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

Date	03 October 2022
Team ID	PNT2022TMID11546
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

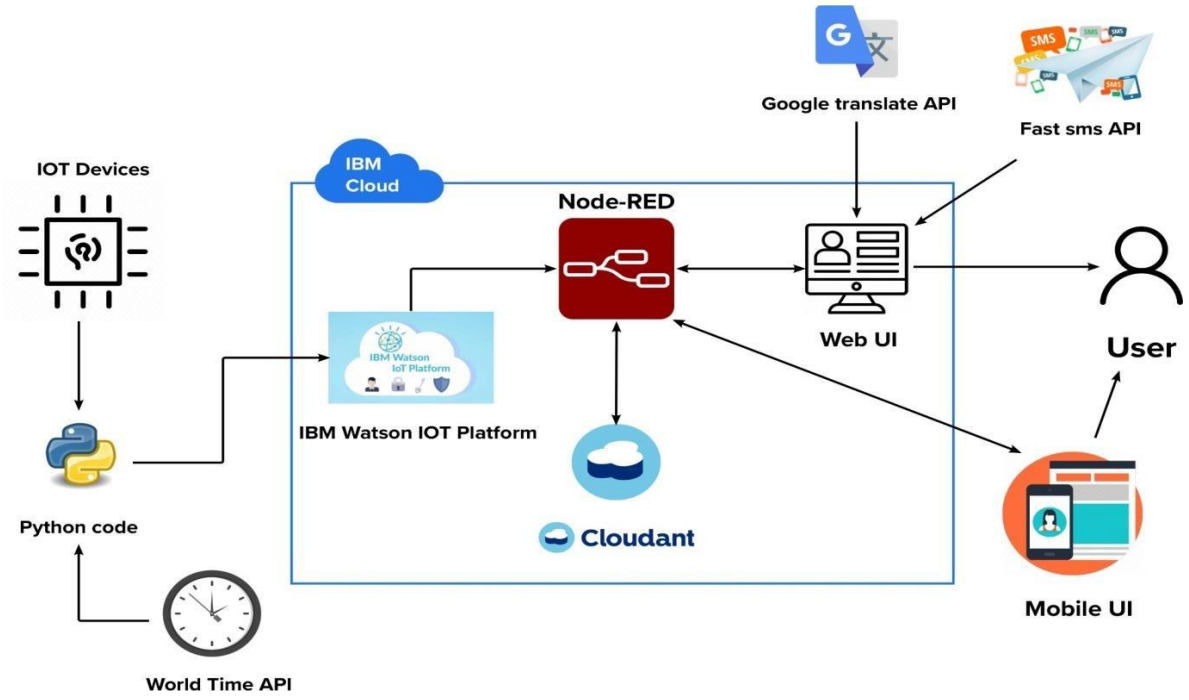

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Web UI, mobile app, SMS service and wearable device	Node red, python code, fast SMS and MIT app
2.	Application Logic-1	Receives input from beacon sensor	Python /Embedded c
3.	Application Logic-2	Process the input data to the cloud	IBM Watson IOT platform, cloudant DB and node-red
4.	Application Logic-3	Screening the data to the worker through wearable device	Web UI, fast SMS and mobile app
5.	Database	Real time database	Cloudant DB
6.	Cloud Database	Database Service on Cloud	IBM cloudant
7.	File Storage	To send SMS to user	Fast SMS API
8.	External API-1	Language for the website is written to be dynamic	Google translate API
9.	External API-2	To access time	World time API
10.	Machine Learning Model	To monitor the area and update the stats in the cloud	NodeMCU and sensors
11.	Infrastructure (Server / Cloud)	Application Deployment on cloud	IBM cloud

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	The Node-red open source frameworks it helps to communicate with both web application and mobile application and it helps to alerts the SMS	Node-red framework
2.	Scalable Architecture	The 3 – tier architecture used in the project has a separate user interface, application tier and the data tier makes the process easy	IBM WATSON studio
3.	Availability	Here the web application used is highly available as it is used in cloud	IBM cloud
4.	performance	The performance of the website is improved with security and conditions \	IBM cloud internet services