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

Date	12 October 2022
Team ID	PNT2022TMID51903
Project Name	Industry-specific intelligent fire management system
Maximum Marks	4 Marks

Technical Architecture:

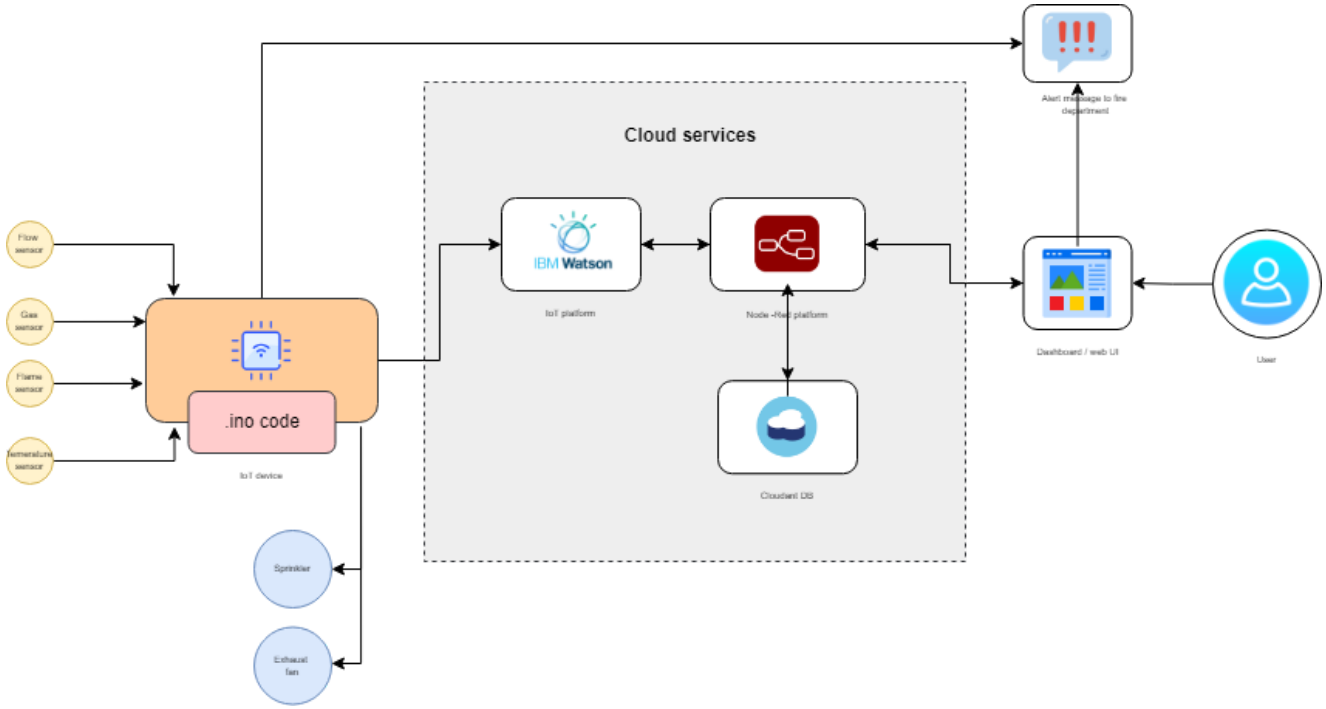

Table-1: Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How the user interacts with application	HTML, CSS, and JavaScript by Node-Red dashboard
2.	Application Logic-1	Logic for collecting and sending data in the IoT device	C(in .ino)/ Python
3.	Application Logic-2	For getting the data from the IoT devices and sends to the dashboard	IBM Watson IoT platform, Node-Red
4.	Application Logic-3	Handle basic commands from the user	Node-Red
5.	Database	Logs	NoSQL
6.	Cloud Database	Database Service on Cloud	IBM Cloudant
7.	External API-1	A SMS API to send alert messages to public fire department	fast2sms API
8.	Infrastructure (Server / Cloud)	Application Deployment on Cloud	Cloud Foundry, Kubernetes

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Libraries	List the open-source libraries used	DHT sensor libraries, PubSubClient libraries, and ESP32 motor controller
2.	Security Implementations	List all the security/access controls implemented, use of firewalls etc.	There is default security provided by IBM
3.	Availability	The availability of the application	The application is always available as it uses cloud Kubernetes in IBM cloud
4.	Performance	Design consideration for the performance of the application	Large number of requests are handled by the IBM IoT Watson platform and cloud Node-Red