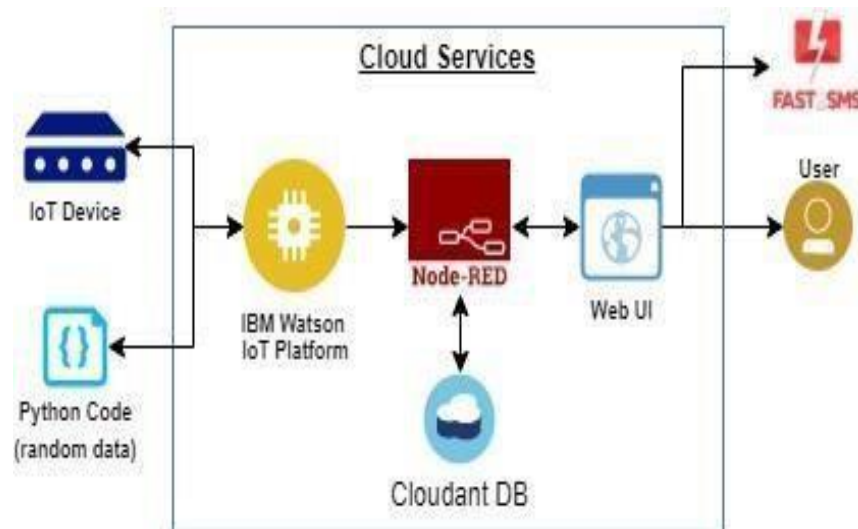


Project Design Phase- II Technology Stack (Architecture & Stack)

Project	Industry Specific Intelligent Fire Management System
Team ID	PNT2022TMID12767

Technical Architecture:

The Deliverables shall include the architectural diagrams below and the information as per the table 1 & table 2



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.	UserInterface	WebUI,Node-RED, MITapp	IBM IoT Platform, IBM Node red, IBMCloud
2.	ApplicationLogic-1	CreateIbmWatsonIoTplatformandcreatenode-redservice	IbmWatson,ibmcloudant service,ibm node-red
3.	ApplicationLogic-2	Develop python script to publish and subscribe toIBMIoTPlatform	python
4.	ApplicationLogic-3	Buildawebapplicationusing node-redservice	IBMNode-red
5.	Database	Data Type, Configurationsetc.	MySQL
6.	CloudDatabase	DatabaseServiceonCloud	IBMDB2, IBMCloudant
7.	FileStorage	Developingmobileapplicationtostoreandreceivethe sensorsinformationandtoactaccordingly	WebUI,python
8.	ExternalAPI-1	UsingthisIBMfiremanagementAPIwecantrack the temperature of the incident place and wherethefire hadbeen attacked.	IBMfiremanagementAPI
9.	ExternalAPI-2	Using this IBM Sensors it detects the fire, gasleaks,temperatureandprovides theactivationofsprinklersto web UI	IBMSensors
10.	MachineLearningModel	Using this we can derive the object recognitionmodel	ObjectRecognitionModel
11.	Infrastructure(Server/Cloud)	Application Deployment on Local System / CloudCloudServerConfiguration	IBMcloudant, IBMIoT Platform

Table-2:ApplicationCharacteristics:

S.No	Characteristics	Description	Technology
1.	Open-SourceFrameworks	MIT applInventor	MIT License
2.	SecurityImplementations	IBMServices	Encryptions,IBMControls
3.	ScalableArchitecture	sensor-IoTCloudbasedarchitecture	cloudcomputingand AI
4.	Availability	Mobile,laptop, desktop	MIT app
5.	Performance	DetectstheFire,gasleak,temperature	sensors