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

Date	17 October 2022
Team ID	PNT2022TMID50805
Project Name	Hazardous Area Monitoring for Industrial Plant powered by IoT
Maximum Marks	4 Marks

Technical Architecture:

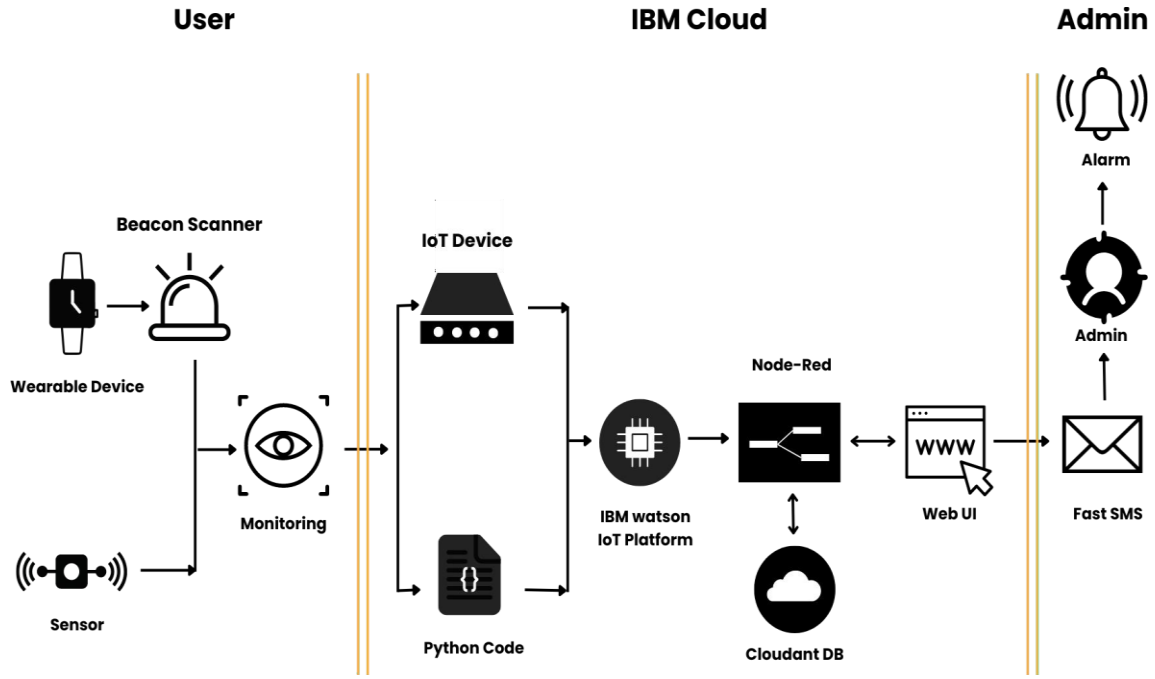

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Web UI, Mobile App	HTML, CSS, JavaScript
2.	Application Logic-1	Mobile App to monitor the environment parameter	Python
3.	Application Logic-2	Beacon Scanner to get the workers body condition	IBM Watson IoT API Call data
4.	Application Logic-3	Convert or combine the environment parameters and workers body condition.	IBM Watson Assistant
5.	Database	Values must be in Integer and float	MySQL.
6.	Cloud Database	Call the data IBM Cloudant is used and user login credentials	IBM DB2, IBM Cloudant
7.	File Storage	App code and IoT credentials are stored and API keys	IBM Block Storage
8.	External API-1	To monitor the environment parameters	IBM Weather API
9.	External API-2	To get the login credentials in IBM DB2	Username and Password API
10.	Machine Learning Model	There is any deviation from the parameter range, Admin got the alert message.	Object Recognition Model
11.	Infrastructure (Server / Cloud)	To host the server and application	Cloud Foundry, Node Red

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	To develop the application interface, we use MIT App Inventor	MIT APP Inventor
2.	Security Implementations	To secure the users login credentials and personal information	SHA-256, OWASP
3.	Scalable Architecture	To scale the application database	IBM Auto scaling
4.	Availability	To make use the application and data are available 24/7	IBM Cloud load balancer
5.	Performance	To increase the performance the application in hosted in the high-performance instance	IBM instance