PROJECT DESIGN PHASE-II
Technology Stack (Architecture & Stack)

Date	18 October 2022
Team ID	PNT2022TMID08189
Project Name	Hazardous Area Monitoring for Industrial Plant
Maximum Marks	4 Marks

Technical Architecture:

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

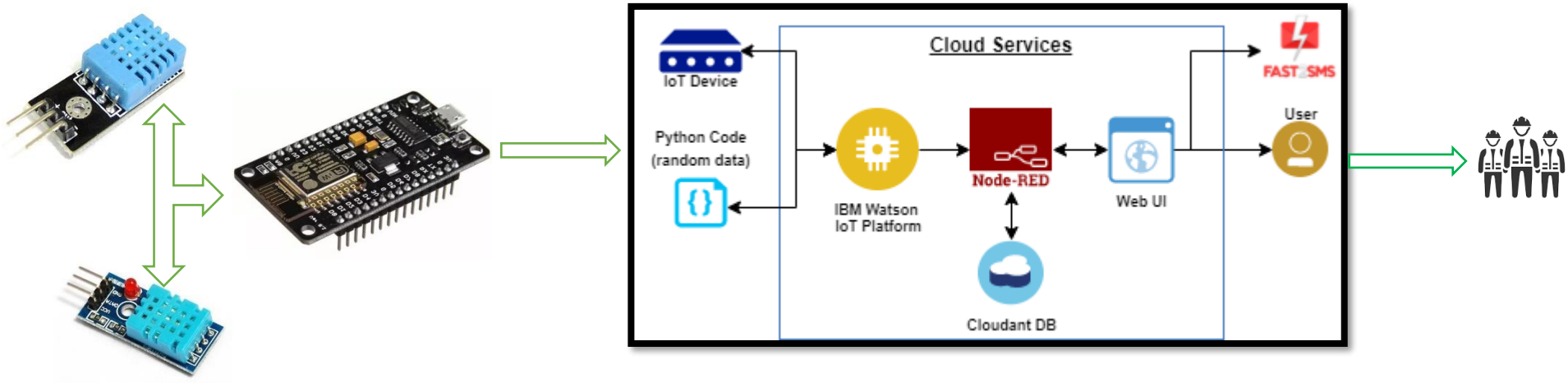

Table-1: Components & Technologies:

S. No	Component	Description	Technology
1.	User Interface	User can interact through mobile app application	HTML, CSS / Angular Js / React Js etc.
2.	Application Logic-1	Used to measure the environmental parameters like temperature and humidity etc...	Python.
3.	Application Logic-2	It is used to build a communication interfaces between two different applications	IBM Watson Assistant
4.	Database	Used to show the collected data in the tabular form.	Python.
5.	Cloud Database	Cloudant is a non-relational, distributed data base service, which handles software and hardware provisioning, management and scaling, and support.	IBM DB2, IBM Cloudant etc.
6.	File Storage	Using IBM block storage, the collected data’s are stored permanently.	IBM Block Storage or Other Storage Service or Local Filesystem
7.	External API-1	The purpose of this API is to collect the required data from the cloud.	IBM Weather API, etc.
8.	Machine Learning Model	Beacon devices are integrated in the working place and also in wearable devices. It is used to sense the temperature and humidity of that particular place and it is display in digital form in the wearable device	Object Recognition Model, etc.

Table-2: Application Characteristics:

S. No	Characteristics	Description	Technology
1	Open-Source Frameworks	KAA IoT, ZETTA, GE PREDIX, Thing speak	KAA IoT
2	Security Implementations	Mandatory access control, Discretionary access control, Role-based access control, Rule-based access control.	e.g., SHA-256, Encryptions, IAM Controls, OWASP etc.
3	Scalable Architecture	It refers to a system, network or process that is designed to handle a workload that may change in scope.	Kubernetes, elastic storage, load balancers.
4	Availability	Equipment availability is a metric used to measure the percentage of time a machine can be used.	Technology used
5	Performance	Need to simulate devices from different locations with required network technologies.	Machine learning algorithms