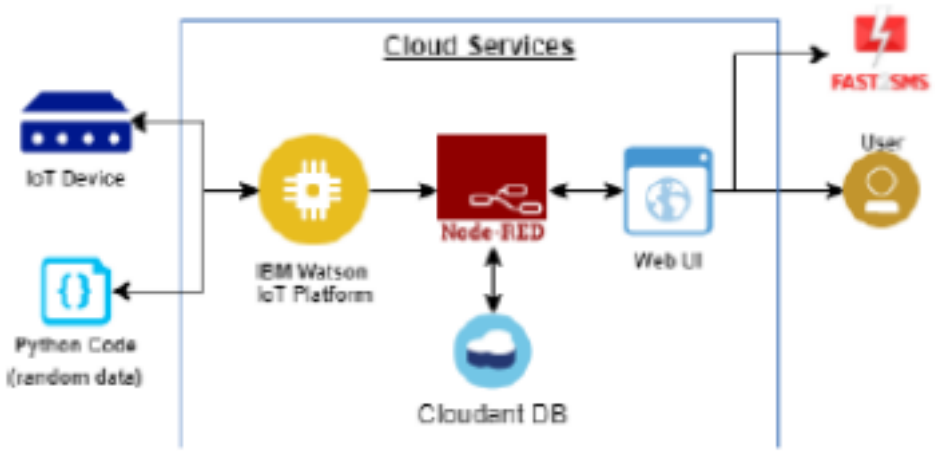
Industry-specific intelligent fire management system

Technical Architecture:



Guidelines:

1. Include all the processes (As an application logic / Technology Block)
2. Provide infrastructural demarcation (Local / Cloud)
3. Indicate external interfaces (third party API's etc.)
4. Indicate Data Storage components / services
5. Indicate interface to machine learning models (if applicable)

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	The point of human-computer interaction and communication in a device.	IBM IoT Platform, IBM Node red, IBM Cloud
2.	Application Logic-1	Create IBM Watson IoT platform and collect connected device data and perform analytics on real-time data	IBM Watson, IBM cloud ant service, IBM node red

3.	Application Logic-2	To develop a python script to publish and subscribe to IoT Platform	python
4.	Application Logic-3	To build a web application using node-red service	IBM Node-red
5.	Database	an organized collection of data, stored in a computer system.	MySQL
6.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloud ant etc.
7.	File Storage	For developing mobile application to store and receive the sensors information and to react accordingly	Web UI, python
8.	External API-1	We can track the temperature of the incident place and where the fire had been attacked	IBM fire management API
9.	External API-2	It detects the fire, gas leaks, temperature	IBM Sensors
10.	Machine Learning Model	We can derive the object recognition model	Object Recognition Model
11.	Infrastructure (Server /Cloud)	Application Deployment on Cloud Server Configuration	IBM cloud ant, IBM IoT Platform

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Open source is source code that is available for modification and redistribution.	MIT License
2.	Security Implementations	Monitors and filters incoming and	Encryptions, IBM Controls

		outgoing network traffic	
3.	Scalable Architecture	Supports higher workloads without any fundamental changes to it.	cloud computing and AI
4.	Availability	Detection of combustible gases and for loss of oxygen. It makes the area where the leak occurs a warning sound and instructs operators to leave the area.	MIT app
5.	Performance	The sensors are widely used to detect smoke.	sensors