Project Design Phase-II

TechnologyStack (Architecture & Stack)

Date	15 October 2022
Team ID	PNT2022TMID00383
Project Name	Project - Industry-specific intelligent fire management system – Oil and Gas Industry
Maximum Marks	4 Marks

Technical Architecture:

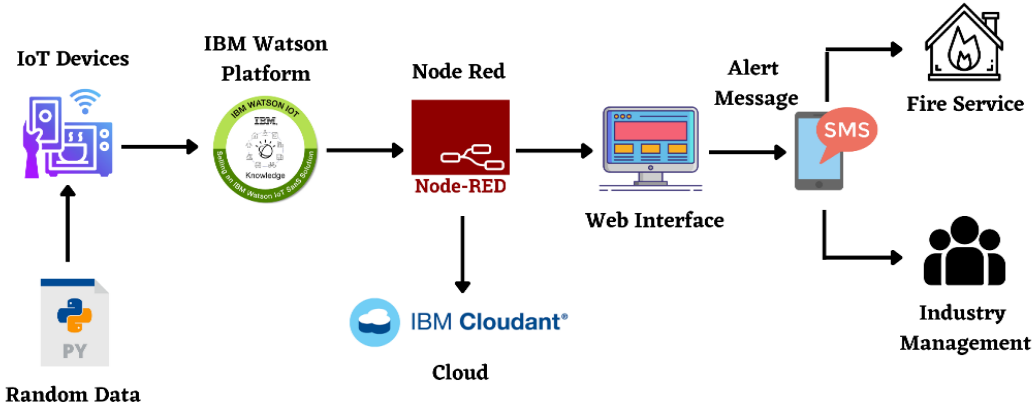

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Interaction of user and process	Python Interface
2.	Database	Storage and Processing	CloudDB
3.	Cloud Database	Database with Cloud service	IBM Cloudant
4.	Hardware Interfacing	To interface various sensors	Node Red
5.	Programming	Programming various components and general processing	Python 3
6.	Information Exchange	Information exchange on web	HTTP
7.	Extenal API	To send alert messages	External API 1

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Security Implementations	List all the security / access controls implemented.	All data can be secure as since we use IBM cloud, we have continuous edge-to-cloud protection for data and applications while maintaining regulatory compliance.
2.	Scalable Architecture	Justify the scalability of architecture (3 – tier, Micro-services)	Because we are leveraging the IBM cloud, instances will scale up automatically and seamlessly as demand increases and more resources are needed hence enabling the project implementation in a huge level.
3.	Availability	Justify the availability of applications (e.g. use of load balancers, distributed servers etc.)	Our system is totally available to the users and also to the administration. The simple approach in design makes its availability easy
4.	Performance	Design consideration for the performance of the application	Instant availability of data and processing enables quick response of sending alert messages