RAILWAY RESERVATOIN

MANAGEMENT SYSTEM

A DBMS PROJECT REPORT

Submitted by

IJAS AHAMMED | ISHA KRISHNA | JEAN JACOB | JEEVA JOSE

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VIDYA NAGAR, PALISSERY, KARUKUTTY

ERNAKULAM – 683582

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ABSTRACT

This project is about creating a database about the Railway Reservation Management System. The Railway Reservation Management System facilitates the passengers to enquire about the trains available on the basis of source and destination, booking and cancelation of tickets, enquire about the status of the booked tickets etc.

This project contains introduction to the Railways Reservation System. It is the computerized system of reserving the train seats in advance. It is mainly used for long route train journey. Online reservation has made the process for the reservation of seats very much easier than ever before.

The aim of this project is to design and develop a database maintaining the records of different trains, stations and passengers. The record of the train includes its number, name, days on which it is available, source station and destination station and the departure and arrival time. Passenger can book their tickets for the train in which seats are available. For this, passengers have to provide the desired train number and the date for which ticket is to be booked. Before booking a ticket for a passenger, the validity of train number and booking date is checked.

Once the train number and booking dates are validated, it is checked whether the seat is available. If yes, the ticket is booked with confirm status and corresponding ticket number is generated which is stored along with other details of the passenger. The ticket once booked can be cancelled any time.

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1 INTRODUCTION

Database is an organized collection of data. The data is typically organized to model aspects of reality in a way that supports processes requiring information. A DBMS makes it possible for end users to create, read, update, and delete data in a database. The DBMS essentially serves as an interface between the database and the end users or application programs, ensuring the data is consistently organized and remains easily accessible.

The main purpose of maintaining database for Railway Reservation System is to reduce the manual errors involved in the booking and cancelling of tickets and make it convenient for the customers. Due to automation many loopholes that exist in the manual maintenance of the records can be removed. The speed of obtaining and processing the data will be fast. For future expansion the proposed system can be web enabled so that clients can make various enquiries about trains between stations.

2 PROPOSED SYSTEM

This project is about the Railway Reservation Management System which is used to view train Schedule, search trains, seat availability, train timings. We can get information about train between two stations. We can book seats online. This provides a safe and secure seat reservation system.

The objective of the online railway reservation management system project is to design a software to fully automate the process of issuing a railway ticket.

That is –

1. To create a database of the trains and stations.
2. To search the available trains between two stations.
3. To search a train's arrival and departure time
4. To check availability of the seats
5. To calculate fare
6. To book the ticket
7. To cancel the ticket if necessary.

3 SYSTEM DESIGN

The project includes both the Admin and Customer features. The passengers can create an account and login to book a ticket, search trains, etc. The Admin has the control to insert, delete, update train and station details and manage the database.

The Admin have the following access to this website –

- Login
- Add Trains
- Add Station
- Add train schedule
- Update Trains
- Remove or cancel trains
- View trains
- Profile edit
- Logout

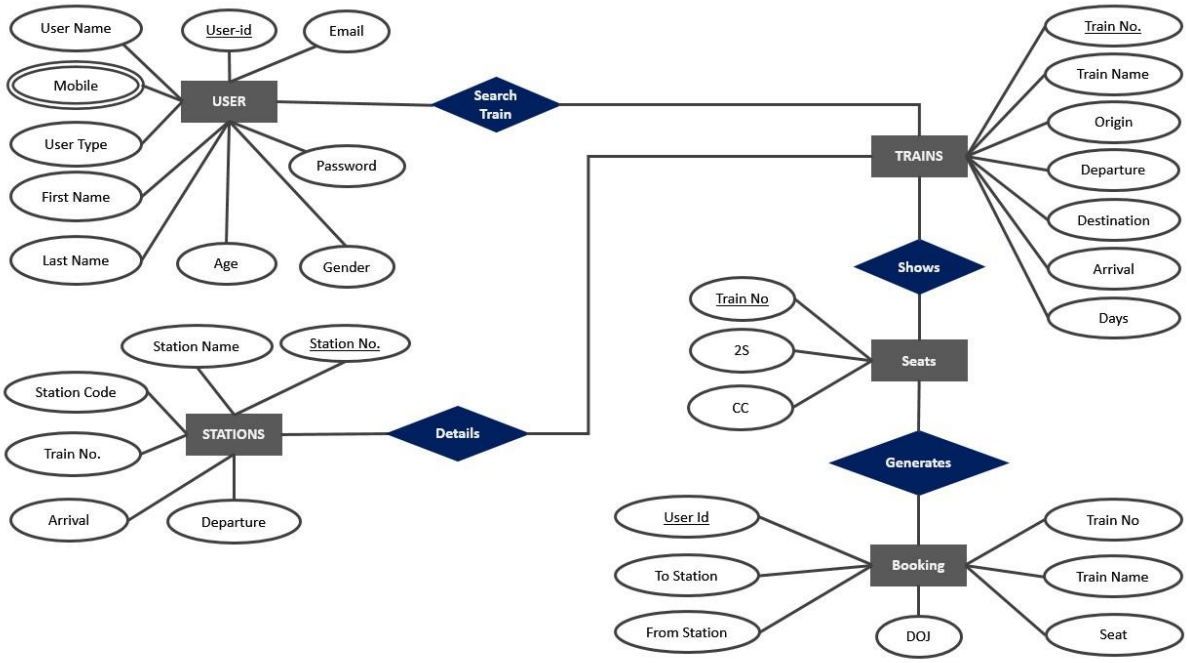
The Users have the following access –

- Register
- Login
- View trains
- Search trains between stations
- Check seat availability
- Book ticket
- View profile
- Update profile
- Logout

Technologies used –

1. Front-End Development :
    a. HTML
    b. CSS
    c. Bootstrap
    d. Java Script
2. Back-End Development :
    a. PHP
    b. MySQL
    c. phpMyAdmin

3.1 ER DIAGRAM



3.2 DATABASE DESIGN

The Database consist of following tables:

3.2.1 USER TABLE

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
☐	1	**userid** 🔑	int(11)			No	*None*		AUTO_INCREMENT
☐	2	**username**	varchar(30)	utf8mb4_general_ci		No	*None*		
☐	3	**password**	varchar(50)	utf8mb4_general_ci		No	*None*		
☐	4	**firstname**	varchar(20)	utf8mb4_general_ci		No	*None*		
☐	5	**lastname**	varchar(20)	utf8mb4_general_ci		No	*None*		
☐	6	**age**	int(11)			No	*None*		
☐	7	**gender**	varchar(6)	utf8mb4_general_ci		No	*None*		
☐	8	**usertype**	char(1)	utf8mb4_general_ci		No	*None*		
☐	9	**email**	varchar(40)	utf8mb4_general_ci		No	*None*		
☐	10	**mobile**	bigint(15)			No	*None*		

3.2.2 TRAIN TABLE

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
☐	1	**train_no** 🔑	int(11)			No	*None*		
☐	2	**train_name**	varchar(20)	utf8mb4_general_ci		No	*None*		
☐	3	**origin**	varchar(20)	utf8mb4_general_ci		No	*None*		
☐	4	**departure**	varchar(10)	utf8mb4_general_ci		No	*None*		
☐	5	**destination**	varchar(20)	utf8mb4_general_ci		No	*None*		
☐	6	**arrival**	varchar(10)	utf8mb4_general_ci		No	*None*		
☐	7	**days**	varchar(30)	utf8mb4_general_ci		No	*None*		

3.2.3 STATION TABLE

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
☐	1	**s.no** 🔑	int(11)			No	*None*		AUTO_INCREMENT
☐	2	**station_code**	varchar(5)	utf8mb4_general_ci		No	*None*		
☐	3	**station_name**	varchar(20)	utf8mb4_general_ci		No	*None*		
☐	4	**train_no**	int(11)			No	*None*		
☐	5	**arrival**	time			No	*None*		
☐	6	**departure**	time			No	*None*		

3.2.4 SEATS TABLE

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
☐	1	**train_no** 🔑	int(11)			No	*None*		
☐	2	**2S**	int(11)			No	*None*		
☐	3	**CC**	int(11)			No	*None*		

3.2.5 BOOKING TABLE

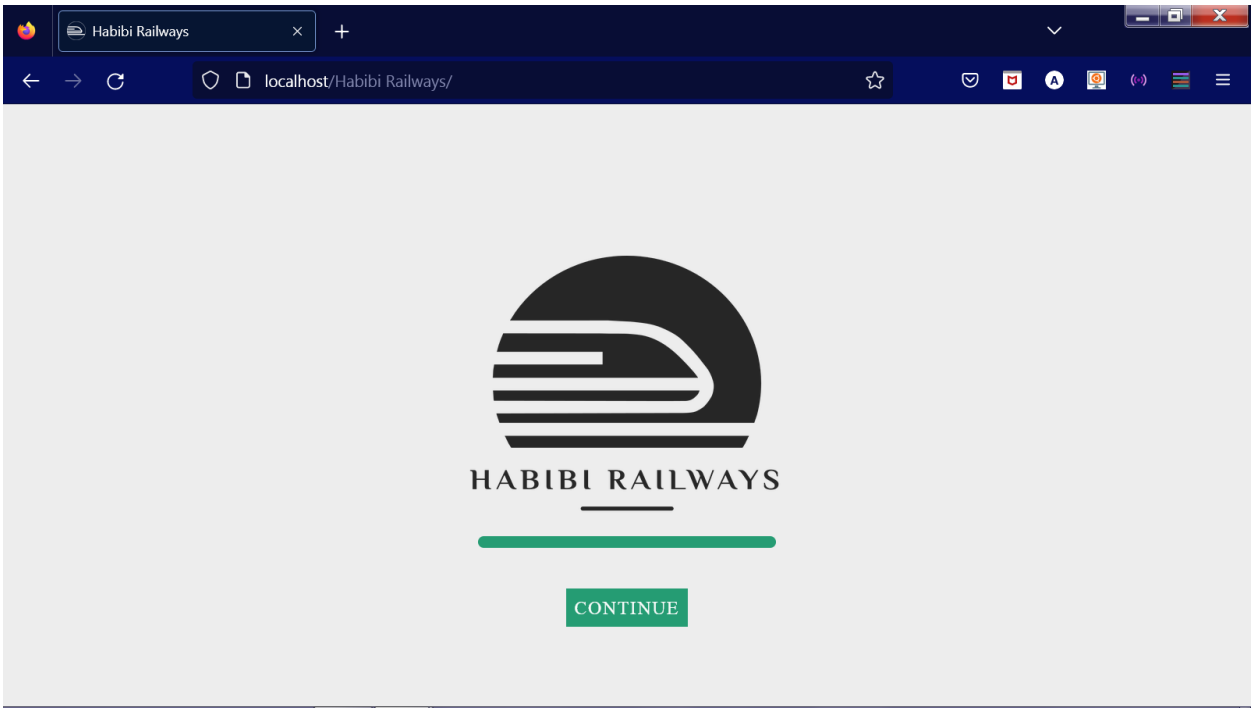
	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
☐	1	**userid**	int(11)			No	*None*		
☐	2	**train_no**	int(11)			No	*None*		
☐	3	**from_station**	varchar(20)	utf8mb4_general_ci		No	*None*		
☐	4	**to_station**	varchar(20)	utf8mb4_general_ci		No	*None*		
☐	5	**date**	date			No	*None*		
☐	6	**seat**	varchar(2)	utf8mb4_general_ci		No	*None*		

4 INTERFACE AND RESULTS

4.1 USER INTERFACE

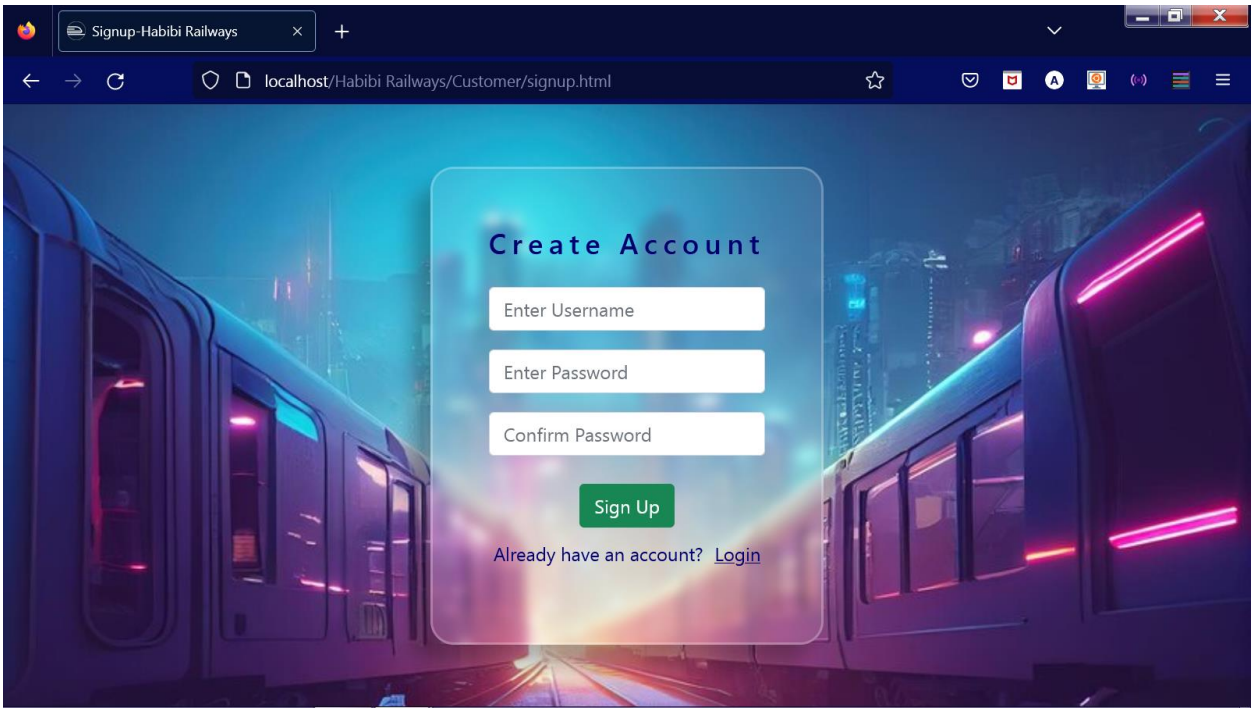
4.1.1 Welcome Page

This is the first window shown when the application is executed.



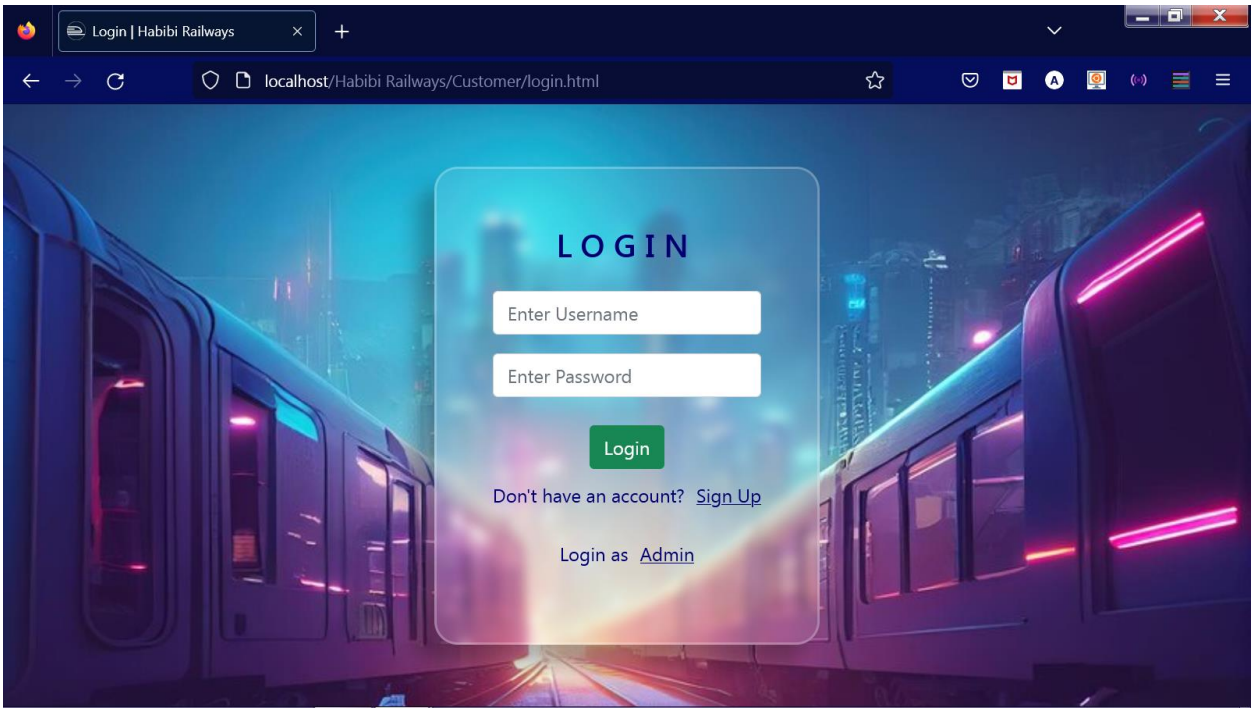
4.1.2 Sign Up Page

This page allows new users (customers) to create a new account.



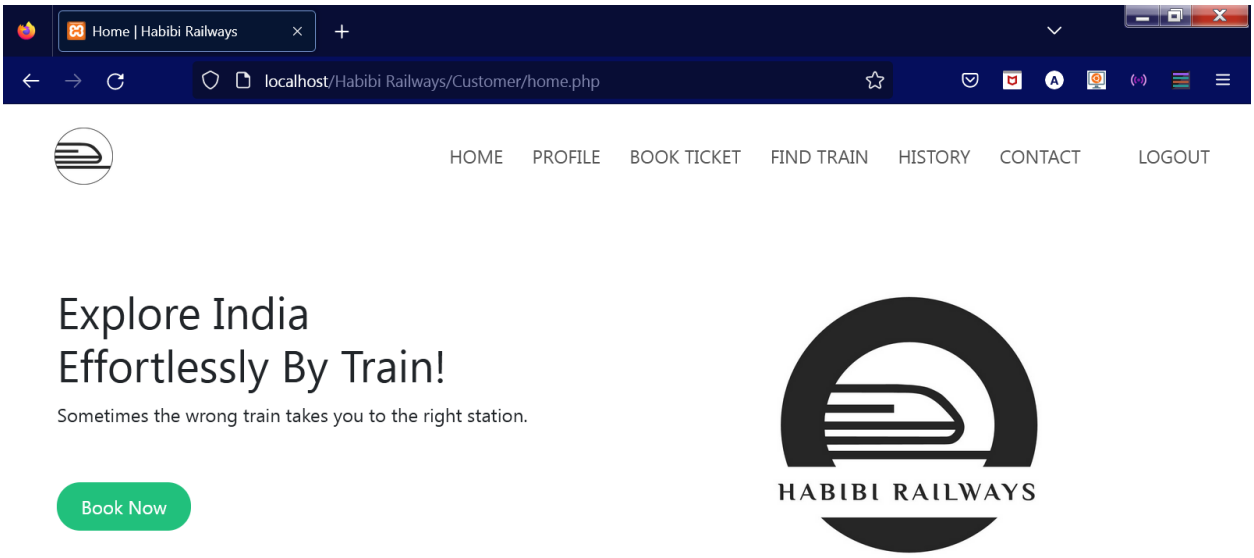
4.1.3 Login Page

This page allows users to login to the website by giving their respective credentials.



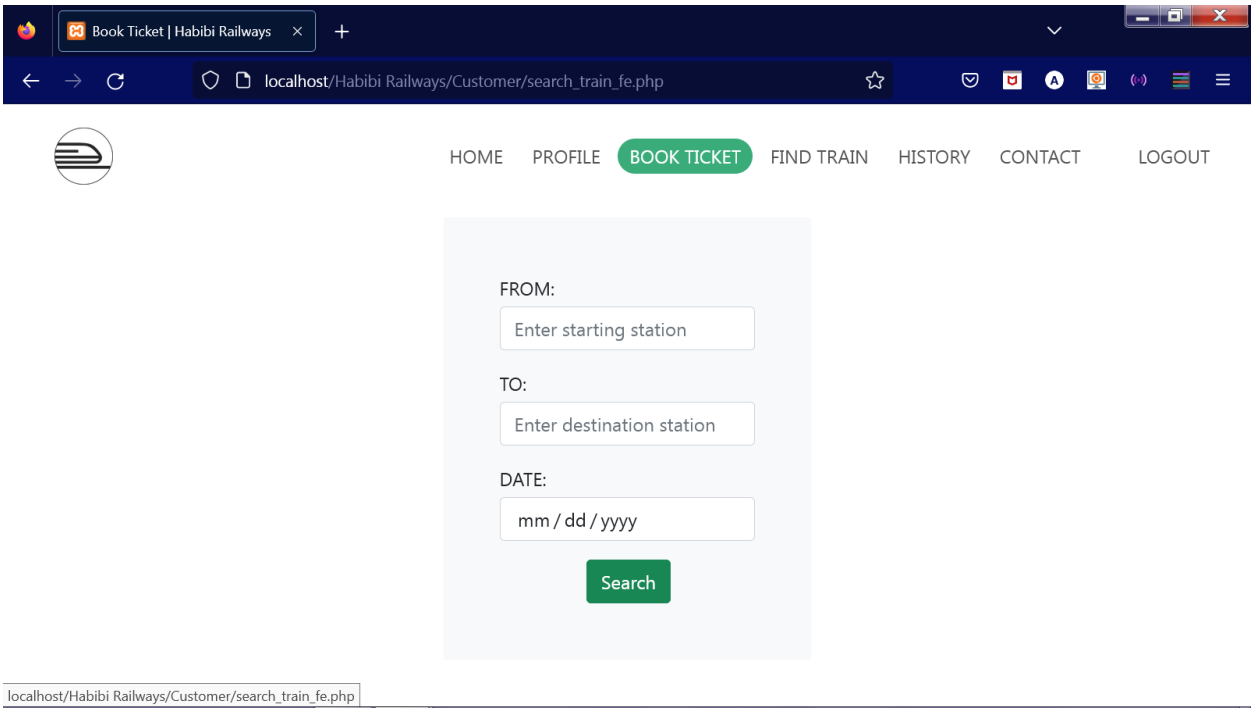
4.1.4 Home Page

After successful login, the user is welcomed by home page.

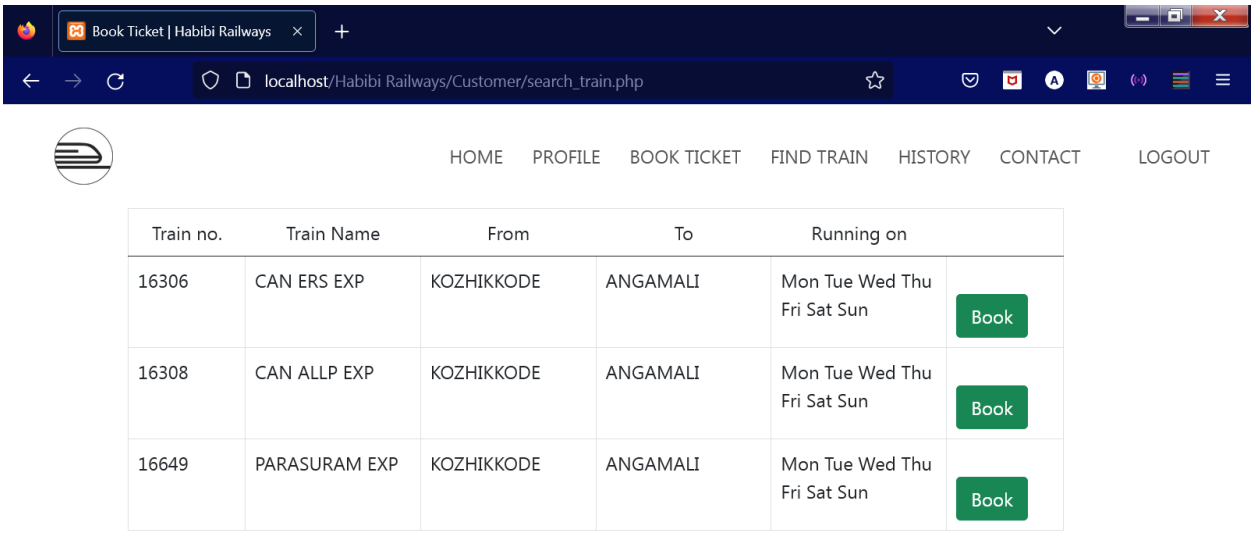


4.1.5 Search Train Page

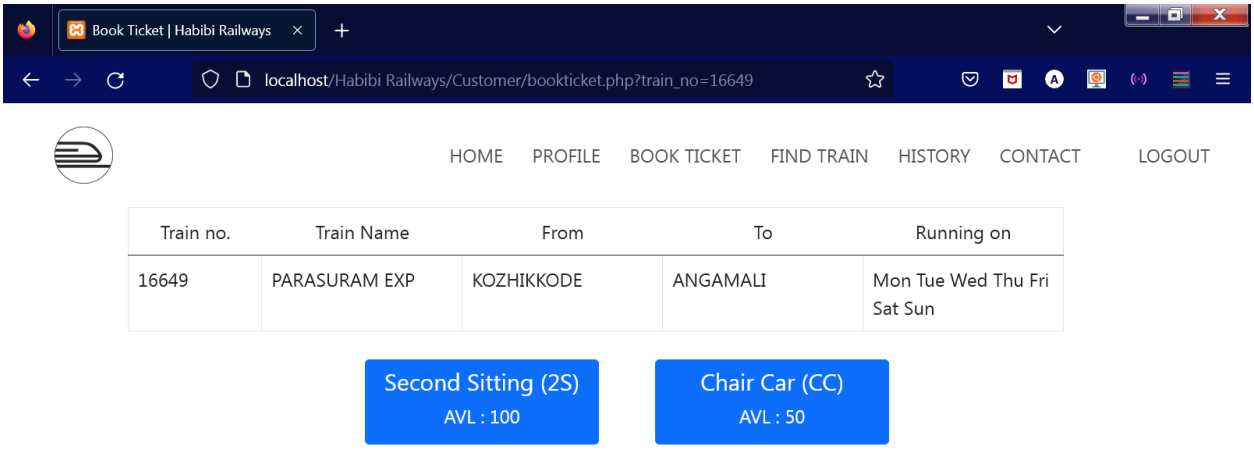
In this page, the user can search for trains between two stations on a given date.



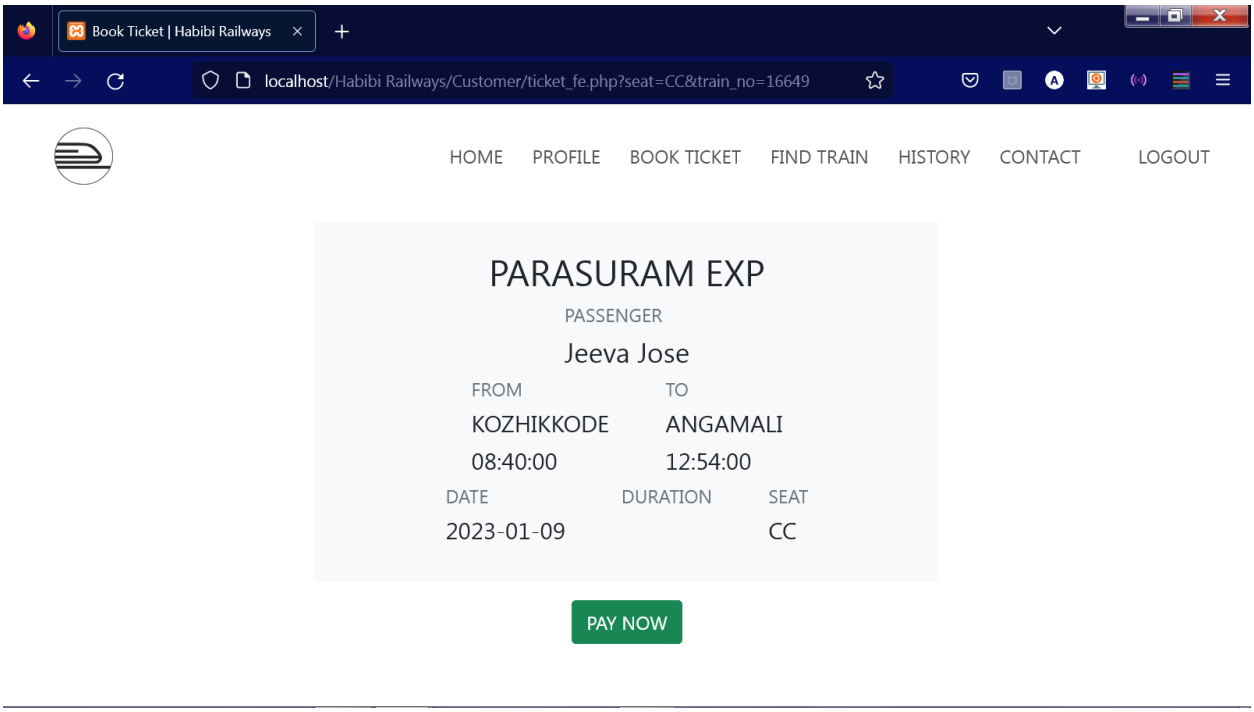
Using the details provided by the user, all the available trains are shown.



The couches and their respective remaining seats of the selected train is shown of the next page.



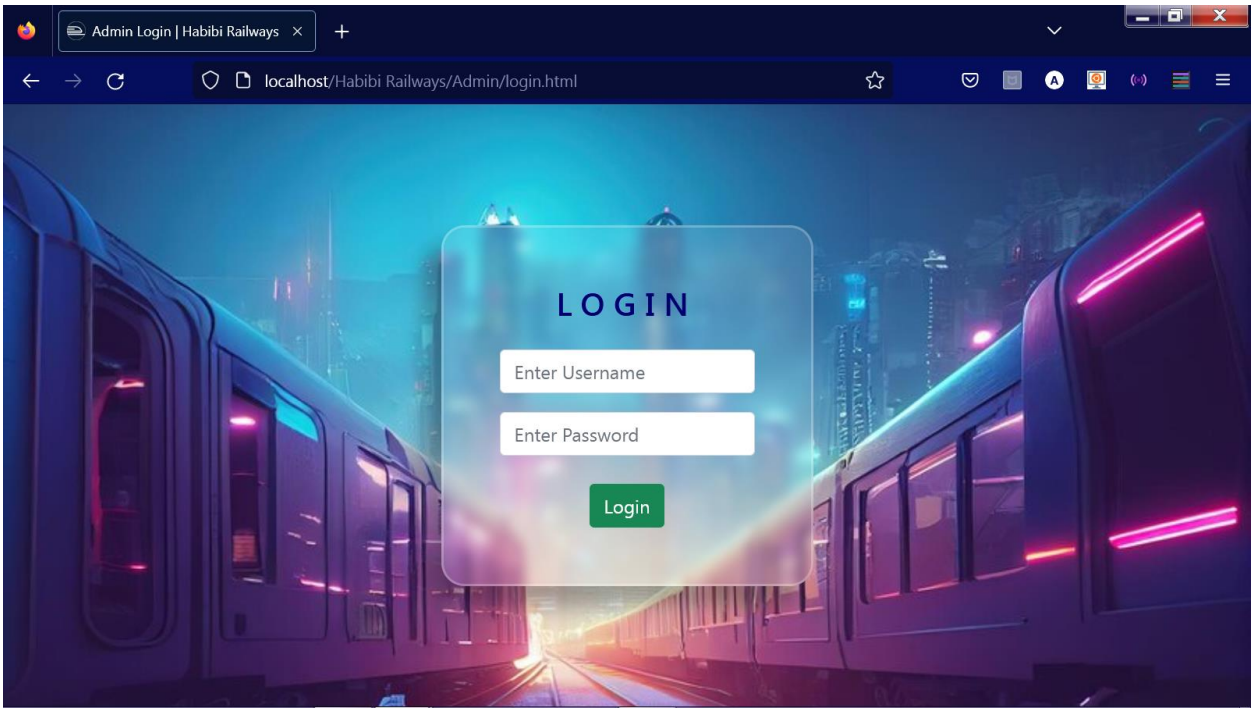
The selected details and the ticket is shown in the next page. The user can now confirm his booking details and go for payment.



4.2 ADMIN INTERFACE

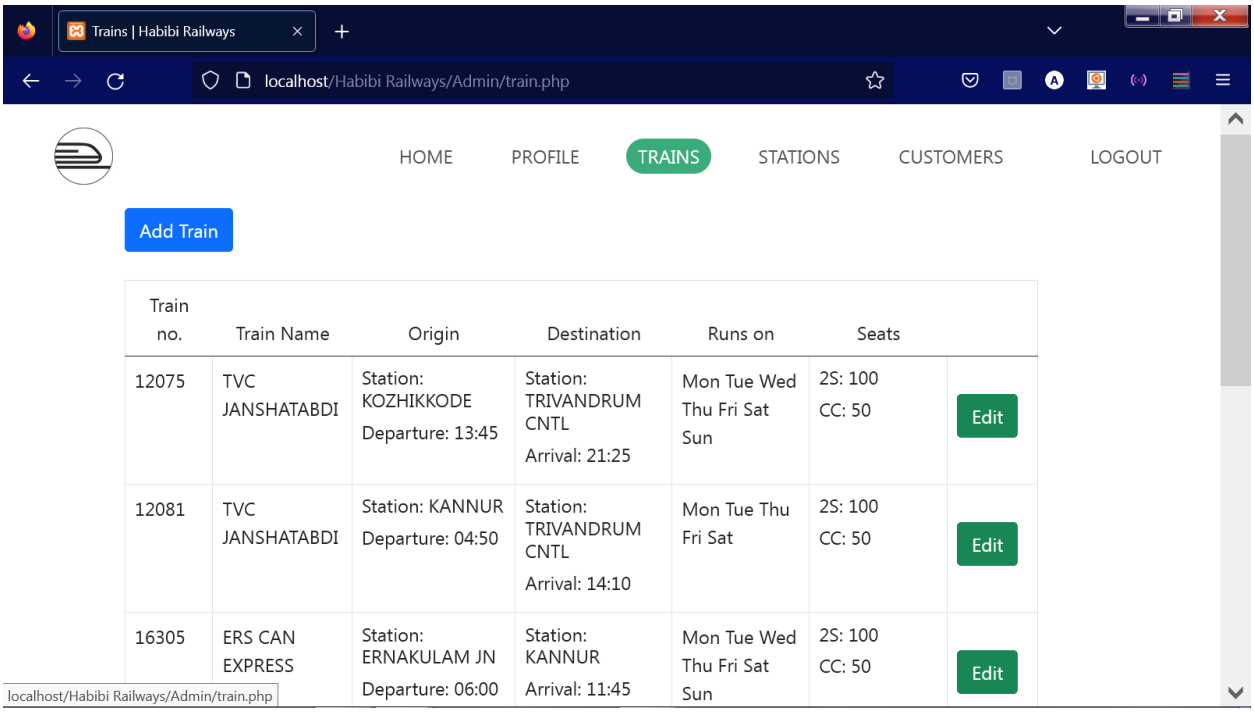
4.2.1 Login Page

This page allows admin to login to the website by giving their respective credentials.

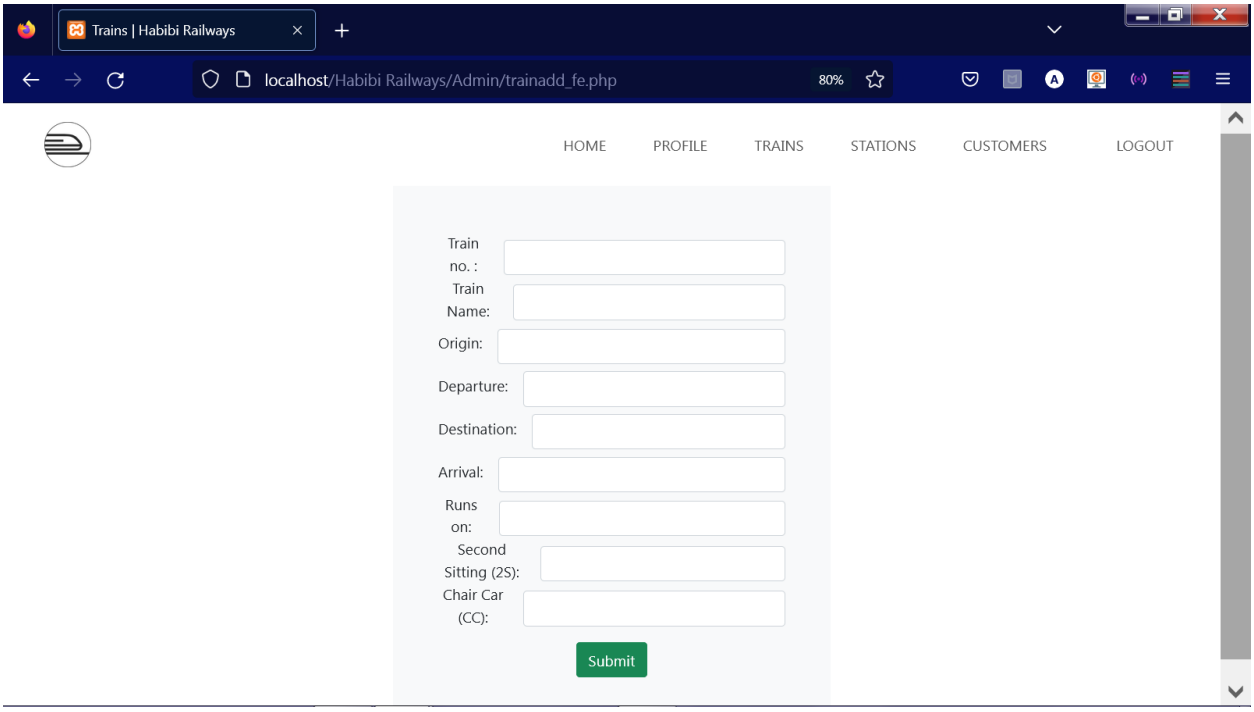


4.2.2 Trains Page

In this page, the admin can view and edit all the trains and their details entered into the database.

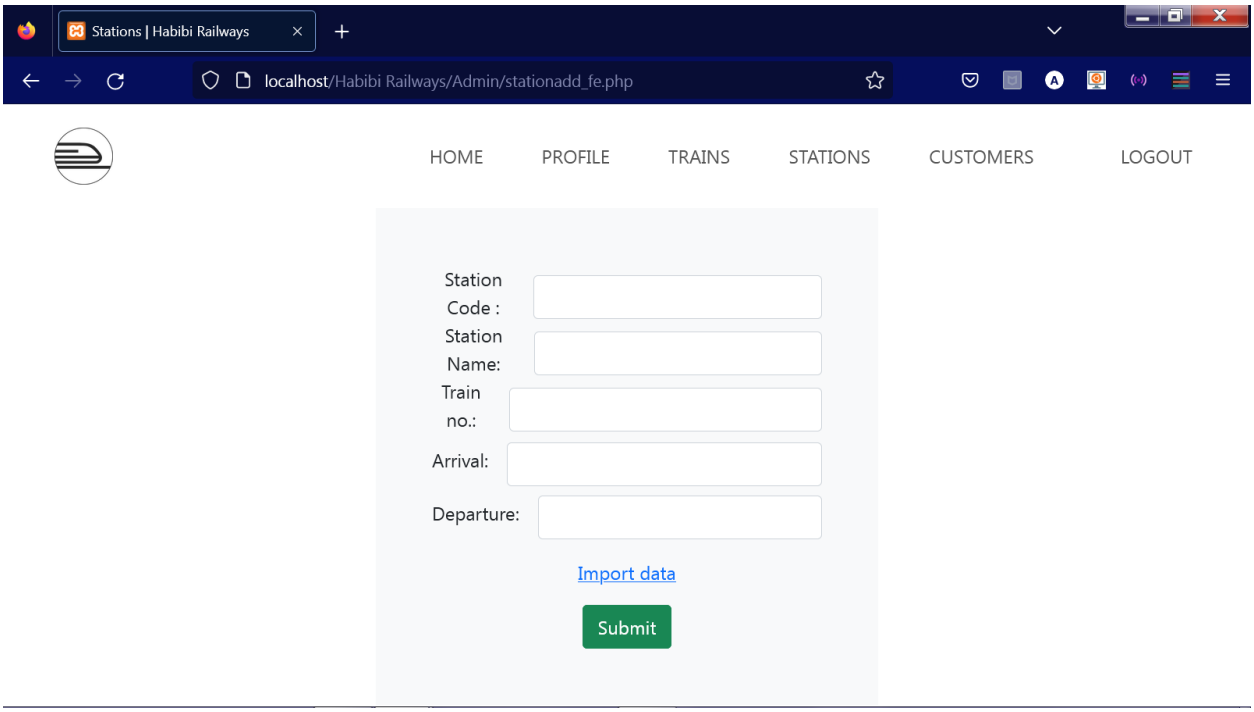


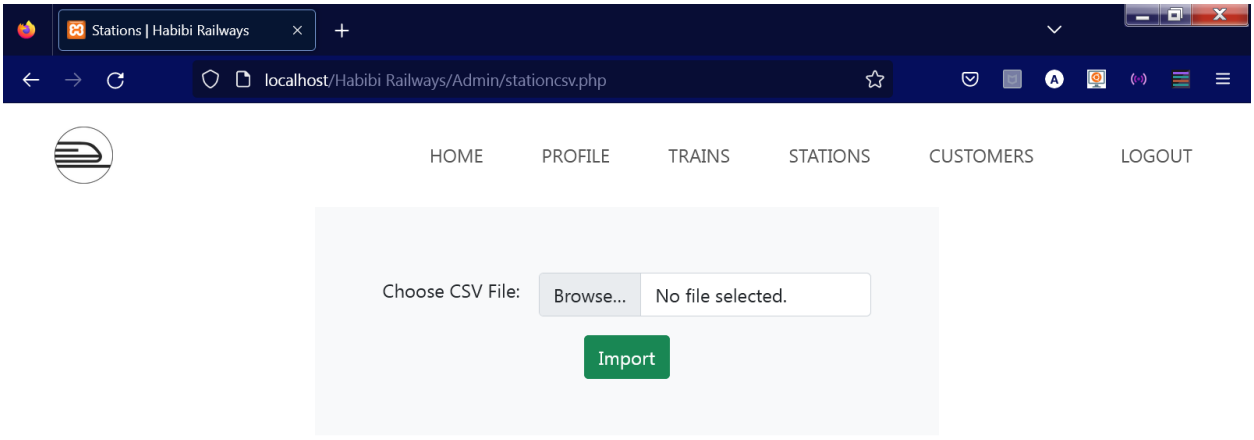
The Admin can also add new trains.



4.2.3 Stations Page

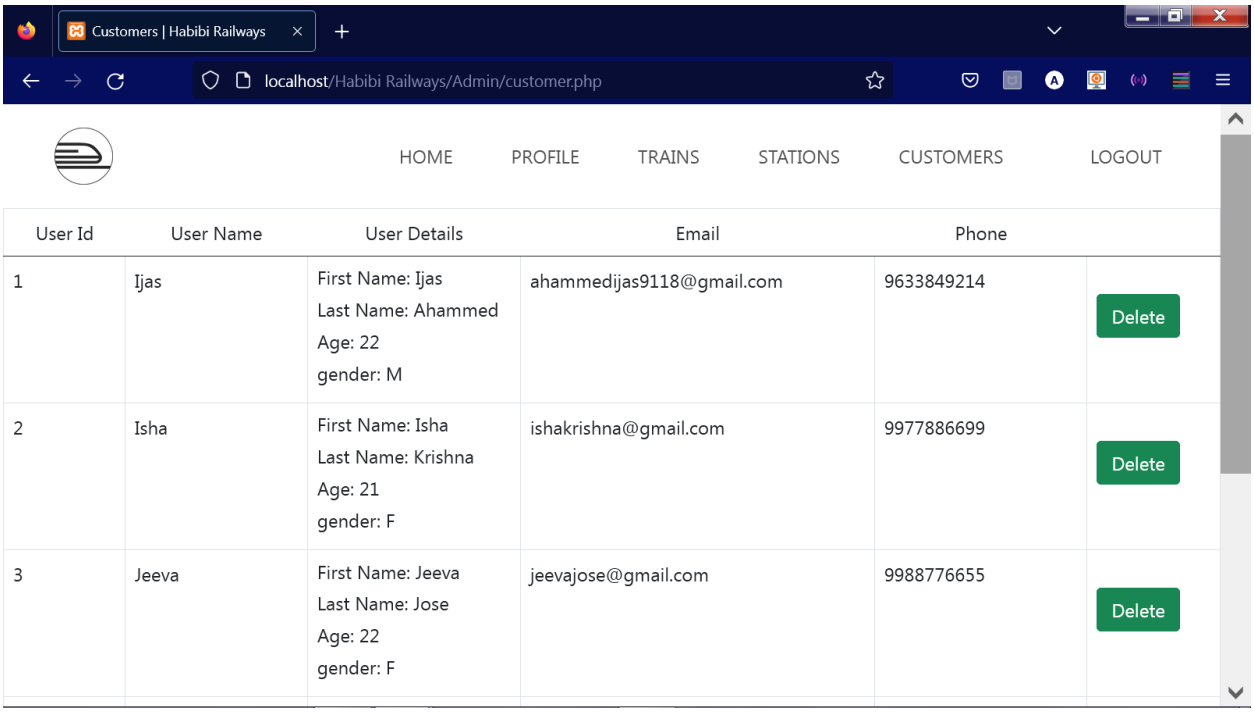
In this page, the admin can add a new station. The station can either be added manually or by importing the station schedules as a .csv file.





4.2.4 Customers Page

The admin can also view the details of all the customers, i.e. users, who have signed up into the website.



5 CONCLUSION

Our system can successfully give information on any train, find trains running between two stations, book tickets and cancel tickets. This system could be used for official train booking. However several other features could be added like booking meals on trains etc.

Also payment gateways have to be implemented to make sure the transactions happen securely.

6 Bibliography

1. https://www.phptutorial.net/
2. https://www.w3shools.com
3. https://stackoverflow.com/