	Technology
1.	Real-time Analytics	Provides real-time analytics on people count	OpenCV, TensorFlow
2.	User Interface	Displays the number of people entering and exiting	Node-RED, HTML, CSS
3.	Data Storage	Manages storage of data related to people count	IBM Watson Platform
4.	Computer Vision	Performs object detection on video streams	OpenCV
5.	Text-to-Speech Conversion	Converts text into audible speech	pyttsx3
6.	IoT Connectivity	Enables communication with IoT devices	IBM Platform
7.	Data Management	Manages storage and retrieval of data	IBM Watson Platform

References:

1. https://nodered.org/
2. https://www.ibm.com/internet-of-things/solutions/iot-platform/watson-iot-platform/
3. https://opencv.org/