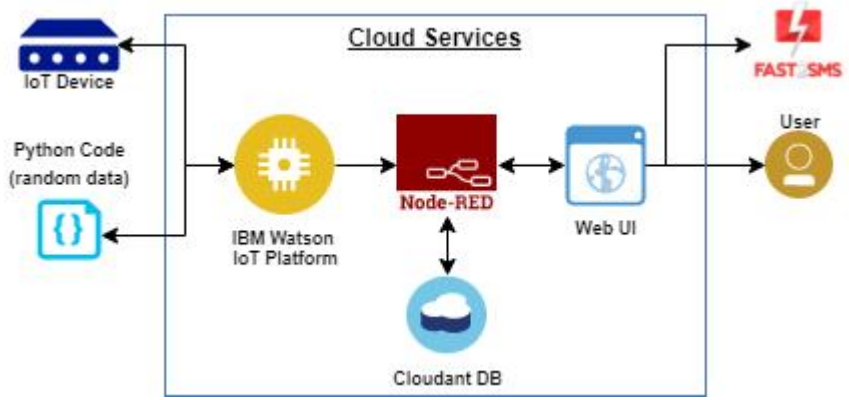
Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	15 October 2022
Team ID	PNT2022TMID46764
Project Name	Hazardous area monitoring for industrial plant powered by IOT
Maximum Marks	4 Marks

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

Skills Required:
Python,IOT Cloud Platform ,IBM Cloud,Node- RED,IBM IoT Platform,IBM Nodered,IBM Cloudant DB



Note: Use random values in python for sensor data as physical hardware is not available.

Guidelines:

1. Through this, we can monitor the temperature parameters of the hazardous areas in industrial plants.
2. The area is integrated with smart beacon devices which will be broadcasting the temperature of that particular area.
3. Whenever the person goes near the beacon scanners he can view the temperature on his wearable device and if the temperature is high, he will receive the alerts to the mobile through SMS using API.
4. Through this wearable device, the data is sent to the cloud and through the dashboard, the admins of that particular plant can view the data and take necessary precautions if required
5. Every person working in those areas will be given smart wearable devices which will be acting as beacon scanners.

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. Web UI, Mobile App, Chatbot etc.	HTML, CSS, JavaScript, C# etc.
2.	Application Logic-1	Logic for a process in the application	Java / Python
3.	Application Logic-2	Logic for a process in the application	IBM Watson STT service
4.	Application Logic-3	Logic for a process in the application	IBM Watson Assistant
5.	Database	Data Type, Configurations etc.	MySQL etc.
6.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant etc.
7.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
8.	External API-1	Purpose of External API used in the application	IBM Weather API, etc.
9.	External API-2	Purpose of External API used in the application	Aadhar API, etc.
10.	Machine Learning Model	Purpose of Machine Learning Model	Object Recognition Model, etc.
11.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Cloud Server Configuration :	Local, Cloud Foundry, Kubernetes, etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	.NET	Version : 4.7.3
2.	Security Implementations	List all the security / access controls implemented, use of firewalls etc.	e.g. SHA-256, IAM Controls, OWASP etc
3.	Scalability Architecture	Justify the scalability of architecture (3 – tier, Micro-services)	Technology used
4.	Availability	Justify the availability of application (e.g. use of load balancers, distributed servers etc.)	Technology used