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

| Team Id	PNT2022TMID17322
Project Name	Hazardous area monitoring for industrial plant powered by IOT
Maximum mark	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, SMS service and Wearable devices	Node-RED, Fast sms and MIT App inventor
2	Application Logic-1	Getting input from smart beacons	Embedded C and Python
3	Application Logic-2	Process data in cloud	IBM Watson IOT platform, Cloudant DB and Node-RED

Project Design Phase-II

4	Application Logic-3	Display data to the user	Web UI, Fast sms and Mobile

Application Logic-1
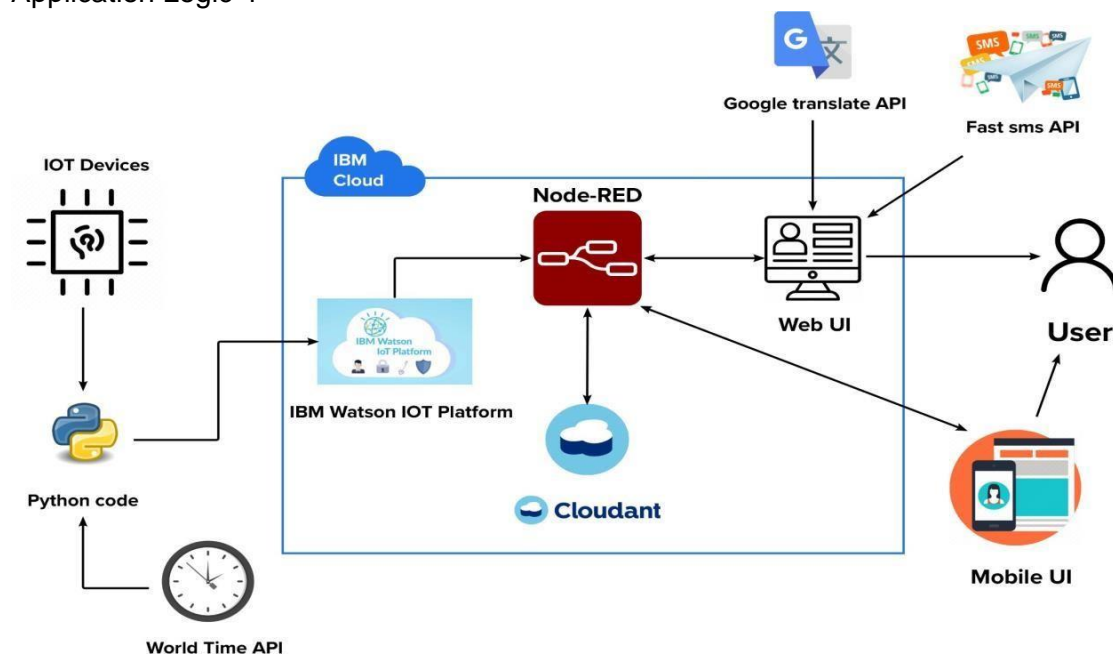
Table-1 : Components & Technologies:
Technology Stack (Architecture & Stack)

			application
5	Database	Real time database	Cloudant DB
6	Cloud Database	Database Service on Cloud	IBM Cloudant
7	External API-1	To send sms to use	Fast sms API
8	External API-2	Language for the website is written to be dynamic	Google translate API
9	External API-3	To access time	World time API
10	Smart Beacon	To monitor the area and update the stats in the cloud	NodeMCU and Sensors
11	Infrastructure (Server / Cloud)	Application Deployment on Cloud	IBM Cloud

Project Design Phase-II

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	Scalable Architecture	The 3 – tier architecture used with a separate user interface, application tier and data tier makes it easily scalable	IBM Watson Studio
3	Availability	The web application is highly available as it is deployed in cloud	IBM Cloud

Technology Stack (Architecture & Stack)

4	Performance	The performance of the website is improved with caching and security	IBM Cloud Internet Services