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

Date	17 October 2022
Team ID	PNT2022TMID18171
Project Name	Industry-specific intelligent fire management system
Maximum Marks	4 Marks

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2
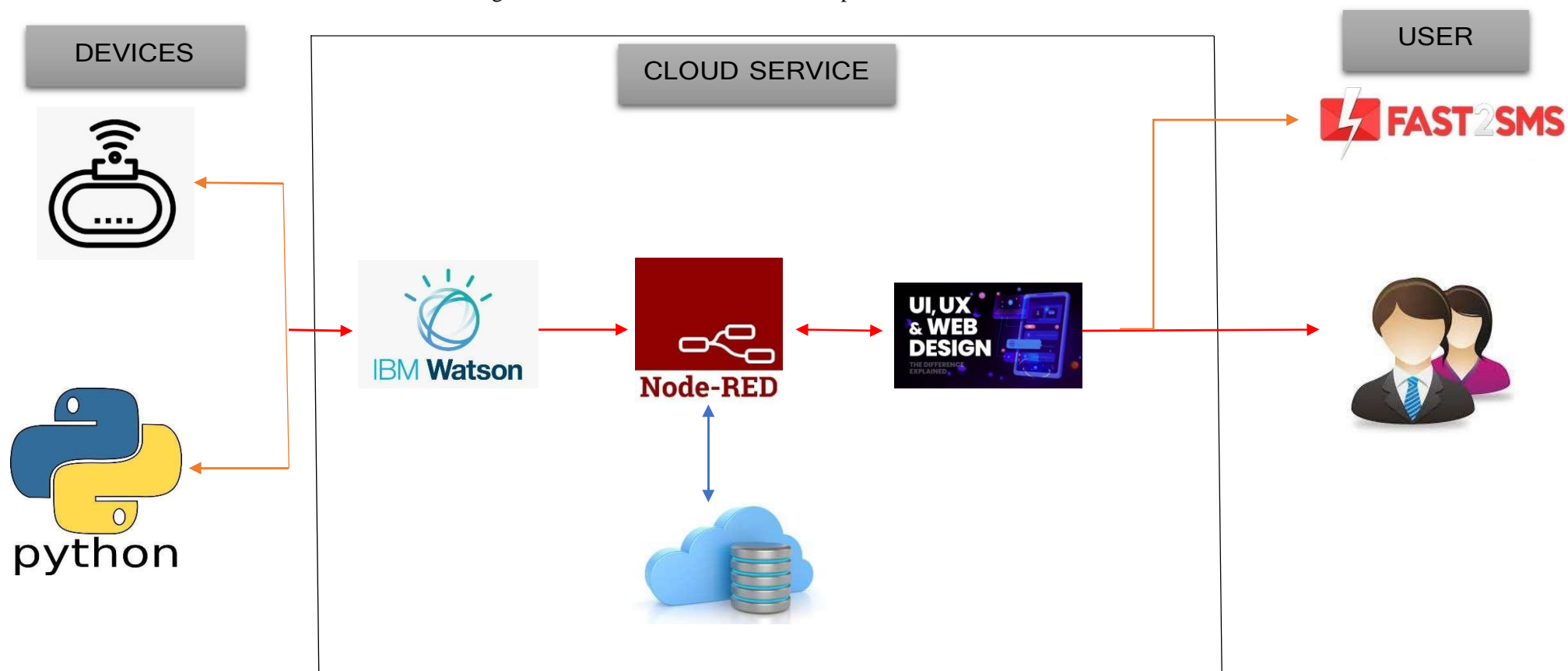
Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Web UI, Fast2SMS	IBM Watson, cloudant DM, Node-RED
2.	Application Logic-1	To create IBM cloud, Node-RED	IBM cloud, Node-RED,IOT
3.	Application Logic-2	Develop python script to publish and subscribe toIBM IoT Platform	Python programming language
4.	Database	Data Type, Configurations etc.	MySQL, NoSQL
5.	Cloud Database	Database Service on Cloud	IBM Cloudant
6.	File Storage	File storage requirements	IBM Cloud Storage
7.	External API-1	In industry, sensor sense the fire and smoke	Iot sensors
8.	External API-2	If the sensor detected the fire, next step is extinguishing the fire with the help of sprinkler	Iot sensors and actuators
9.	Machine Learning Model	Recognize the presence of fire hazards in structures and hazardous materials or processes.	Object Recognition Model.
10.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud	IBM cloud, Cloud Foundry, Iot

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Fast2SMS	Node-RED, cloudant DM
2.	Security Implementations	Assuring all the data inside the system protected against malware attacks or unauthorized access.	Encryptions
3.	Scalable Architecture	The fire and smoke detectors has a response timeof 0.013 minutes which is more effective than normal system.	Iot sensors and actuators
4.	Availability	This application is available to all the time.	IBM cloud
5.	Performance	Response Time and Net Processing Time is Fast	Iot sensors and actuators, Node-RED, Fast2SMS