Development Phase Sprint 1

Identifying problem statement

Problem Statement

To provide a smart way for booking tickets in railway department through a webpage with a unique QR for each ticket and to deliver the live status of the train to the passengers which is helpful in the critical situations (Stuck of train in forest areas)

Creating Abstract

Abstract & Ideation

A queue occurs when there are more customers than employees to serve them. This means that customers have to wait for their turn. Whether the waiting itself is an issue or not can only be determined by the customers. A crucial factor in solving a queuing problem is managing the customer's perceived service level.

Solving queuing problems should be a top priority of any service provider. By ensuring that the right customer is at the right place, at the right time, and served by the most appropriate staff, organizations can;

- Increase sales and productivity by up to 30%
- Decrease costs by up to 30%.

Requirement (Functional & Non-Functional)

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Before the user registration there will be options to select the language. All the language is applicable, when user enter in to the application they can see the page of showing enter the email, mobile number and name. After that in screen it shows the verification code is sent through the email id.
FR-2	User verification	The verification code is sent to the registered mail ID
FR-3	User confirmation	The verification code is entered in the application. After finishing, home page opens up.

FR-4	Process of booking	When the home page is opened there will be a from and to option. We must enter the details then after that we can able to see the number of trains availability and seats availability. We can select the particular train and particular seats which we need and click the confirm option.
FR-5	Payment process	After entering all the details select the payment option like google pay, phone pay, Paytm, etc. When we select that method, it processes through selected payment option then payment should be done carefully, then the ticket is confirmed. After confirmation it will return to the page and we can see the details of booking.
FR-6	Confirmation message	After all the QR code will be send through the SMS and email id. QR code will be shown to the ticket collector when the QR code is scanned booking details will be shown.

Non-functional Requirements:

Following are the non-functional requirements of the proposed solution.

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	The app can be accessed very easily by the user. Even they can choose their own languages of comfort.
NFR-2	**Security**	The permissions access is only for the location access only there will be no other unauthorized permission should be entered to it.
NFR-3	**Reliability**	While entering the details , if there is any interruption like network disabled etc. the process will be stored automatically and after the connection recovers the user can continue their process
NFR-4	**Performance**	Application is created in a secure way so that no unauthorized user can access the data from the backend.
NFR-5	**Availability**	The user will only be provided with the QR code to their registered mail ID
NFR-6	**Scalability**	At a time more than 300,000 users can use the application. All the data will be stored in the cloud simultaneously.

Software requirements

- Python IDE
- IBM Cloud
- IBM Watson IOT Platform
- Node-RED

Components & Technologies

- Web UI - HTML, CSS, JavaScript
- Cloud Services - Python
- GPS Tracking - IBM Watson Service
- External API-1 - Sabre API
- External API-2 - Trainline B2B API