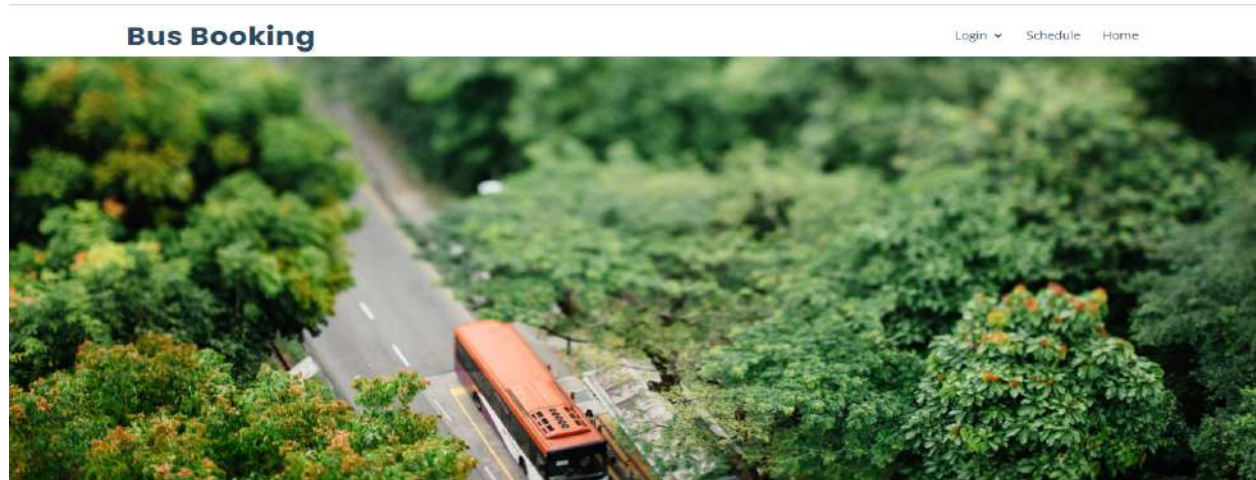


Database Management System

Bus Booking System



GROUP NUMBER:- 16

GROUP MEMBERS :

Rahul Kumar (IIT2019109)

Aditya Singh Machhaiya (IIT2019111)

Khushi Gupta (IIT2019141)

Nandini Gupta (IIT2019149)

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Introduction

The Bus Booking System is a web application that manages the bus booking or ticketing processes. It has three types of users. First is the admin who can manage the list of buses, locations, schedules and list of booked schedules. Customers can simply go to the site and find his/her desired schedule and location and can book his/her ticket. Employees can see the schedule list , booked list and bus list.

Technology used



Page Layout has been
task has been designed in HTML



CSS has been used for all
for all the designing part



All the validation
part has been done
using Javascript



All the forms and buttons
has been designed



XAMPP

We used Xampp server to
run our project

using bootstrap



Php has been used as
a backend language

It has been used
as a database.

Product Description

On our website, customers can book tickets by seeing the schedule. We also implemented some facilities for employees (bus driver,conductor) to view the schedule and see the booked ticket seat.Then we have an admin(ticket incharge) as a user who can edit various important features like add bus,add schedule etc.

The users of Bus Management System

1)Ticket Incharge:-Main ticket incharge can access all information and can update or delete bus schedule, location,Bus information.

2)Employee:- Employee can see the bus schedule and bus information.

3)Customer:- Customer can book the bus ticket by taking into consideration the present schedule and availability of seats.

Requirements

- 1) You need to download the xampp server on your system and make sure that the ports of the apache server and mysql of xampp server are running properly .

- 2) Any one internet browser (Google chrome, Mozilla Firefox etc.).
- 3) Minimum ram requirement is 128 MB.
- 4) The xampp server version should be v3.2.4.

Features

The Homepage is for all types of users and from there any user,non-user can see the current schedule and from home screen user of any type can move to their respective login screen and log into the portal using their credentials

Admin Side

- Home Page - This page is the welcoming page of the administrator after logging into the system.
- Schedule Page - This is the page where all bus route schedules are listed. At this page, admin can create, update and delete and bus route schedule for booking.
- Booked Page - The page where the passengers booked schedules are listed. Admin can update the details and payment status of the passenger schedule.
- Maintenance -
 - Bus List Page - This is the page where buses are listed and also where admin users can create, update and delete the buses.
 - Location - This page helps to organize the bus company location route. At this page, admin can create, update and delete the list of locations.
- Users Page - The page where admin sees users of the system and can be managed.
- Logout - this button admin Logout from Bus Management System

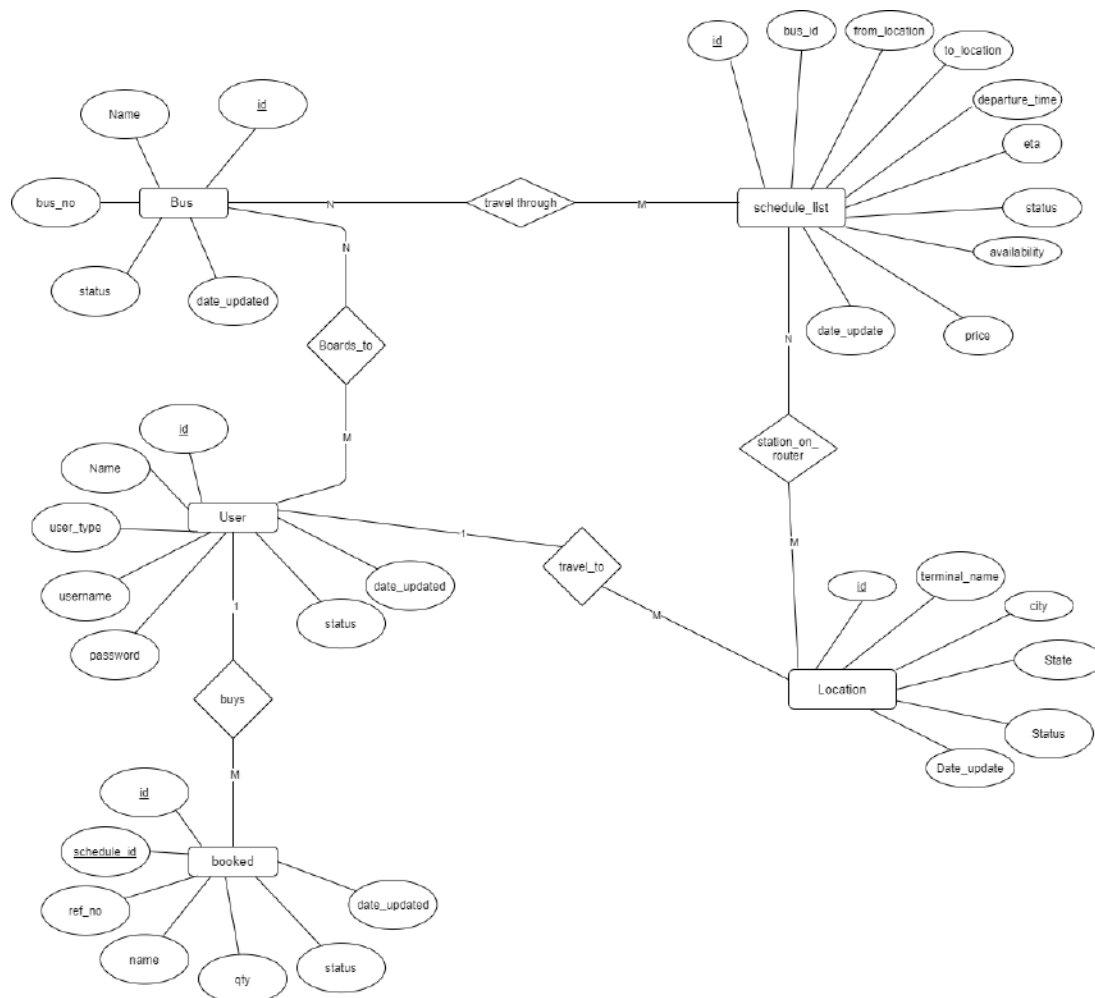
Employee Side

- Home Page - The welcoming page for the Employee when he/she browses the website.
- Change Password - The page where employees can change username and Password.
- Booked List - The page where employees can see Booked ticket list.
- Schedule Page - The page where Customers can see all bus company route schedules.
- Logout - this button employee Logout from Bus Management System.

Customer Side

- Home Page - The welcoming page for the Customer when he/she browses the website.
- Change Password - The page where Customer can change username and Password.
- Schedule Page - The page where Customers can see all bus company route schedules. On this page Customer can Book ticker.
- Logout - this button Customer Logout from Bus Management System

ER Diagram



Project Setup

Steps to run our project:-

- 1) Unzip the zip and copy the full folder with the name "bus".
- 2) Now launch the xampp server and start apache server and mysql server.
- 3) Now go to the C: partition of your system and there in the xampp folder go to the htdocs folder and paste the folder "bus" there.
- 4) Now from server gui using the admin button in front of mysql go to the "localhost/phpmyadmin"
- 5) Then create a new database with the name "bus_booking" .
- 6) Click on the import feature of localhost and there click on browse option.
- 7) Go to the database folder of the folder bus and select the .sql file "bus_booking" and upload it to the website.
- 8) At the end of the webpage there is a "go", option click on it and your database is created in a few seconds.
- 9) Now open a new tab and type "localhost/bus" .
- 10) Our project is successfully set up on your system and is ready to use.

User id and password to enter into the portal

S. no.	Username	Password	User
1.	Rahul	123	Admin
2.	Nandini	123	Customer
3.	Pankaj	123	Employee

Implementation:-

Welcome page

When using xampp server we launch our project on any browser this screen appears as a home screen with options to login into the website and schedule of buses with one option to come back home .



Admin Login:-

This is the admin login screen for the login of admin using home button the user may move back to the home screen.

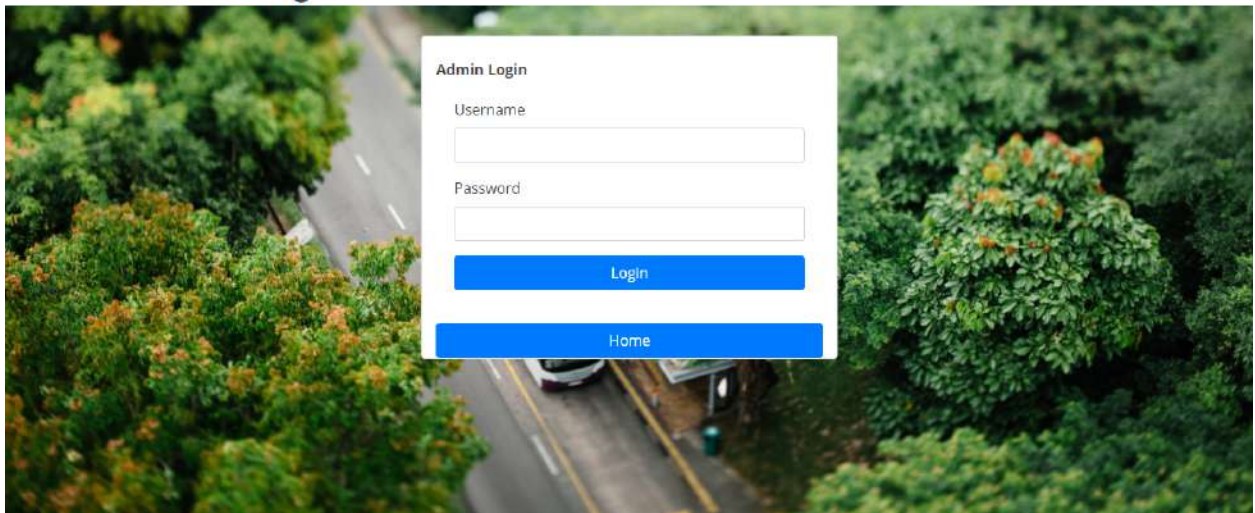
Bus Booking

[Login](#) [Schedule](#) [Home](#)

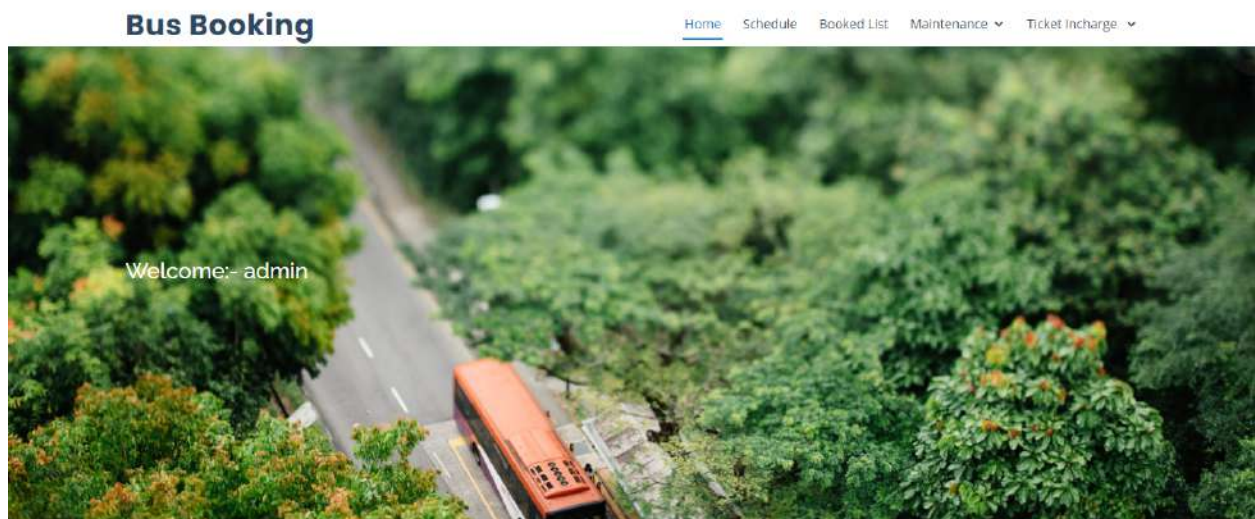
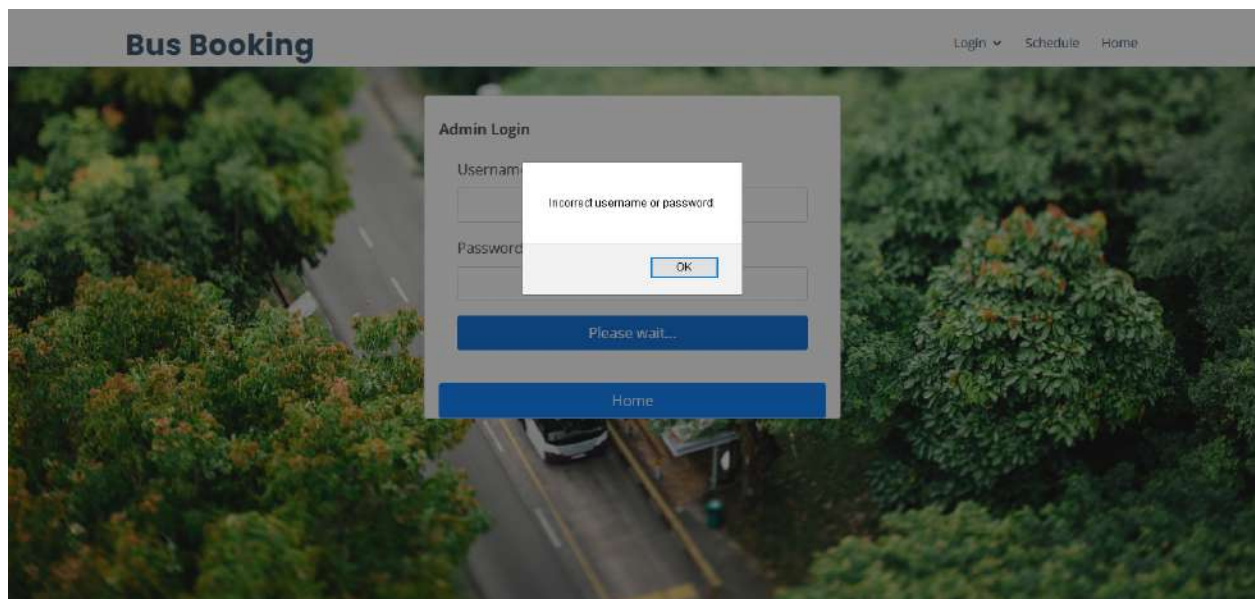


Bus Booking

[Login](#) [Schedule](#) [Home](#)



If the password or username is incorrect or login with any empty field then below popup will be displayed otherwise entered into the portal.



Employee Login:-

This is the Employee login screen for the login of Employee. Using the home button the user may move back to the home screen.

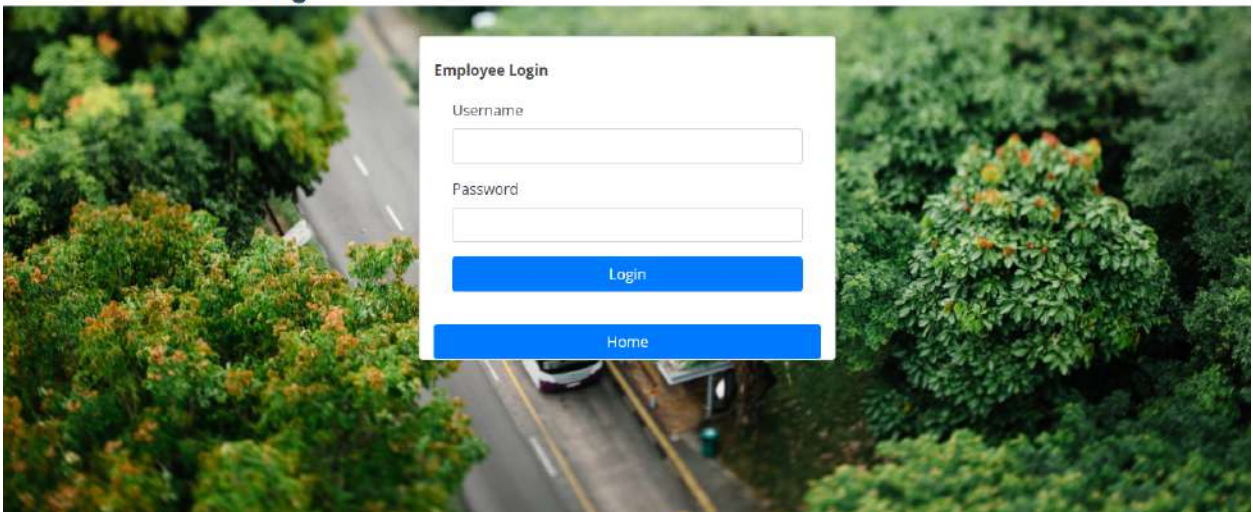
Bus Booking

[Login](#) [Schedule](#) [Home](#)

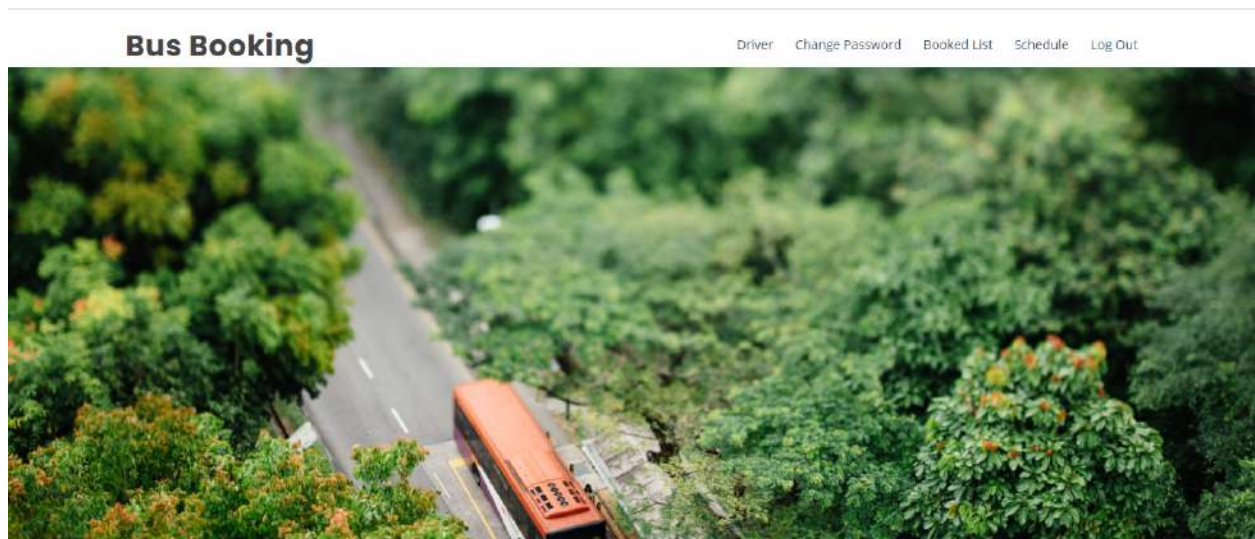
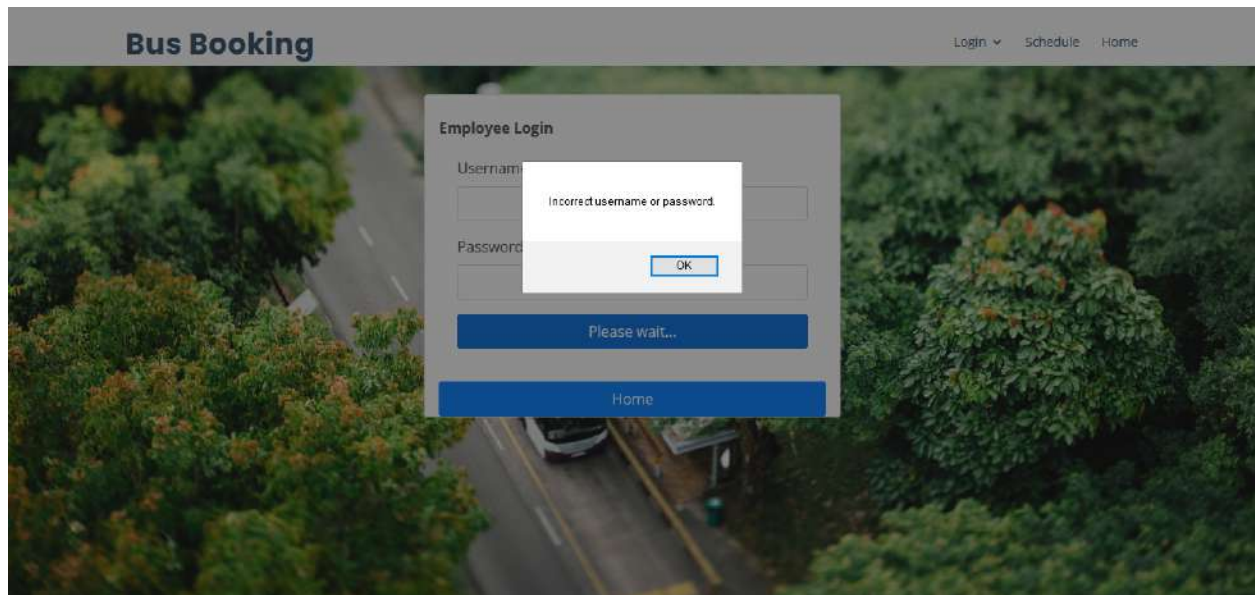


Bus Booking

[Login](#) [Schedule](#) [Home](#)



If the password or username is incorrect or login with any empty field then the below popup will be displayed otherwise entered into the portal.



Customer Login:-

This is the Customer login screen for the login of Customer. Using the home button the user may move back to the home screen.

Bus Booking

[Login](#) [Schedule](#) [Home](#)



Bus Booking

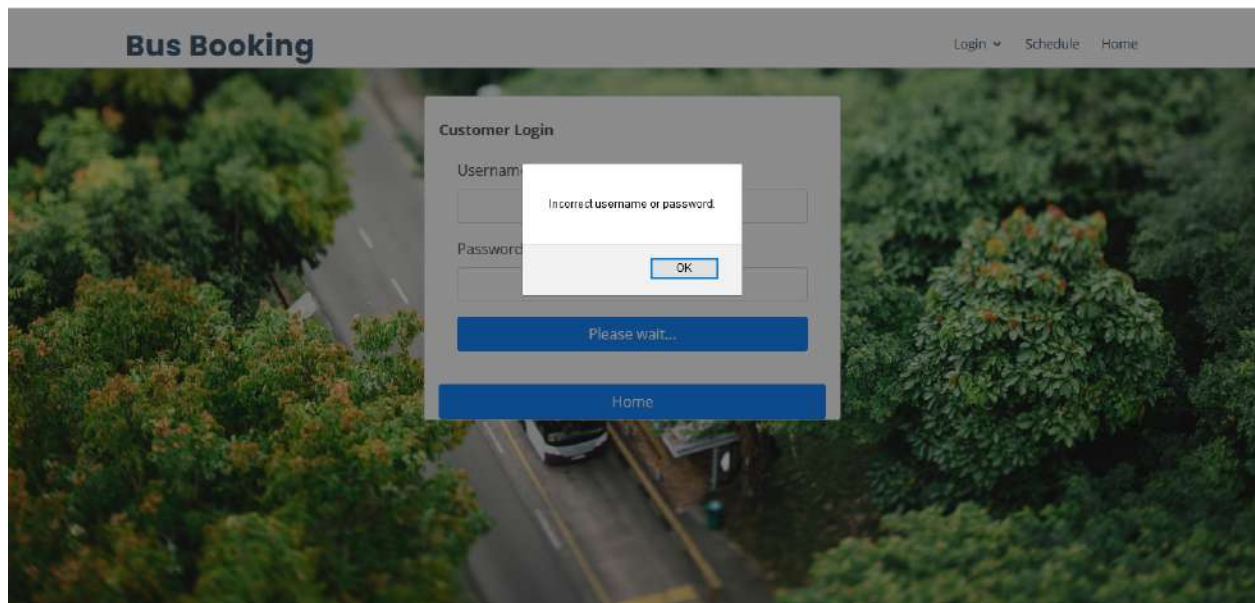
[Login](#) [Schedule](#) [Home](#)

A white rectangular form overlaying the aerial image. It contains the following elements:

- Customer Login** (Section Header)
- Username** (Label) followed by a text input field.
- Password** (Label) followed by a text input field.
- Login** (Blue button)
- Home** (Blue button)



If the password or username is incorrect or login with empty any empty field then below popup will be displayed otherwise entered into the portal.



Schedule (on Home Page):-

This is the screen which shows the bus schedule if u are logged into the portal then u can book for tickets from here only.

Bus Booking

[Login](#)
[Schedule](#)
[Home](#)

Show 10 entries

Search:

#	Date	Bus	Location	Departure	ETA	Availability	Price
1	Apr 02, 2021	5001 Economy	chandni chowk, new delhi, new delhi - marine drive , mumbai, Maharashtra	11:24 PM	Apr 03,2021 11:24 PM	50	500
2	May 01, 2021	5002 Economy	marine drive , mumbai, Maharashtra - chandni chowk, new delhi, new delhi	11:49 PM	May 03,2021 11:49 PM	50	1700
3	May 10, 2021	5004 luxury	marine drive , mumbai, Maharashtra - civil line, allahabad, u.p.	11:55 PM	May 11,2021 11:55 PM	50	400
4	May 12, 2021	5003 deluxe	Marina Beach, Chennai, Tamil Nadu - Hawa Mahal, jaipur, Rajasthan	11:54 PM	May 14,2021 11:54 PM	70	2000
5	May 18, 2021	5005 luxury	mp colony, bikaner, Rajasthan - Hawa Mahal, jaipur, Rajasthan	11:55 PM	May 20,2021 11:56 PM	76	500

Showing 1 to 5 of 5 entries

[Previous](#)
[1](#)
[Next](#)

Schedule (for admin purpose):-

Schedule List for admin. From here the admin can add new schedule to the database of schedule and also edit or delete the schedule depending on circumstances

Bus Booking

[Home](#)
[Schedule](#)
[Booked List](#)
[Maintenance](#)
[Ticket Incharge](#)

Show 10 entries

Search:

#	Date	Bus	Location	Departure	ETA	Availability	Price	Action
1	Apr 02, 2021	5001 Economy	chandni chowk, new delhi, new delhi - marine drive , mumbai, Maharashtra	11:24 PM	Apr 03,2021 11:24 PM	50	500	Edit Delete
2	May 01, 2021	5002 Economy	marine drive , mumbai, Maharashtra - chandni chowk, new delhi, new delhi	11:49 PM	May 03,2021 11:49 PM	50	1700	Edit Delete
3	May 10, 2021	5004 luxury	marine drive , mumbai, Maharashtra - civil line, allahabad, u.p.	11:55 PM	May 11,2021 11:55 PM	50	400	Edit Delete
4	May 18, 2021	5005 luxury	mp colony, bikaner, Rajasthan - Hawa Mahal, jaipur, Rajasthan	11:55 PM	May 20,2021 11:56 PM	76	500	Edit Delete

Showing 1 to 4 of 4 entries

[Previous](#)
[1](#)
[Next](#)



Bus Booking

Show entries

#	Date	Bus
1	Apr 02, 2021	5001 Economy
2	May 01, 2021	5002 Economy
3	May 10, 2021	5004 luxury
4	May 18, 2021	5005 luxury

Showing 1 to 4 of 4 entries

Add New Schedule

Bus Name

From

To

Departure Time

Estimated Arrival Time

Availability

Price

ed List Maintenance Ticket Incharge

[Add New](#)

Search:

Availability	Price	Action
50	500	Edit Delete
50	1700	Edit Delete
50	400	Edit Delete
76	500	Edit Delete

Previous Next

Bus Booking

Show entries

#	Date	Bus
1	Apr 02, 2021	5001 Economy
2	May 01, 2021	5002 Economy
3	May 10, 2021	5004 luxury
4	May 18, 2021	5005 luxury

Showing 1 to 4 of 4 entries

Edit New Schedule

Bus Name

From

To

Departure Time

Estimated Arrival Time

Availability

Price

ed List Maintenance Ticket Incharge

[Add New](#)

Search:

Availability	Price	Action
50	500	Edit Delete
50	1700	Edit Delete
50	400	Edit Delete
76	500	Edit Delete

Previous Next

Booked List:-

Here is the booked list of all the present booked tickets the admin can edit them according to their change in no. of seats or paid status.

Bus Booking

[Home](#)
[Schedule](#)
[Booked List](#)
[Maintenance](#)
[Ticket Incharge](#)

Show 10 entries

Search:

#	Ref. No.	Name	Qty	Amount	Status	Action
1	202105045094	Passenger	5	2500	Unpaid	Edit
2	202105047178	1	1	500	Unpaid	Edit
3	202104304705	Rohan	4	2000	Unpaid	Edit
4	202104307573	Rahul	5	2000	Unpaid	Edit
5	202104307588	Aditya	50	85000	Paid	Edit
6	202104304849	Dhoni	2	1000	Paid	Edit

Showing 1 to 6 of 6 entries

Previous
1
Next



Bus Booking

[Booked List](#)
[Maintenance](#)
[Ticket Incharge](#)

Show 10 entries

Search:

#	Ref. No.	Name	Qty	Amount	Status	Action
1	202105045094	Passenger	5	2500	Unpaid	Edit
2	202105047178	1	1	500	Unpaid	Edit
3	202104304705	Rohan	4	2000	Unpaid	Edit
4	202104307573	Rahul	5	2000	Unpaid	Edit
5	202104307588	Aditya	50	85000	Paid	Edit
6	202104304849	Dhoni	2	1000	Paid	Edit

Showing 1 to 6 of 6 entries

Previous
1
Next

Edit Booked

Bus: 5001 | Economy

From: chandni chowk, new delhi, new delhi

To: marine drive , mumbai, Maharashtra

Departure Time: Apr 02,2021 11:24 PM

Estimated Time of Arrival: Apr 03,2021 11:24 PM

Name

Quantity

Status

Save

Cancel

Bus List (for Admin):-

In the Maintenance part of the admin side the book list whose screen snippet is mentioned above displays the no. of bus and data according to the database. The admin also add new bus information or can edit the existing bus records.

Bus Booking

[Home](#) [Schedule](#) [Booked List](#) [Maintenance](#) [Ticket Incharge](#)

[Add New +](#)

Show 10 entries

Search:

#	Bus No.	Bus Name	Action
1	5001	Economy	Edit Delete
2	5002	Economy	Edit Delete
3	5003	deluxe	Edit Delete
4	5004	luxury	Edit Delete
5	5005	luxury	Edit Delete

Showing 1 to 5 of 5 entries

Previous 1 Next



Bus Booking

Add New Bus

Bus Name

Bus Number

[Save](#)

[Cancel](#)

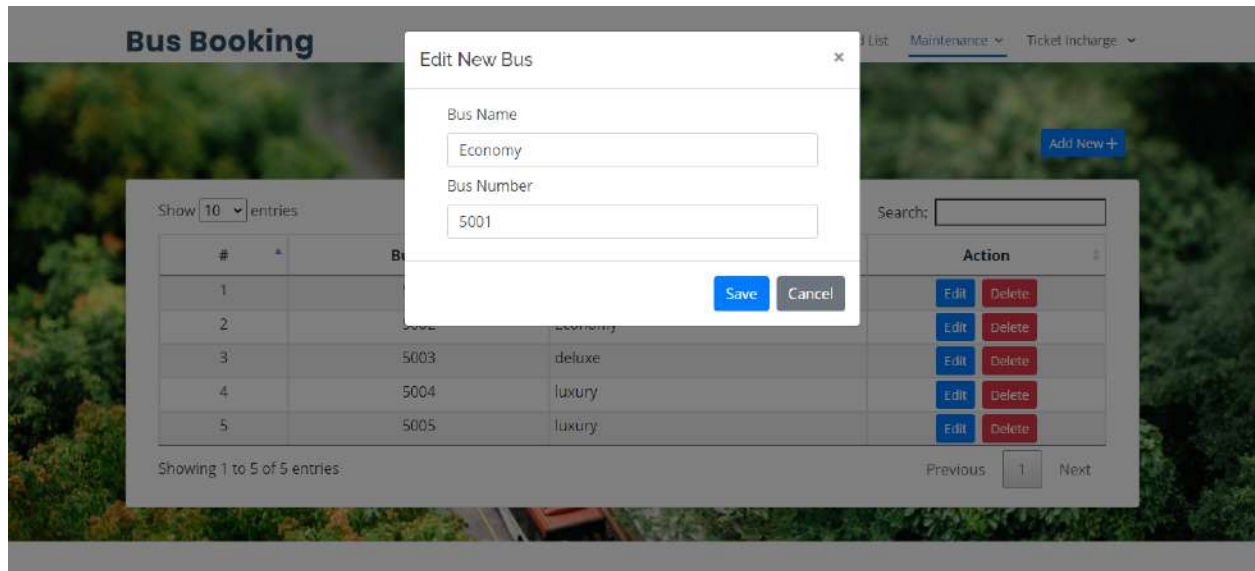
Show 10 entries

Search:

#	Bus No.	Bus Name	Action
1	5001	Economy	Edit Delete
2	5002	Economy	Edit Delete
3	5003	deluxe	Edit Delete
4	5004	luxury	Edit Delete
5	5005	luxury	Edit Delete

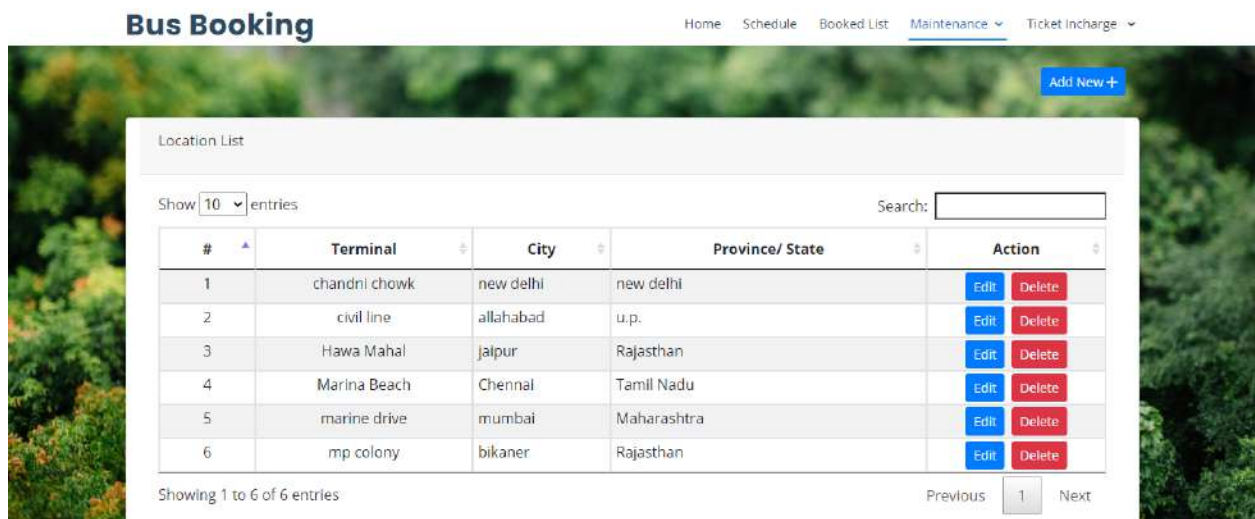
Showing 1 to 5 of 5 entries

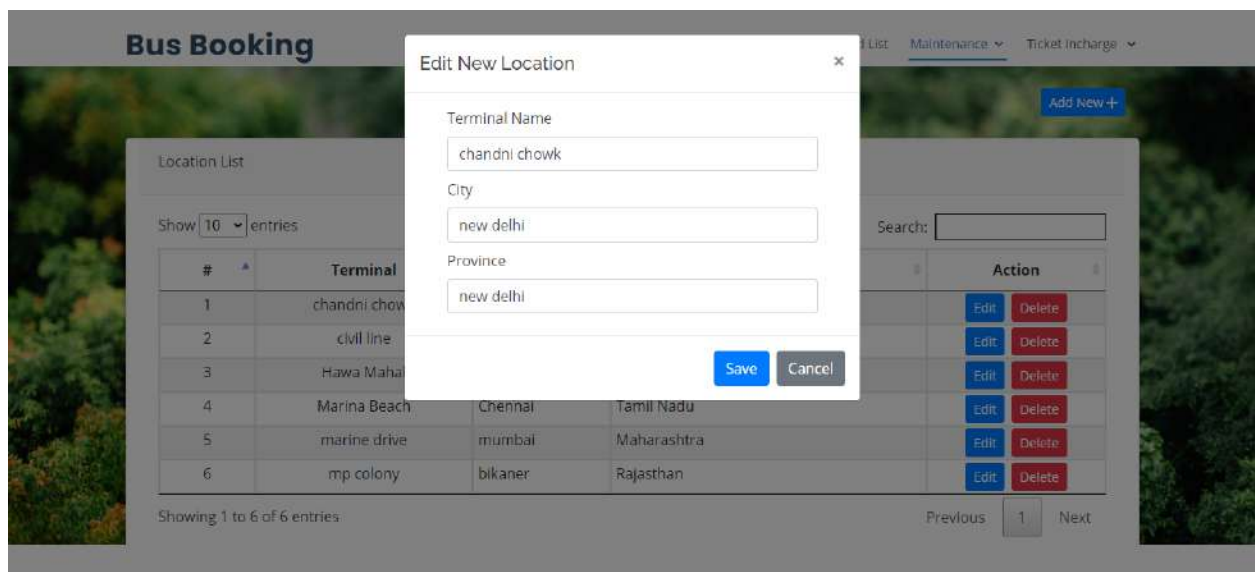
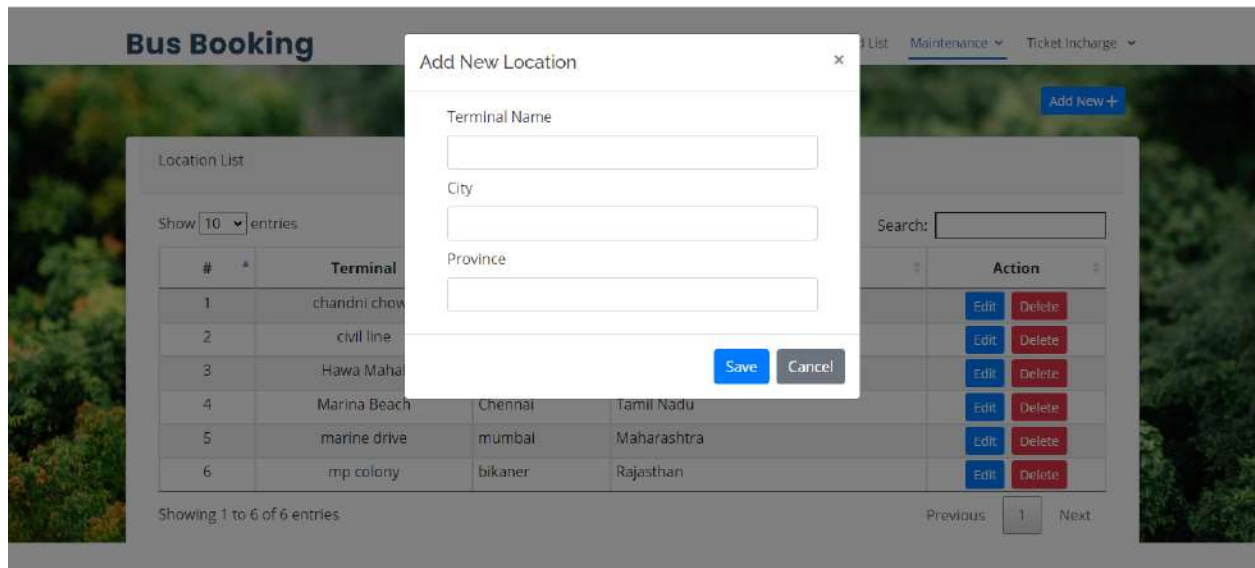
Previous 1 Next



Location List (for admin):-

In the Maintenance part of the admin side the location list whose screen snippet is mentioned above displays the no. of locations and data according to the database. The admin also adds new location information or can edit the existing bus location.





User list (only can be view by admin):-

Here is the screen for the no. of users with their designation. The admin can add the new user and add, edit or delete the existing user according to circumstances.

Bus Booking

Home Schedule Booked List Maintenance Ticket Incharge

Add New +

Show 10 entries

Search:

#	Designation	User Name	Action
1	Conductor	Pankaj	Edit Delete
2	Driver	Rohit	Edit Delete
3	Driver	Aditya	Edit Delete
4	Passenger	Khushi	Edit Delete
5	Passenger	Nandini	Edit Delete
6	Passenger	pass1	Edit Delete
7	Passenger	pass2	Edit Delete
8	Ticket Incharge	admin	Edit Delete
9	Ticket Incharge	Rahul	Edit Delete

Showing 1 to 9 of 9 entries

Previous 1 Next



Bus Booking

Booked List Maintenance Ticket Incharge

Add New +

Show 10 entries

Search:

#	Designation	User Name	Action
1	Conductor	Pankaj	Edit Delete
2	Driver	Rohit	Edit Delete
3	Driver	Aditya	Edit Delete
4	Passenger	Khushi	Edit Delete
5	Passenger	Nandini	Edit Delete
6	Passenger	pass1	Edit Delete
7	Passenger	pass2	Edit Delete
8	Ticket Incharge	admin	Edit Delete
9	Ticket Incharge	Rahul	Edit Delete

Showing 1 to 9 of 9 entries

Previous 1 Next

Edit New User

Designation

Conductor

User Name

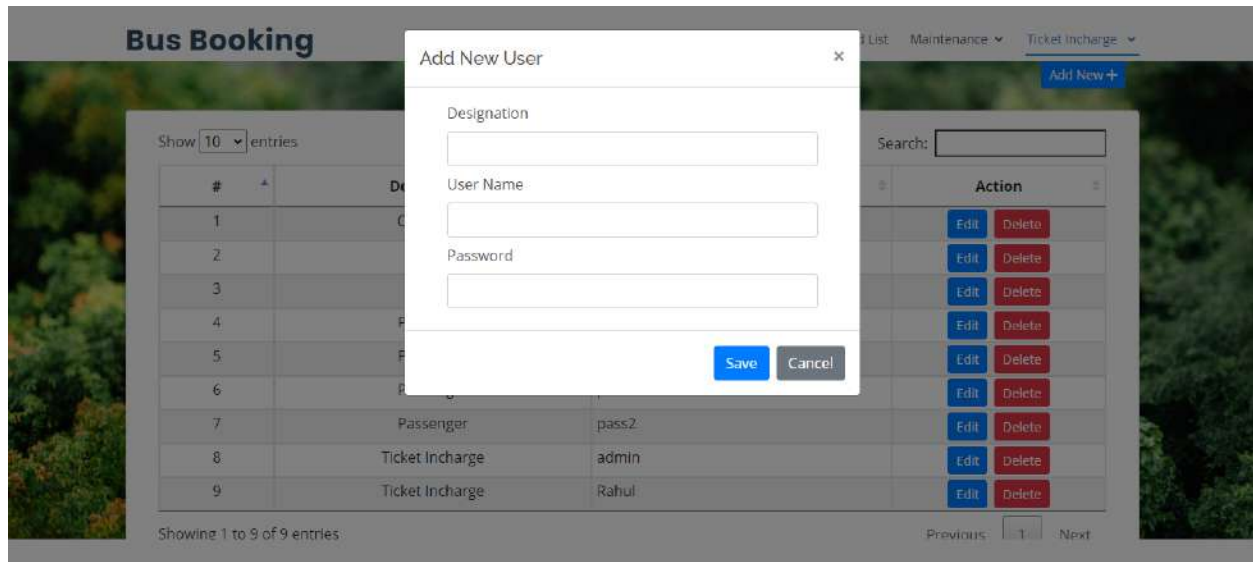
Pankaj

Password

...

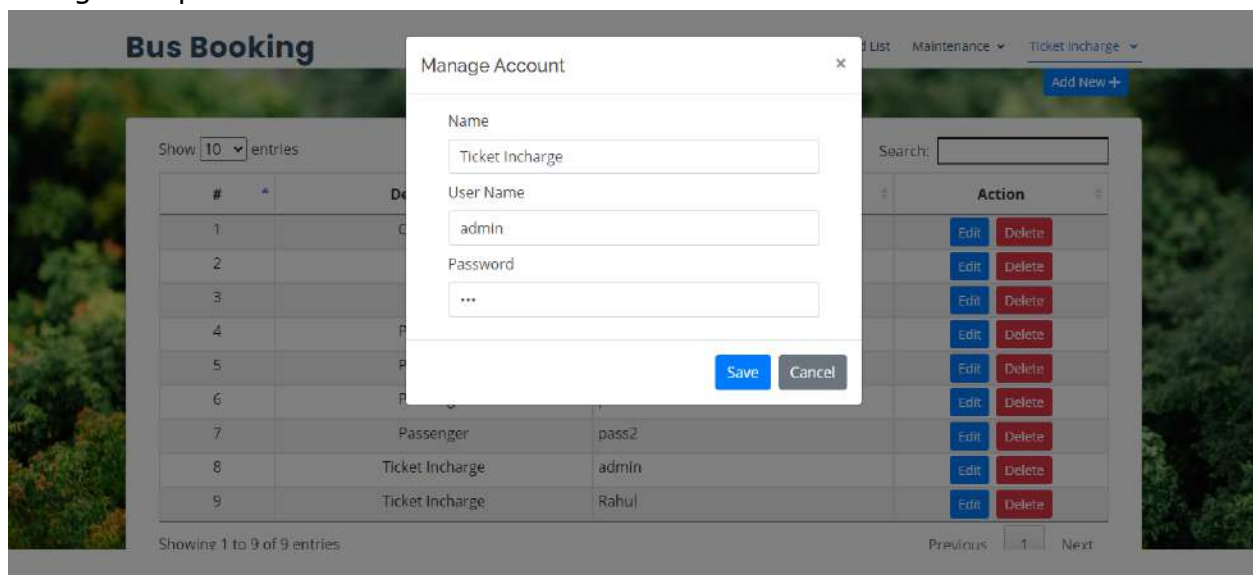
Save

Cancel



Manage Account (for admin):-

Using the manage account feature in the dropdown of name Admin the admin can change the password and save it to the database.



Schedule (for Employee):-

This is the screen which shows the schedule of the bus. Using this feature it will get easy for the employee to select the bus accordingly.

Bus Booking								
Driver Change Password Booked List Schedule Log Out								
Show <input type="text" value="10"/> entries						Search: <input type="text"/>		
#	Date	Bus	Location	Departure	ETA	Availability	Price	
1	Apr 02, 2021	5001 Economy	chandni chowk, new delhi, new delhi - marine drive , mumbai, Maharashtra	11:24 PM	Apr 03,2021 11:24 PM	50	500	
2	May 01, 2021	5002 Economy	marine drive , mumbai, Maharashtra - chandni chowk, new delhi, new delhi	11:49 PM	May 03,2021 11:49 PM	50	1700	
3	May 10, 2021	5004 luxury	marine drive , mumbai, Maharashtra - civil line, allahabad, u.p.	11:55 PM	May 11,2021 11:55 PM	50	400	
4	May 18, 2021	5005 luxury	mp colony, bikaner, Rajasthan - Hawa Mahal, jaipur, Rajasthan	11:55 PM	May 20,2021 11:56 PM	76	500	
Showing 1 to 4 of 4 entries						Previous	<input type="text" value="1"/>	Next

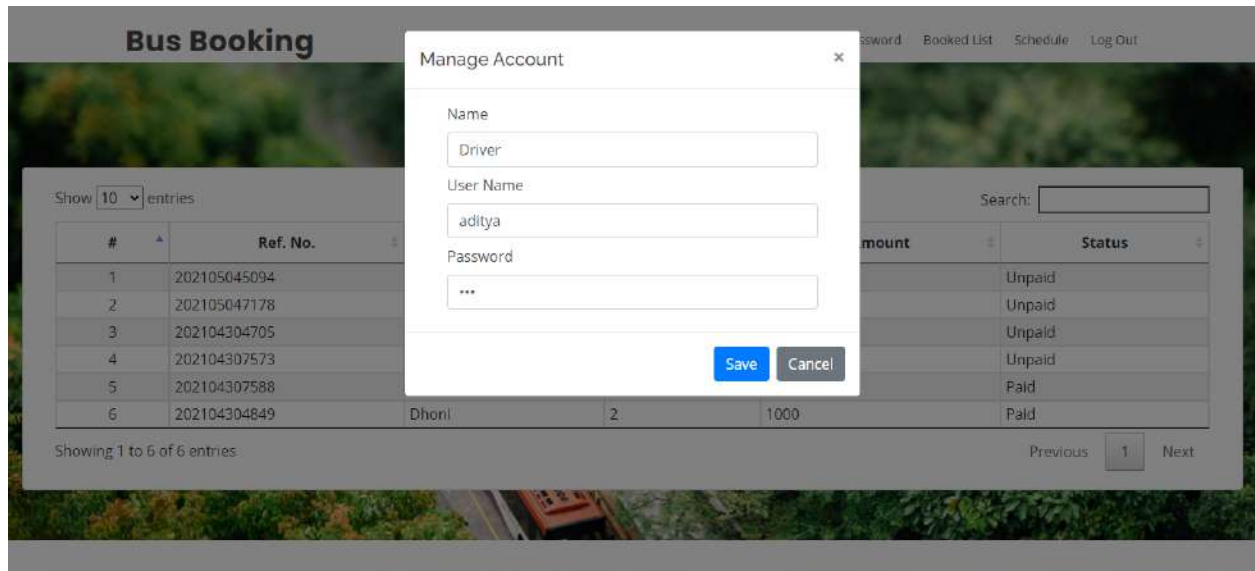
Booked List (for employee):-

Here is the booked list of all the present booked tickets the admin can edit them according to their change in no. of seats or paid status.

Bus Booking						
Driver Change Password Booked List Schedule Log Out						
Show <input type="text" value="10"/> entries					Search: <input type="text"/>	
#	Ref. No.	Name	Qty	Amount	Status	
1	202105045094	Passenger	5	2500	Unpaid	
2	202105047178	1	1	500	Unpaid	
3	202104304705	Rohan	4	2000	Unpaid	
4	202104307573	Rahul	5	2000	Unpaid	
5	202104307588	Aditya	50	85000	Paid	
6	202104304849	Dhoni	2	1000	Paid	
Showing 1 to 6 of 6 entries					Previous	<input type="text" value="1"/> Next

Manage Account (for employee):-

Using the change password feature in the dropdown of the name Employee the Employee can change the password and save it to the database.



Schedule (for customer):-

This is the screen which shows the schedule of the bus and the customer can automatically book for the tickets from here. Using this feature it will get easy for the customer to select and plan accordingly.

The screenshot shows the 'Schedule' page of the 'Bus Booking' application. The page has a header with the title 'Bus Booking' and navigation links: 'Passenger', 'Change Password', 'Schedule', and 'Log Out'. Below the header is a search bar and a 'Show 10 entries' dropdown. The main content is a table with the following columns: '#', 'Date', 'Bus', 'Location', 'Departure', 'ETA', 'Availability', 'Price', and 'Action'. The table contains four entries, each with a 'Book Now' button in the 'Action' column.

#	Date	Bus	Location	Departure	ETA	Availability	Price	Action
1	Apr 02, 2021	5001 Economy	chandni chowk, new delhi, new delhi - marine drive , mumbai, Maharashtra	11:24 PM	Apr 03,2021 11:24 PM	50	500	Book Now
2	May 01, 2021	5002 Economy	marine drive , mumbai, Maharashtra - chandni chowk, new delhi, new delhi	11:49 PM	May 03,2021 11:49 PM	50	1700	Book Now
3	May 10, 2021	5004 luxury	marine drive , mumbai, Maharashtra - civil line, allahabad, u.p.	11:55 PM	May 11,2021 11:55 PM	50	400	Book Now
4	May 18, 2021	5005 luxury	mp colony, bikaner, Rajasthan - Hawa Mahal, jaipur, Rajasthan	11:55 PM	May 20,2021 11:56 PM	76	500	Book Now

Showing 1 to 4 of 4 entries



Bus Booking

er Change Password Schedule Log Out

Show 10 entries

#	Date	Bus
1	Apr 02, 2021	5001 Economy
2	May 01, 2021	5002 Economy
3	May 10, 2021	5004 luxury
4	May 18, 2021	5005 luxury

Showing 1 to 4 of 4 entries

Book Details ✕

Bus: 5001 | Economy

From: chandni chowk, new delhi, new delhi

To: marine drive , mumbai, Maharashtra

Departure Time: Apr 02,2021 11:24 PM

Estimated Time of Arrival: Apr 03,2021 11:24 PM

Name

Quantity

Status
Paid

Save Cancel

Search:

Availability	Price	Action
50	500	Book Now
50	1700	Book Now
50	400	Book Now
76	500	Book Now

Previous 1 Next

Change Password (for Customer):-

Using the change password feature in the dropdown of the name Customer the Customer can change the password and save it to the database.

Bus Booking

Change Password Schedule Log Out

Manage Account ✕

Name

User Name

Password

Save Cancel

Normalised Forms

First Normal Form (1NF) :

- A relation will be 1NF if it contains an atomic value.
- It states that an attribute of a table cannot hold multiple values. It must hold only a single-valued attribute.
- First normal form disallows the multi-valued attribute, composite attribute, and their combinations.

In our project the databases contain only single valued attributes in all the schemas. None of the attributes is multi valued.

Second Normal Form (2NF) :

- In the 2NF, relational must be in 1NF.
- In the second normal form, all non-key attributes are fully functional dependent on the primary key

Taking example for the schema "bus" , the non-key attributes are name, bus_number, status. These attributes are fully functional dependent on the primary key for this schema i.e. "id".

Similarly for all the other schemas, they are in 2NF.

Third Normal Form (3NF) :

- A relation will be in 3NF if it is in 2NF and does not contain any transitive partial dependency.

- 3NF is used to reduce the data duplication. It is also used to achieve data integrity.
- If there is no transitive dependency for non-prime attributes, then the relation must be in third normal form.

A relation is in third normal form if it holds at least one of the following conditions for every non-trivial functional dependency $X \rightarrow Y$.

1. X is a super key.
2. Y is a prime attribute, i.e., each element of Y is part of some candidate key.

In our project, we could have made the schemas for scheduled_list, location and bus in a single schema. But that would have resulted in dependency of non prime attributes over non prime attributes which would have violated the rules for 3NF. So, to make it in 3NF, these schemas are kept separate.

Relational Database Design

Booked :

id	schedule_id	ref_no	name	qty	status	date_updated
----	-------------	--------	------	-----	--------	--------------

Bus :

id	name	bus_number	status	date_updated
----	------	------------	--------	--------------

Location :

id	terminal_name	city	state	status	updated
----	---------------	------	-------	--------	---------

Schedule list :

id	bus_id	from_location	to_location	departure_time	eta	status	available	price	date_updated
----	--------	---------------	-------------	----------------	-----	--------	-----------	-------	--------------

Users :

id	name	user_type	username	password	status	date_updated
----	------	-----------	----------	----------	--------	--------------

Conclusion

We successfully implemented a Bus Reservation System which provides online reservation of buses for customers.

- Provides basic facilities to employees to view booked list and schedules. And give all the rights to admin to edit bus list, booked list, schedule
- All the users can change their password too.

References

- <https://www.w3schools.com/php/DEFAULT.asp>
- <https://www.cloudways.com/blog/connect-mysql-with-php/>
- <https://www.bootstrapdash.com/use-bootstrap-with-php/>

- <https://www.educative.io/edpresso/how-to-make-a-modal-using-css-html-and-javascript>
- <https://www.w3schools.com/jquery/>