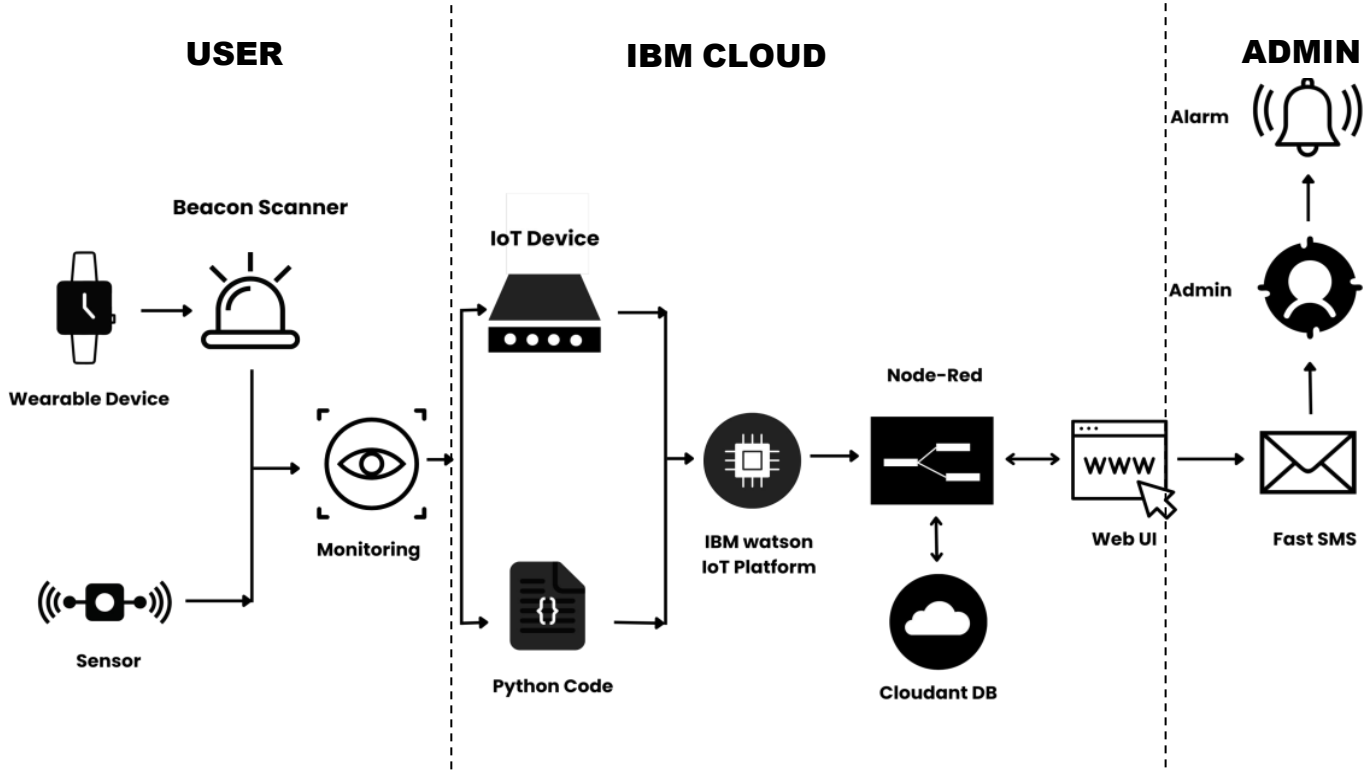
Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	03 October 2022
Team ID	PNT2022TMID28572
Project Name	Project - 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



S.No	Component	Description	Technology
1.	User Interface	Web UI, Mobile App	HTML, CSS
2.	Application Logic-1	Getting input from smart beacons	Python
3.	Application Logic-2	Process data in cloud	IBM Watson IoT platform, Cloudant DB and Node Red
4.	Application Logic-3	Display data to the user	Web UI, Fast sms and mobile application
5.	Database	Real time database	Cloudant DB
6.	Cloud Database	Database Service on Cloud	IBM Cloudant.
7.	File Storage	File storage requirements	IBM Block Storage
8.	External API-1	Purpose of External API used in the application	IBM Weather API
9.	External API-2	Purpose of External API used in the application	Username and Password API
10.	Machine Learning Model	Purpose of Machine Learning Model	Object Recognition Model
11.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud	Cloud Foundry, Node Red

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	The Node-RED open source frameworks are used to build the web application as well as to communicate with the mobile application and to handle alert sms	Node-RED framework
2.	Security Implementations	To secure the users login credentials and personal information	SHA-256, OWASP
3.	Scalable Architecture	The 3 – tier architecture used with a separate user interface, application tier and data tier makes it easily scalable	IBM Watson Studio
4.	Availability	To make use the application and data are available 24/7	IBM Cloud
5.	Performance	The performance of the website is improved with caching and security	IBM Cloud Internet Services