

USE CASE SENARIO:

DATABASE FOR ONLINE RAILWAY RESERVATION SYSTEM

This is an online railway reservation system that includes trains, routes, ticketing systems, stations and reservation officers. Users can book and travel to different locations, on routes they prefer using this railway reservation database.

The aim of this case study is to design and develop a database to maintain ticketing and bookings, IDs, ages, names and etc. done by the users. It also maintains records of regular users and offers any special offers provided by the railway system.

The online railway reservation system allows a user to log to a system which contains train details, station details, route details, reservation officers' details and payment details, where they can search for one or more trains that are available and book more than one reservation to where they desire to travel. The user can access to the system by creating an account or using the username and password, if she/he already has an account. After logging into the system, the system would give a user ID to identify each user uniquely. Now the user can access the system each time using his/her username and password, if they forget the password, the system allows security quest to reset the password and access the account.

After logging in to the system, one user can look for more than one available train to make reservations to travel between two stations. The system has all specific details of the train such as; train ID, train name, Train type and Available class of the trains. Train ID is unique for each and every train. Also, each train has train status, such as; status ID, number of seats, available seats and booked seats. Status ID in train status is distinctive in every case. here one train can have many train

statuses according to bookings. After searching the required train to travel, the passenger can book the train. When booking a train, the passenger needs to enter his/her details such as; passenger name, age, gender, address of the passenger and number of seats required. Each passenger is unique, so the passenger is given a passenger ID to be identified. After specifying passenger details, the passenger can choose a station to travel to. If the passenger is a daily traveler, the system can record routes and promote offers such as season tickets, discount reservation promo codes. The passenger has to choose which station he/she requires to start travel, and which station to stop at. Many trains start with one station, also many trains end with one station. The station includes; station ID, station name, number of trains and, number of routes. Station ID is unique for each station. Many stations consist of many routes. Routes has; route number, arrival time, departure time and stop number where passenger can identify each route by its route number separately. One route has many trains travelling along them. In every train, there are many train classes and the train classes consist of class name, number of seats available and class ID for identify each train class uniquely.

Following the booking, the passenger needs to buy the ticket required to travel and he/she could make the payments. The ticket includes; the passenger ID, train ID, class ID, seat number, route, date, ticket ID and station details. The ticket ID is different for every ticket which is easy for passenger to identify each ticket. The payment includes; payment number, payment type as credit or debit and the pay date. payment number is different for every payment detail. When the passenger pays the relevant payment through credit cards for more than one ticket, the system gives a promo code offer for the selected routes. One passenger could buy many tickets according to their desire. One payment can be made to multiple trains. One ticket can only be issued to one payment.

In every train station, train statuses are managed by reservation officers. In a case of emergency, the passenger can contact reservation officers, where they have an officer id, officer name, telephone number and passenger can use officer ID to identify reservation officers. One reservation officer can only contact to one passenger at a time, but there are five reservation officers in a station. The system also allows the passengers to cancel his/her reservation if any problem occurs, this is also managed by the reservation officers.

Use Case Diagram:

