**AIM: To Prepare Problem Definition For Railway Management System**

**Theory:**

There are a number of existing platforms that are used for booking train tickets via online. These existing systems have a number of problems such as being less secure, limited payment methods, high threats of sensitive data leak, slow performance, primitive user interface model, not available at all locations. Our proposed model is designed to overcome these problems with much better planning and implementation. The proposed system will provide much better user experience by providing them with a well designed and rich user interface. User personal details and credentials are protected within a well build secure system. Multiple payment methods are included so that the user can choose any legalised method in order to complete the payment. Security is given the most priority while developing this system in order to keep user information from getting into wrong hands. This system will provide faster response and will have better efficiency, correctness and accuracy. Multiple features will be implemented in this system which may or may not be available in existing systems. And if its available those features would be better implemented in our proposed system than those existing systems. The travellers are given all information regarding their journey which includes total distance between source and destination stations, in between stations and halt time at all stations. Total time required to complete the journey, available seats in each class, food menu selection are also some additional features intended to implement in this system.

The user can register to the system with his or her details. The user can login through their username or password. Once logged in the user can check all the trains available in that desired time and location, including number of seats available and ticket price. Additional information like distance and time taken in order to complete the journey. The user can choose the train that they want to travel in and pay the ticket fare using any of the available payment methods. Once booked the user will get an email containing the ticket for the journey. The user can also use additional features of this system like choosing the food menu. If user changed their mind, they can change the train or time of their journey or the boarding station. The user is also given an option to cancel his or her ticket. Multiple tickets can be booked by the user.

Once the user logged in or register their details are stored in a central server. And these details can be retrieved whenever it is required. Additional security is provided in order to protect those. Using geolocation current location of the trains or user can be shown to the user through the application or GUI. The entire system depends on a central server and the admins are responsible to keep this system running smoothly. The journey history of the user is stored by the system for future use. So in order to provide better user experience depending on previous travel history. 24/7 customer service is provided to the user in order to assist them with any problems that they suffer.

**Functional Requirements Specification**

**1) Stakeholders**

a) User

b) Adminstrator

**2) Actors and Goals**

* User
* Initiating Actor
* The user has the ability to access the main Application in order to use it to check train schedule, ticket price and also to book ticket online
* Administrator
* Initiating Actor
* The administrator controls the entire system. The admin can take the system offline in order for maintenance. The admin keeps a check on users and has the responsibility to provide security to user details and to keep the system running smoothly.
* Database/ Storage
* Database or storage is an essential part of any system. This is used to store the user details. User gets his or her information directly from database. Database admins provides security to the database in order it to protect it from malicious breaches.
* Geolocation Service
* This is a secondary service which enables the user to track any train’s current location via internet. The user can track his or her own current location and determine the time and distance left to complete the journey.
* Payment Service
* It allows the user to use any legalised method to pay for the ticket. Priority is to cover almost every single payment method available from credit card to crypto currency.

**Conclusion:**

Hence we successfully implemented Problem Definition for Railway Management System.