

Roll No :-20BCE526,20BCE505

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Batch:-D2D

Subject:-Database Management System

Title:-Railway Reservation System

-:Abstract:-

RAILWAY RESERVATION SYSTEM should be able to manage all the reservation related functions. The system should be distributed in nature. This system is divided into five zones. Each zone should have same functionalities. Each zone will stores the information about train name, train schedules, availability.

The administrator should be able to enter any change related to the train information like change in train name, number etc. The system should be able to reserve seat in a train for a passenger. First the passenger will check for availability for the seats in a particular train on a specified date of journey. If it is available the passenger will reserve seats. The passenger will be given a unique PNR no. The passenger should be able to cancel a reservation.

-:Brief overview of the technologies used:-

Front end: HTML, CSS

1. HTML: HTML is used to create and save web document. E.g. Notepad/Notepad++
2. CSS : (Cascading Style Sheets) Create attractive Layout

Back end: PHP, MySQL

1. PHP: Hypertext Preprocessor (PHP) is a technology that allows software developers to create dynamically generated web pages, in HTML, XML, or other document types, as per client request. PHP is open source software.
2. MySQL: MySql is a database, widely used for accessing querying, updating, and managing data in databases.

- **Database schema**

Table: canc

Description: Contains data of all the tickets which are cancelled.

Column Details:

Column Name	Data Type	Size	Description/Constraint	Use
pnr	int	11	Not Null, Primary Key	Used as reference to cancel a booking.
rfare	int	11	Default '0'	The fare of the ticket booked.

Table: class

Description: Specifies how many classes are available in total.

Column Details:

Column Name	Data Type	Size	Description/Constraint	Use
cname	varchar	10	Not Null, Primary Key	Contains the class name of the ticket.

Table: classseats

Description: Used for enquiry purpose and bookng tickets to check how many tickets are available.

Column Details:

Column Name	Data Type	Size	Description/Constraint	Use
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trainno	int	11	Not Null, Primary Key	Contains unique trainno.
doj	date	-	Not Null, Primary Key	Specifies date of journey of train.
class	Varchar	10	Not Null, Primary Key	Contains the class name of the ticket.
fare	int	11	Not Null	Fare of the ticket.
seatsleft	int	11	Not Null	Number of seats left in train.
sp	varchar	50	Not Null, Primary Key	Specifies starting point.
dp	varchar	50	Not Null, Primary Key	Specifies Destination point.

Table: pd

Description: Contains the details of passengers who have booked tickets along with pnr number.

Column Details:

Column Name	Data Type	Size	Description/Constraint	Use
pnr	int	11	Not Null, Primary Key	Used as reference to cancel a booking.
pname	varchar	50	Not Null, Primary Key	Name of the passenger.
page	int	11	Not Null, Primary Key	Age of the passenger.

pgender	varchar	10	Not Null, Primary Key	Gender of the passenger.
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Table: resv

Description: Shows all the tickets that have been booked as well as cancelled.

Column Details:

Column Name	Data Type	Size	Description/Constraint	Use
pnr	int	11	Not Null, Primary Key, Auto Increment	Used as reference to cancel a booking
id	int	11	Not Null, Unique	Id of passengers.
trainno	int	11	Not Null, Unique	Contains unique trainno.
doj	date	-	Not Null, Unique	Specifies date of journey of train.
tfare	int	11	Not Null	Fare of the ticket.
class	varchar	50	Not Null	Contains the class name of the ticket.
nos	int	11	Not Null	Specifies number of tickets booked.
status	varchar	50	Not Null, Unique	Status of the ticket.

sp	varchar	50	Not Null	Specifies starting point.
dp	varchar	50	Not Null	Specifies Destination point.

Table: station

Description: Contains name of stations available.

Column Details:

Column Name	Data Type	Size	Description/Constraint	Use
id	int	11	Not Null, Auto Increment	Unique id for each station.
sname	varchar	50	Not Null, Primary Key	Contains the name of stations.

Table: train

Description: Contains name of trains routed between stations.

Column Details:

Column Name	Data Type	Size	Description/Constraint	Use
trainno	int	11	Not Null, Auto Increment, Primary Key	Contains unique trainno.
tname	varchar	50	Not Null	Contains train name.
sp	varchar	50	Not Null	Specifies starting point.
st	time	-	Not Null	Specifies Arrival Time.

dp	varchar	50	Not Null	Specifies destination point.
dd	varchar	10	Default Null	Number of days train travels.
dt	time	-	Not Null	Specifies departure time.
distance	int	11	Not Null	Distance the train travels.

Table: user

Description: Contains data of all the registered users.

Column Details:

Column Name	Data Type	Size	Description/Constraint	Use
id	int	11	Not Null, Auto Increment, Primary Key	Unique id of each user.
password	varchar	50	Not Null	Password of each user.
emailid	varchar	50	Not Null, Unique	Email-id of each user.
mobilenno	varchar	10	Not Null, Unique	Mobilenno of each user.
dob	date	-	Not Null	Date of birth of each user.

Table: schedule

Description: Contains the schedule of trains for each stations.

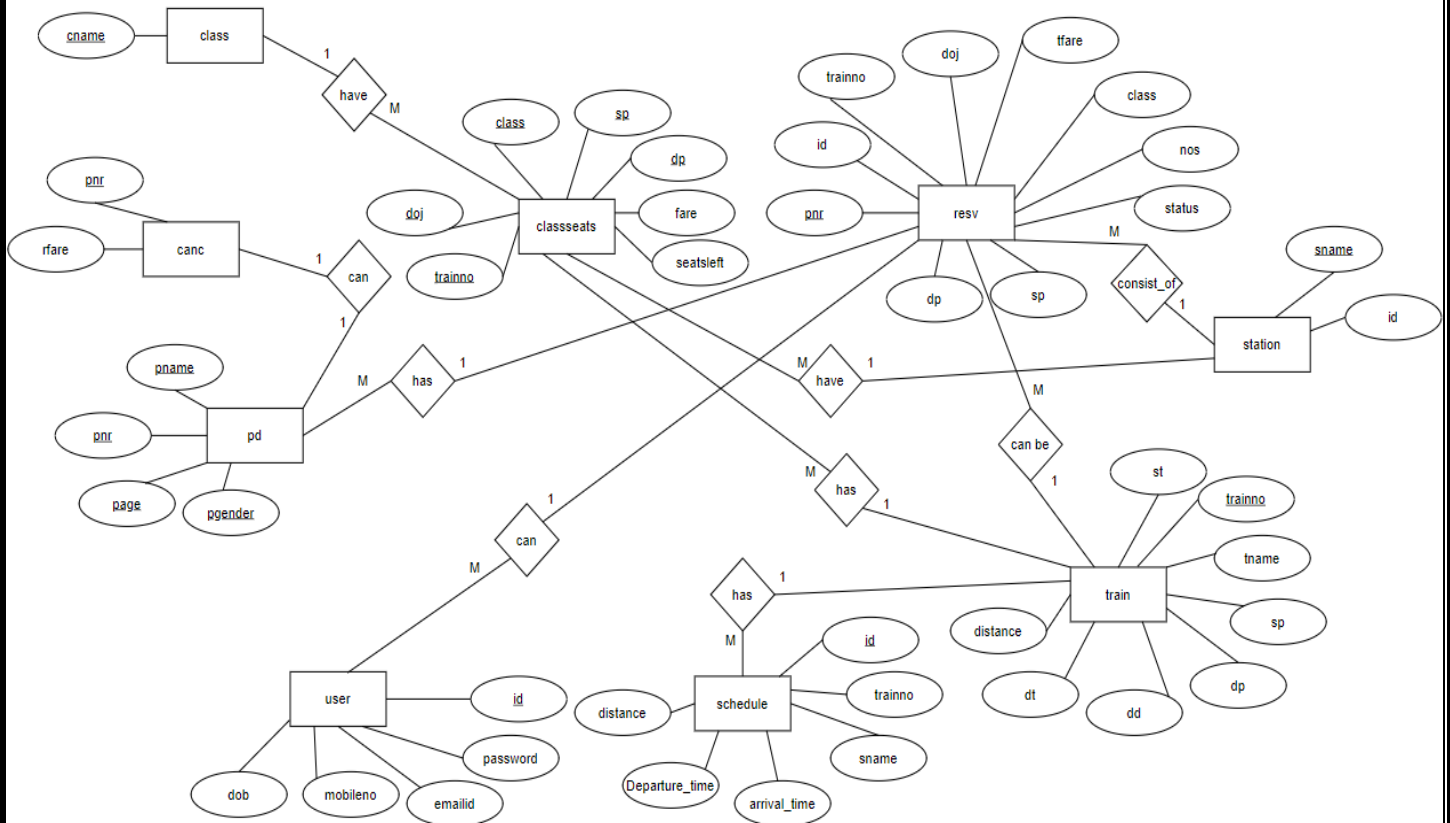
Column Details:

Column Name	Data Type	Size	Description/Constraint	Use
-------------	-----------	------	------------------------	-----

id	int	11	Not Null, Auto Increment, Primary Key	Unique id of each station.
trainno	int	11	Not Null	Contains trainno.
sname	varchar	50	Not Null	Contains the name of stations.
arrival_time	time	-	Not Null	Arrival time
Departure_time	time	-	Not Null	Departure Time
distance	int	11	Not Null	Distance to reach each station.

• ER Diagram

E-R Diagram



- **Functionalities and Sql Queries related to Project**

Create and Insert Queries of Some Tables.

- Creating canc table.

```
CREATE TABLE IF NOT EXISTS `canc` (  
  `pnr` int(11) NOT NULL,  
  `rfare` int(11) DEFAULT '0',  
  PRIMARY KEY (`pnr`)  
)
```

- Inserting data into canc table.

```
INSERT INTO `canc` (`pnr`, `rfare`) VALUES  
(57, 1100),  
(58, 5600);
```

- Creating pd table.

```
CREATE TABLE IF NOT EXISTS `pd` (  
  `pnr` int(11) NOT NULL,  
  `pname` varchar(50) NOT NULL,  
  `page` int(11) NOT NULL,  
  `pgender` varchar(10) NOT NULL,  
  PRIMARY KEY (`pnr`, `pname`, `page`, `pgender`)  
)
```

- Inserting data into pd table.

```
INSERT INTO `pd` (`pnr`, `pname`, `page`, `pgender`) VALUES  
(58, 'akhil', 20, 'M'),  
(58, 'deepak', 21, 'M'),  
(60, 'mohan', 20, 'M');
```


Functional Queries

- Display all cancelled tickets.

Input:

```
SELECT * FROM resv where status='CANCELLED';
```

Output:

pnr	id	trainno	sp	dp	doj	tfare	class	nos	status
57	5	12	Chandigarh	Jaipur	2015-05-07	2200	AC1	1	CANCELLED
58	6	20	Delhi	Jaipur	2015-05-09	11200	AC2	4	CANCELLED
61	21	6	Jaipur	Lucknow	2021-06-02	0	AC1	1	CANCELLED
62	21	12	Chandigarh	Jaipur	2021-06-02	0	AC1	1	CANCELLED
77	25	18	Jaipur	Kolkata	2021-08-04	2420	AC1	1	CANCELLED
78	25	12	Jaipur	Kolkata	2021-09-08	2200	AC1	1	CANCELLED
79	25	12	Jaipur	Kolkata	2021-09-06	2200	AC1	1	CANCELLED
81	26	12	Jaipur	Kolkata	2021-06-11	2200	AC1	1	CANCELLED
83	26	12	Jaipur	Madras	2021-06-01	2200	AC1	1	CANCELLED
84	27	12	Lucknow	Delhi	2021-08-08	2200	AC1	1	CANCELLED
86	27	12	Kolkata	Jaipur	2021-06-25	2200	AC1	1	CANCELLED
87	27	12	Chandigarh	Jaipur	2021-12-03	2200	AC1	1	CANCELLED
88	27	12	Jammu Kashmir	Jaipur	2021-09-04	2200	AC1	1	CANCELLED

- Display all booked tickets.

Input:

```
SELECT * FROM resv where status='BOOKED';
```

Output:

pnr	id	trainno	sp	dp	doj	tfare	class	nos	status
51	4	12	Chandigarh	Jaipur	2015-05-07	3300	AC1	2	BOOKED
59	10	12	Lucknow	Delhi	2015-05-17	2200	EC	2	BOOKED
64	21	20	Delhi	Jaipur	2021-06-05	0	AC1	1	BOOKED

- Display all tickets booked by Mobile No.: 8320081188.

Input:

```
select * from resv r,user u where u.mobilenno=8320081188 and r.status='BOOKED';
```

Output:

pnr	id	trainno	sp	dp	doj	tfare	class	nos	status	id	emailid	password	mobilenno	dob
51	4	12	Chandigarh	Jaipur	2015-05-07	3300	AC1	2	BOOKED	27	jainilsolanki0704@gmail.com	jainil	8320081188	2002-04-07
59	10	12	Lucknow	Delhi	2015-05-17	2200	EC	2	BOOKED	27	jainilsolanki0704@gmail.com	jainil	8320081188	2002-04-07
64	21	20	Delhi	Jaipur	2021-06-05	0	AC1	1	BOOKED	27	jainilsolanki0704@gmail.com	jainil	8320081188	2002-04-07

- Display all trains where AC1 class is available.

Input:

```
SELECT * FROM classeats where class='AC1';
```

Output:

trainno	sp Starting_Point	dp Destination_Point	doj	class	fare	seatsleft
12	Chandigarh	Jaipur	2015-05-07	AC1	2200	107
12	Chandigarh	Jaipur	2015-05-17	AC1	3200	20
12	Jaipur	Kolkata	2015-05-07	AC1	1434	243
12	Jaipur	Kolkata	2015-05-17	AC1	2900	15
12	Kolkata	Lucknow	2015-05-07	AC1	934	322
12	Kolkata	Lucknow	2015-05-17	AC1	3100	30
12	Lucknow	Delhi	2015-05-07	AC1	344	326
12	Lucknow	Delhi	2015-05-17	AC1	2750	20
18	Chandigarh	Jaipur	2015-05-12	AC1	2420	50
18	Jaipur	Delhi	2015-05-12	AC1	2750	20
20	Delhi	Jaipur	2015-05-09	AC1	4500	20
24	Mumbai	Kolkata	2021-06-06	AC1	2000	20

- Display all trains available between Chandigarh and Jaipur.

Input:

```
SELECT * FROM classseats WHERE sp='Chandigarh' AND dp='Jaipur';
```

Output:

trainno	sp Starting_Point	dp Destination_Point	doj	class	fare	seatsleft
12	Chandigarh	Jaipur	2015-05-07	AC1	2200	107
12	Chandigarh	Jaipur	2015-05-17	AC1	3200	20
12	Chandigarh	Jaipur	2015-05-17	AC3	2400	60
12	Chandigarh	Jaipur	2015-05-17	EC	1200	100
12	Chandigarh	Jaipur	2015-05-17	SL	500	200
18	Chandigarh	Jaipur	2015-05-12	AC1	2420	50
18	Chandigarh	Jaipur	2015-05-12	AC3	1700	20
18	Chandigarh	Jaipur	2015-05-12	CC	750	120

- Display all trains where more than 15 seats are available in AC1 class.

Input:

```
SELECT * FROM classseats WHERE class = 'AC1' AND seatsleft >15;
```

Output:

trainno	sp Starting_Point	dp Destination_Point	doj	class	fare	seatsleft
12	Chandigarh	Jaipur	2015-05-07	AC1	2200	107
12	Chandigarh	Jaipur	2015-05-17	AC1	3200	20
12	Jaipur	Kolkata	2015-05-07	AC1	1434	243
12	Kolkata	Lucknow	2015-05-07	AC1	934	322
12	Kolkata	Lucknow	2015-05-17	AC1	3100	30
12	Lucknow	Delhi	2015-05-07	AC1	344	326
12	Lucknow	Delhi	2015-05-17	AC1	2750	20
18	Chandigarh	Jaipur	2015-05-12	AC1	2420	50
18	Jaipur	Delhi	2015-05-12	AC1	2750	20
20	Delhi	Jaipur	2015-05-09	AC1	4500	20
24	Mumbai	Kolkata	2021-06-06	AC1	2000	20

- Display all users who have booked tickets of fare greater than 2500.

Input:

```
SELECT * FROM user u, resv r WHERE r.tfare>2500 AND r.status='BOOKED' ;
```

Output:

id	emailid	password	mobilen	dob	pnr	id	trainno	sp	dp	doj	tfare	class	nos	status
4	garvitjain@gmail.com	garvit	9312201852	1994-01-01	51	4	12	Chandigarh	Jaipur	2015-05-07	3300	AC1	2	BOOKED
5	deepakgoel@hotmail.com	deepak	9312201853	1994-02-22	51	4	12	Chandigarh	Jaipur	2015-05-07	3300	AC1	2	BOOKED
6	akhilkumar@yahoo.co.in	akhil	9872231234	1994-03-04	51	4	12	Chandigarh	Jaipur	2015-05-07	3300	AC1	2	BOOKED
7	ayushjain@outlook.com	ayush	9810150525	1995-01-03	51	4	12	Chandigarh	Jaipur	2015-05-07	3300	AC1	2	BOOKED
8	aakashbharadwaj@yahoo.com	aakash	9013452635	1993-12-30	51	4	12	Chandigarh	Jaipur	2015-05-07	3300	AC1	2	BOOKED
10	abhinavsingh@gmail.com	abhinav	9876675567	1991-01-01	51	4	12	Chandigarh	Jaipur	2015-05-07	3300	AC1	2	BOOKED
12	amanmalik@hotmail.com	aman	9878876654	1997-09-08	51	4	12	Chandigarh	Jaipur	2015-05-07	3300	AC1	2	BOOKED
19	dhruvgosian@gmail.com	dhruv	9807890453	1965-04-01	51	4	12	Chandigarh	Jaipur	2015-05-07	3300	AC1	2	BOOKED
20	chiragbansal@nsitonline.com	chirag	9123456789	1960-06-02	51	4	12	Chandigarh	Jaipur	2015-05-07	3300	AC1	2	BOOKED
27	jainisolkani0704@gmail.com	jainil	8320081188	2002-04-07	51	4	12	Chandigarh	Jaipur	2015-05-07	3300	AC1	2	BOOKED

- Display total sum of fare which are cancelled.

Input:

```
SELECT SUM(rfare) from canc c, resv r WHERE r.status='CANCELLED';
```

Output:

SUM(rfare)

321620

- Display all users who have booked at least 2 tickets.

Input:

```
SELECT * FROM user u, resv r WHERE r.nos>=2 AND r.status='BOOKED';
```

Output:

id	emailid	password	mobilen	dob	pnr	id	trainno	sp	dp	doj	tfare	class	nos	status
4	garvitjain@gmail.com	garvit	9312201852	1994-01-01	51	4	12	Chandigarh	Jaipur	2015-05-07	3300	AC1	2	BOOKED
5	deepakgoel@hotmail.com	deepak	9312201853	1994-02-22	51	4	12	Chandigarh	Jaipur	2015-05-07	3300	AC1	2	BOOKED
6	akhilkumar@yahoo.co.in	akhil	9872231234	1994-03-04	51	4	12	Chandigarh	Jaipur	2015-05-07	3300	AC1	2	BOOKED
7	ayushjain@outlook.com	ayush	9810150525	1995-01-03	51	4	12	Chandigarh	Jaipur	2015-05-07	3300	AC1	2	BOOKED
8	aakashbharadwaj@yahoo.com	aakash	9013452635	1993-12-30	51	4	12	Chandigarh	Jaipur	2015-05-07	3300	AC1	2	BOOKED
10	abhinavsingh@gmail.com	abhinav	9876675567	1991-01-01	51	4	12	Chandigarh	Jaipur	2015-05-07	3300	AC1	2	BOOKED
12	amanmalik@hotmail.com	aman	9878876654	1997-09-08	51	4	12	Chandigarh	Jaipur	2015-05-07	3300	AC1	2	BOOKED
19	dhruvgosian@gmail.com	dhruv	9807890453	1965-04-01	51	4	12	Chandigarh	Jaipur	2015-05-07	3300	AC1	2	BOOKED
20	chiragbansal@nsitonline.com	chirag	9123456789	1960-06-02	51	4	12	Chandigarh	Jaipur	2015-05-07	3300	AC1	2	BOOKED
27	jainisolkani0704@gmail.com	jainil	8320081188	2002-04-07	51	4	12	Chandigarh	Jaipur	2015-05-07	3300	AC1	2	BOOKED
4	garvitjain@gmail.com	garvit	9312201852	1994-01-01	59	10	12	Lucknow	Delhi	2015-05-17	2200	EC	2	BOOKED
5	deepakgoel@hotmail.com	deepak	9312201853	1994-02-22	59	10	12	Lucknow	Delhi	2015-05-17	2200	EC	2	BOOKED
6	akhilkumar@yahoo.co.in	akhil	9872231234	1994-03-04	59	10	12	Lucknow	Delhi	2015-05-17	2200	EC	2	BOOKED
7	ayushjain@outlook.com	ayush	9810150525	1995-01-03	59	10	12	Lucknow	Delhi	2015-05-17	2200	EC	2	BOOKED
8	aakashbharadwaj@yahoo.com	aakash	9013452635	1993-12-30	59	10	12	Lucknow	Delhi	2015-05-17	2200	EC	2	BOOKED
10	abhinavsingh@gmail.com	abhinav	9876675567	1991-01-01	59	10	12	Lucknow	Delhi	2015-05-17	2200	EC	2	BOOKED
12	amanmalik@hotmail.com	aman	9878876654	1997-09-08	59	10	12	Lucknow	Delhi	2015-05-17	2200	EC	2	BOOKED
19	dhruvgosian@gmail.com	dhruv	9807890453	1965-04-01	59	10	12	Lucknow	Delhi	2015-05-17	2200	EC	2	BOOKED
20	chiragbansal@nsitonline.com	chirag	9123456789	1960-06-02	59	10	12	Lucknow	Delhi	2015-05-17	2200	EC	2	BOOKED
27	jainisolkani0704@gmail.com	jainil	8320081188	2002-04-07	59	10	12	Lucknow	Delhi	2015-05-17	2200	EC	2	BOOKED

- Display all users who have booked ticket for Frontier Express and who are born after 2002.

Input:

```
SELECT * FROM user u, train t ,resv r where u.id=r.id AND r.trainno = t.trainno AND t.tname='Frontier Express' AND r.status='BOOKED' AND u.dob>='2002-01-01';
```

Output:

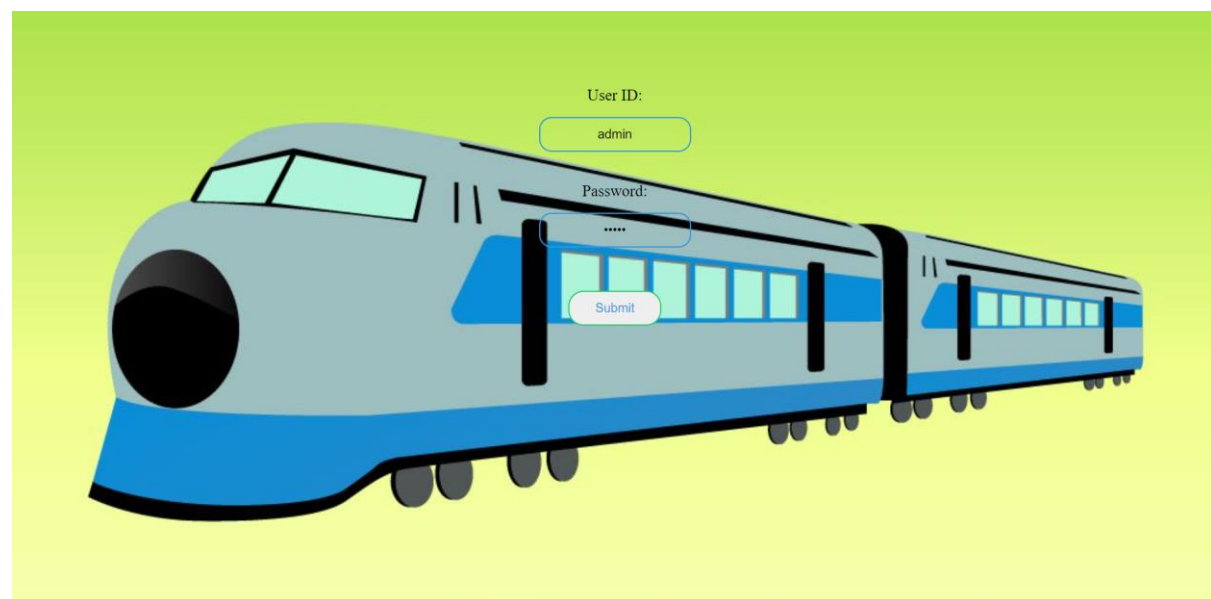
id	emailid	password	mobilen	dob	trainno	tname	sp	st	dp	dt	dd	distance	pnr	id	trainno	sp	dp	doj	tfare	class	nos	status
27	jainisolkanki0704@gmail.com	jainil	8320081188	2002-04-07	20	Frontier Express	Delhi	10:04:00	Jaipur	16:00:00	Day 1	800	89	27	20	Delhi	Jaipur	2022-06-04	4500	AC1	1	BOOKED

-.:Images of Project:-

Home



Admin



Admin Panel



New User

Kindly enter your credentials!!!

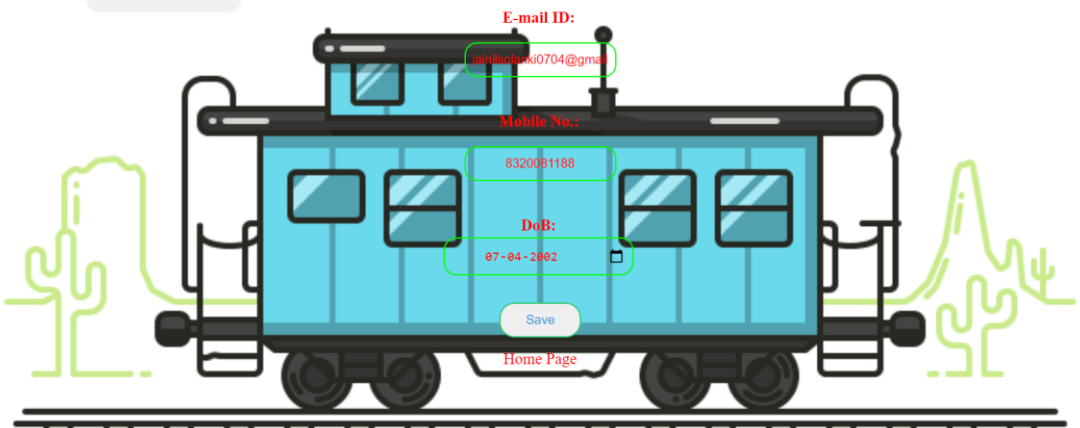
Password:

E-mail ID:

Mobile No.:

DoB:

[Home Page](#)

A stylized illustration of a blue train engine with black wheels and a smokestack. It is positioned on a set of train tracks. The background features green hills and a light blue sky with white clouds.

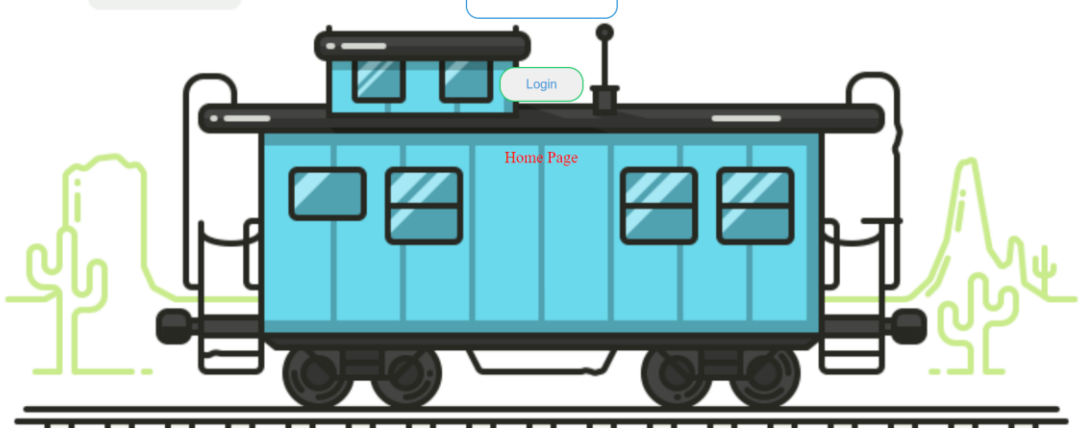
Ticker History and Cancellation

Enter the details:

Registered Mobile No:

Password:

[Home Page](#)



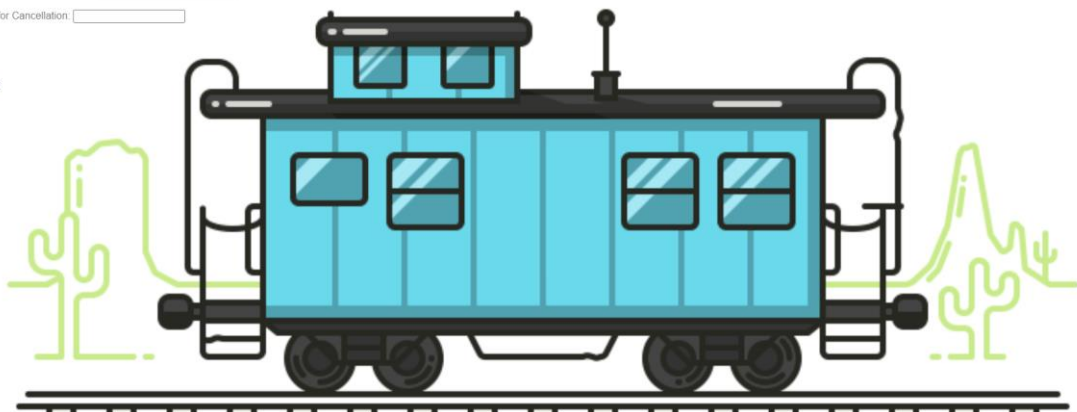
Ticker History and Cancellation Panel

Welcome jainisolarank0704@gmail.com

PNR	Train_no	Date_Of_Journey	Total_Fare	Train_Class	Seats_Reserved	Status
84	12	2021-08-08	2200	AC1	1	CANCELLED
86	12	2021-06-25	2200	AC1	1	CANCELLED
87	12	2021-12-03	2200	AC1	1	CANCELLED
88	12	2021-09-04	2200	AC1	1	CANCELLED
89	20	2022-06-04	4500	AC1	1	BOOKED

Enter PNR for Cancellation:

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Enquiry and Ticket Booking

Starting Point:

Jaipur

Destination Point:

Lucknow

Date of Journey:

02-06-2025

Submit

Go to Home Page!!!

Enquiry and Ticket Booking Panel

Train No	Train Name	Starting Point	Arrival Time	Destination Point	Departure Time	Day	Train Class	Fare	Seats Left
12	Shatabdi Express	Chandigarh	01:00:00	Jaipur	03:45:15	Day 1	AC1	2200	107
12	Shatabdi Express	Chandigarh	01:00:00	Jaipur	03:45:15	Day 1	AC1	3200	20
12	Shatabdi Express	Chandigarh	01:00:00	Jaipur	03:45:15	Day 1	AC3	2400	80
12	Shatabdi Express	Chandigarh	01:00:00	Jaipur	03:45:15	Day 1	EC	1200	100
12	Shatabdi Express	Chandigarh	01:00:00	Jaipur	03:45:15	Day 1	SL	500	200
18	Chandigarh Delhi Shatabdi	Chandigarh	08:05:00	Jaipur	10:15:00	Day 2	AC1	2420	50
18	Chandigarh Delhi Shatabdi	Chandigarh	08:05:00	Jaipur	10:15:00	Day 2	AC3	1700	20
18	Chandigarh Delhi Shatabdi	Chandigarh	08:05:00	Jaipur	10:15:00	Day 2	CC	750	120

If you wish to proceed with booking fill in the following details:

Registered Mobile No:

Registered Mobile No.

Password:

Password

Enter Train No:

Enter Train No.

Enter Class:

Enter Class

No. of Seats:

No. of Seats

Proceed with Booking

[More Enquiry](#)
[Go to Home Page!!!](#)

-: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; also, there can be some improvements in UI. Also, payment gateways have to be implemented to make sure the transactions happen securely.