**1.ABSTRACT**

**1.1 INTRODUCTION:**

This system is basically concerned with the reservation and cancellation of railway tickets to the passenger. The need of this system arouse because as is the known fact that India has the largest railway network in the whole world and it is not possible to handle such a large system manually. By computerizing it, it became possible to overcome the limitations and make the system operations more efficient. The complexity in handling data and records of such a vast system got reduced and became easier by computerizing the system.

Being more specific, this online railway reservation system can perform the basic functions like reservation and cancellation. The users are required to register on the server for getting access to the database and query result retrieval. Upon registration completion, each user has an account which is essentially referred to as the ‘view level’ of the customer. The account contains comprehensive information of the user entered during the registration and allows the user to access their past reservations, cancellations, enquire about trains and train schedule, seat availability and make afresh reservations. The user will also be able to update their account details, etc.

The master user of this system is the Railway Administrator who can login using a master password and once a user is authenticated as the admin, he/she can access and modify information stored in the database of this system. This includes adding and updating of train, station, train routes and also managing the user and the passenger details.

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**1.2 PROPOSED SOLUTION:**

he railway network is a very vast system to be handled manually and its computerization will prove to be of great help to both the employees and the passengers. The customer and the admin are the two parties which are allowed to have access to the database of the system and have different view level schemas to the database information.

The customers are privileged with the following services:

* Register as a customer by providing certain personal details.
* Make fresh reservations and book one or more (limited to 3 seats per ticket) seats.
* View past booking and can even do cancellation of booked ticket.
* See trains between a pair of stations, check seat availability in trains and get the fare details.

Administrator is privileged with the following services:

* Login as the master user using a master password.
* Add train, station, and route.
* See user and passenger details and can even delete their profiles after which the user will not be able to login to the system as a user.

The system’s security has been kept into consideration well. The database of the system cannot be accessed by any user either admin or customer without being authenticated by correct username and password. The password set can also be modified and in case if the user forgets the password, it can be recovered by giving a correct answer to a security question.

This project has been designed in such a way so that it overcomes problems like data redundancy

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**2. ENTITY RELATIONSHIP-DIAGRAM**

**2.1 LIST OF ENTITY TYPES:**

|  |  |  |
| --- | --- | --- |
| **S.NO** | **ENTITY** | **ATTRIBUTES** |
| 1 | User | Email\_ID, password, Fullname, Gender, Age, Mobile,City, State |
| 2 | Passenger | PNR ,Passenger\_name,Age, Gender, Reservation\_status,Booked\_By |
| 3 | TRAIN | Train\_ID, Train\_name,Train\_type,Available\_days,Seat\_available |
| 4 | Route | Source\_distance, Stop\_number, Arrival\_time, Departure\_time |
| 5 | Station | Station\_ID, Station\_Name |
| 6 | Train\_Status | Available\_Date, Booked\_seats1, Waiting\_seats1, Available\_seats1, Booked\_seats2, Waiting\_seats2, Available\_seats2, Booked\_seats3, Waiting\_seats3, Available\_seats |

**2.2LIST OF REALTIONSHIPS:**

|  |  |  |
| --- | --- | --- |
| **S.NO** | **RELATION TYPE** | **ENTITY TYPES INVOLED** |
| 1 | Enquires | User, Train 2 |
| 2 | Consists Of | Station, Route 3 |
| 3 | Has | Train, Train\_Status 4 |
| 4 | Checks | User, Train\_Status 5 |
| 5 | Has | Train, Route 6 |
| 6 | Starts from/ Ends on | Train, Station 7 |
| 7 | Assigns | User, Passenger |

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**2.3 ENTITY RELATIONSHIP DIAGRAM:**

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