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

Date	16 October 2022
Team ID	PNT2022TMID48351
Project Name	Project – Smart solutions for Railways
Maximum Marks	4 Marks

Technical Architecture:

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

Example: Smart solutions for Railways

Reference: https://app.mural.co/embed/6770ae51-111a-404d-bb55-35379960d165

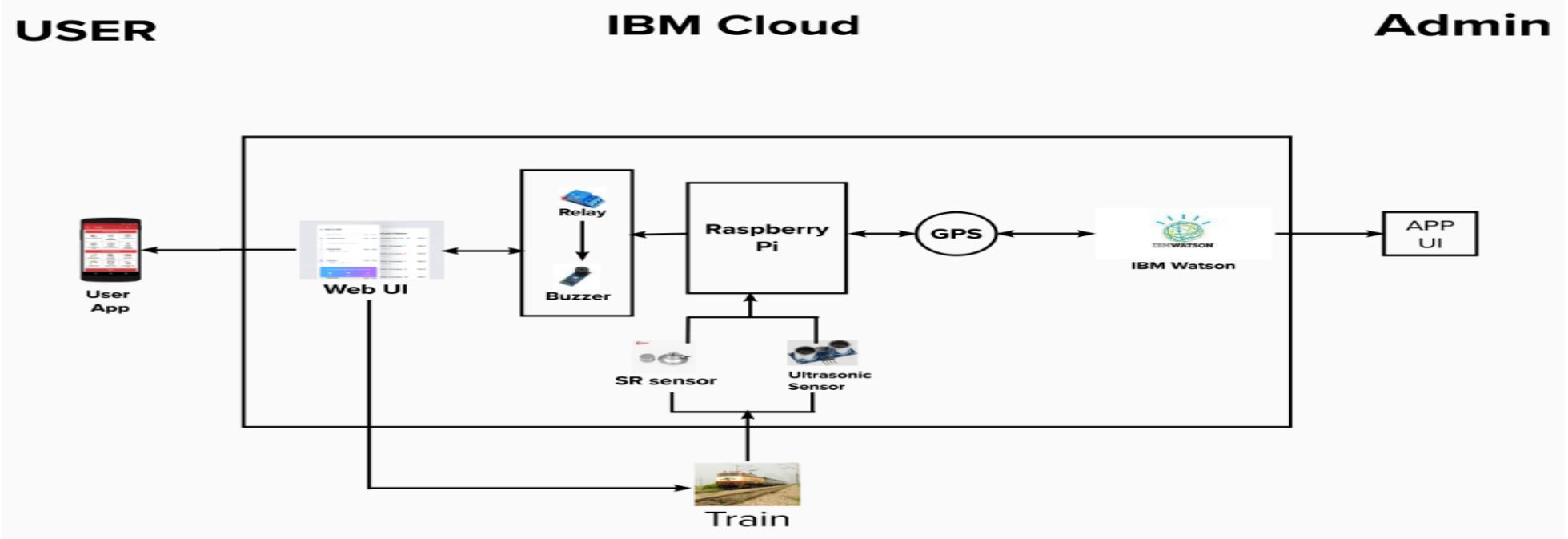

Table-1: Components & Technologies:

S.no	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. Web UI, Mobile App, Chatbot etc.	HTML, CSS, JavaScript
2.	Raspberry Pi	Control electronic components for physical computing and explore the IOT.	Linux, GPIO
3.	SR Sensor	Generates high frequency sound waves and it hits the object ,it reflects as echo.	Hardware
4.	Ultrasonic Sensor	It sense the object by sound waves.	Hardware
5.	Database	Ticket details, train details etc.	MySQL
6.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloud etc.
7.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
8.	External API-1	Purpose of External API used in the application	IBM Weather API, etc.
9.	External API-2	Purpose of External API used in the application	Aadhar API, etc.
10.	Location Detection	For detecting the location of train and also used in fault detection in track.	GPS
11.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Cloud Server Configuration :	Local, Cloud Foundry, Kubernetes, etc.

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 user login credentials and personal information..	e.g. SHA-256, OWASP.
3.	Scalable Architecture	To scale the application database.	IBM Auto scaling
4.	Availability	To make use the application and data are available24*7	Technology used
5.	Performance	To increase the performance the application in hosted in the high performance instance.	IBM instance