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

Date	03 November 2022
Team ID	PNT2022TMID33715
Project Name	Project – Smart Solutions For Railways
Maximum Marks	4 Marks

Technical Architecture:

SMART SOLUTIONS FOR RAILWAYS
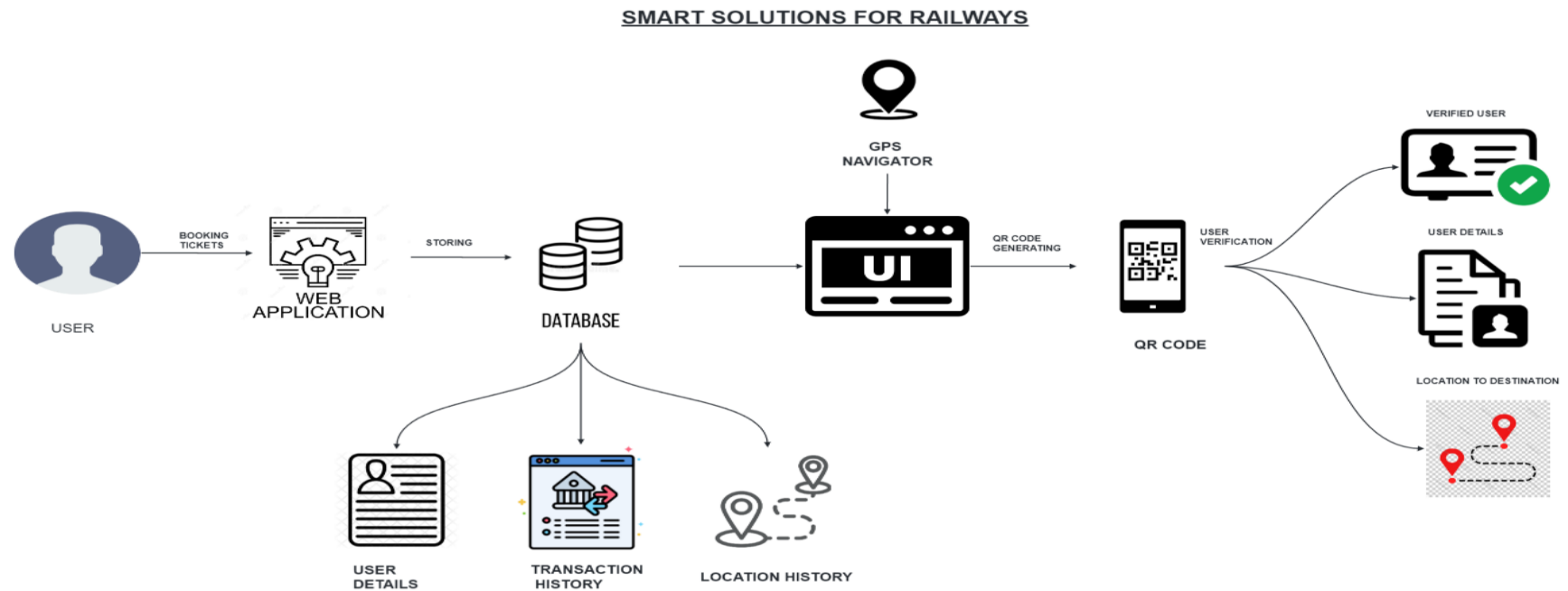
Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How the user interacts with the application e.g. Web UI, Mobile App, Chatbot, etc.	HTML, CSS, JavaScript
2.	Application Logic-1	The logic for a process in the application is using python code to create online application form	Python
3.	Application Logic-2	The logic for a process in the application is using IBM Watson service	IBM Watson service
4.	Application Logic-3	The logic for a process in the application is using Node- RED and MIT App inventor to work the IOT Device	Node-RED, MIT App Inventor
5.	Database	Data Type, Configurations are Used	MySQL, NoSQL
6.	Cloud Database	Database Service on Cloud to store User Details	IBM Cloudant DB
7.	File Storage	File storage Requirements are Database to store the Passenger Details	IBM Block Storage or Other Storage Service or Local Filesystem
8.	Object	Purpose of External API used in the application is navigate the Train Location	GPS Navigator
9.	External Application	Purpose of External API used in the application is generate Unique QR Code.	QR Code Generator
10.	Internet Of Things	Purpose of Internet Of Things Model is used by IOT Device to work the application in Online.	IOT Device
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	Node-RED is a Framework thought for an IOT Solution. The Framework is programmed using a graphical interface	Programming Tool In IOT
2.	Security Implementations	Secure Online Transaction	UPI Transaction
3.	Scalable Architecture	QR Code Formation Of Every Person with Unique ID. Reuse the ID with Update Records	Matrix Barcode
4.	Availability	This is a Online Application, So Available in Every time	WEB User Interface
5.	Performance	Design consideration for the performance of this application is Well Structured	Internet Of Things