



EzBus

Bus Reservation System (CS 257 DBIS Project)

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Project Guide: Dr. Aruna Tiwari

Devansh Shah(170001032)

Nisarg Soni(170001032)

Overview

Bus reservation in India has shifted to online platforms rather than offline through agents and other means. Nobody wants to stand in long queues or even spend even a little bit of their time over a tedious task like this. Many e-reservation websites and android platforms such as RedBus, etc. have been much in use for the purpose. So, for our minor project for Third Semester, we intended to build one such online bus reservation platform which would cater to the following applications:-

Features

1. ➤ Login/sign-up
2. ➤ Looking for available buses and available seats between several stations
3. ➤ Fare query
4. ➤ Bus schedule query
5. ➤ Bus details query
6. ➤ Booking/ cancelling a ticket

ENTITY SETS

- Users
- Buses
- Station

ENTITY RELATIONSHIP SETS

- Start (Bus-Station)
- Destination (Bus-Station)
- Booking History (User-Bus)

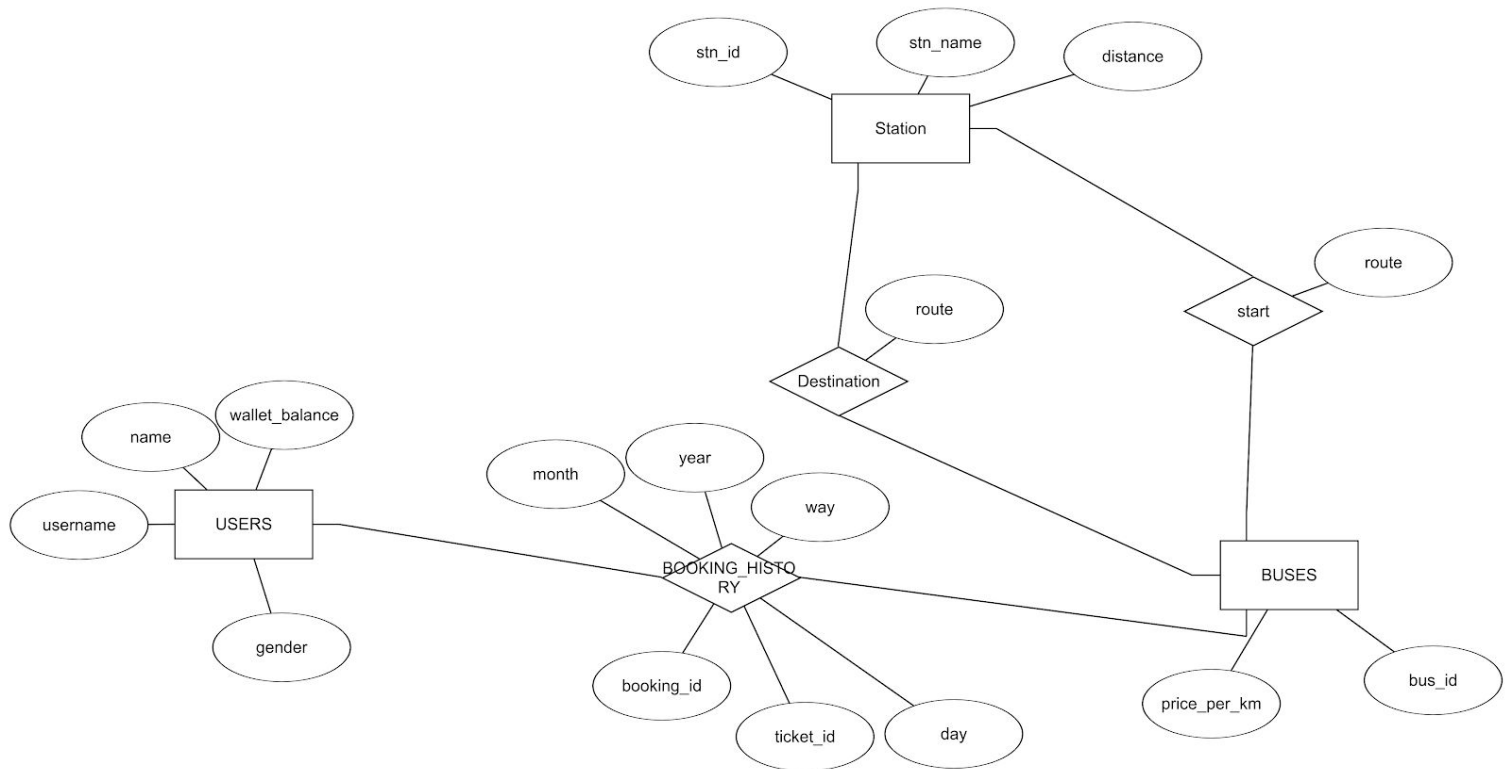
TABLES

- User(username, name, wallet_balance, gender)
- station(station_id, stn_name, distance)
- buses(price_per_km, bus_id)
 - Foreign Key (username) references to user.username
 - Foreign Key (bus_id) references to buses.bus_id
- booking_history(username, bus_id, booking_id, ticket_id, day, month, year, way)
 - Foreign Key (bus_id) references to buses.bus_id
 - Foreign Key (start_stn_id) references to station.stn_id
- start(route, bus_id, start_stn_id)
 - Foreign Key (bus_id) references to buses.bus_id
 - Foreign Key (start_stn_id) references to station.stn_id
- destination(route, bus_id, destination_stn_id)
 - Foreign Key (bus_id) references to buses.bus_id
 - Foreign Key (destination_stn_id) references to station.stn_id

FUNCTIONAL DEPENDENCIES

- USERS: { username -> {R} }
- BUSES: { bus_id -> {R} }
- STATION: { stn_id -> {R} }
- BOOKING_HISTORY: { booking_id -> {R} }
- START: { start_stn_id , bus_id, route -> {R} }
- DESTINATION: { destination_stn_id, bus_id, route -> {R} }

E.R. Diagram



Software Used

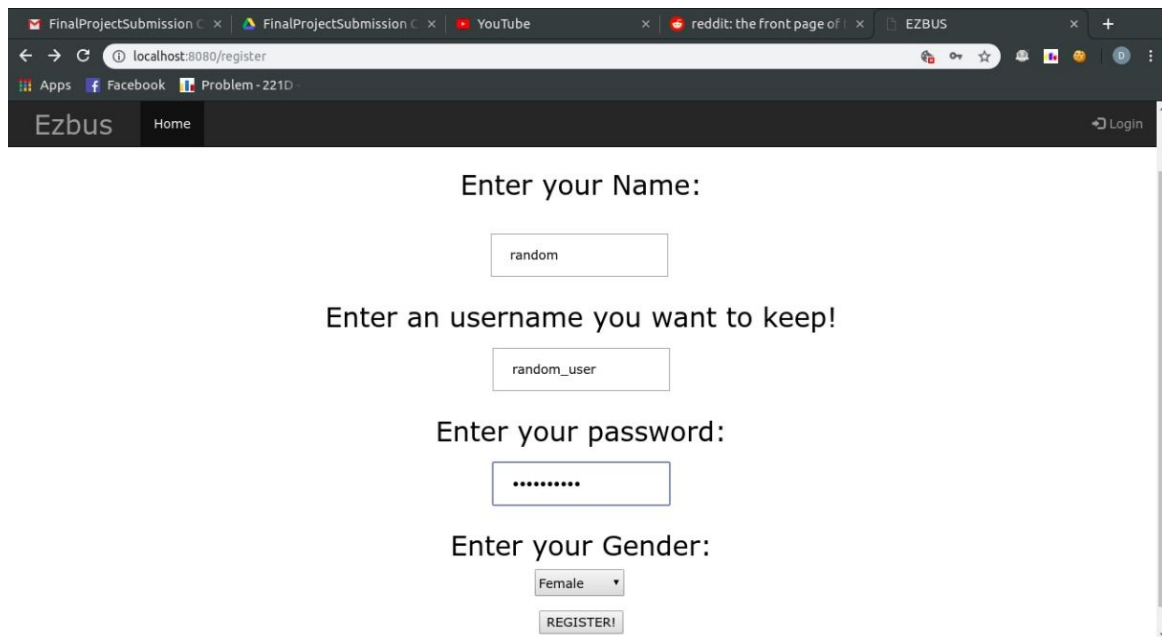
- MySql - ver 14.14
- Node - ver 8.10.0
- HTML 5
- JAVASCRIPT
- CSS
- AJAX
- BOOTSTRAP

Implementation

Signup

In order to book tickets, first a user has to register to EzBus on the signup page. It requires Name of the user, a username(should be unique, the page will prompt back until the username is unique), password, gender. Once a user registers to EzBus he/she can book tickets however anyone whether registered or not can check available buses and seats but in order to book a ticket user has to be registered and logged in.

NOTE: On creation of a new account, a trigger initializes wallet balance to 10000 rupees.

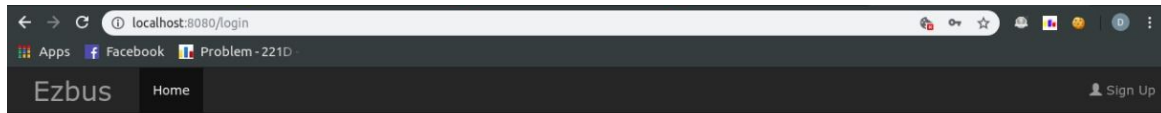


The screenshot shows a web browser window with the URL `localhost:8080/register`. The page has a dark header with the 'Ezbus' logo, a 'Home' link, and a 'Login' button. The main content area is white and contains the following registration form:

- Enter your Name:** A text input field containing the value 'random'.
- Enter an username you want to keep!** A text input field containing the value 'random_user'.
- Enter your password:** A password input field with masked characters '.....'.
- Enter your Gender:** A dropdown menu currently showing 'Female'.
- A **REGISTER!** button at the bottom.

Login

Once a user has registered to EzBus he/she has to login using his/her username and password to book tickets.



ENTER YOUR USERNAME:

alpha

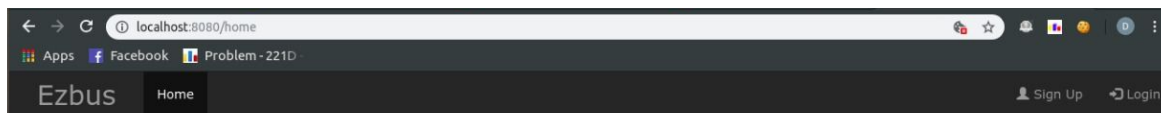
ENTER YOUR PASSWORD:

.

LOGIN!

Home Page

Here a user can search for buses between different stations on a particular date. Anyone can access the home page whether they are logged in or not.



WELCOME TO EZBUS!

Book a Ticket!

From: A To: A Date: dd/mm/yyyy Check for Buses!

Login Home/ Booking History/ Cancellation

A logged in user can access his/her booking history on this page. This page opens when a user logs in to EzBus. Cancellation of previous bookings can also be done through booking history, however user is not refunded for any cancellations.

The screenshot shows the 'Home' page of the Ezbus application. At the top, there's a navigation bar with 'Ezbus' and 'Home' links, and a 'Logout' button. The main content area starts with a large 'WELCOME TO EZBUS! ALPHA' message. Below this is a 'Book a Ticket!' section with a form containing 'From' (E), 'To' (C), 'Date' (25/11/2018), and a 'Check for Buses!' button. Underneath is a 'Booking History:' section with a table listing bookings.

Seat number	Bus name	Day	Month	Year	Bus Route	Status
2	1	27	11	2018	1	Cancel booking
3	1	27	11	2018	1	Cancel booking
16	1	27	11	2018	1	Cancel booking
17	1	27	11	2018	1	Cancel booking

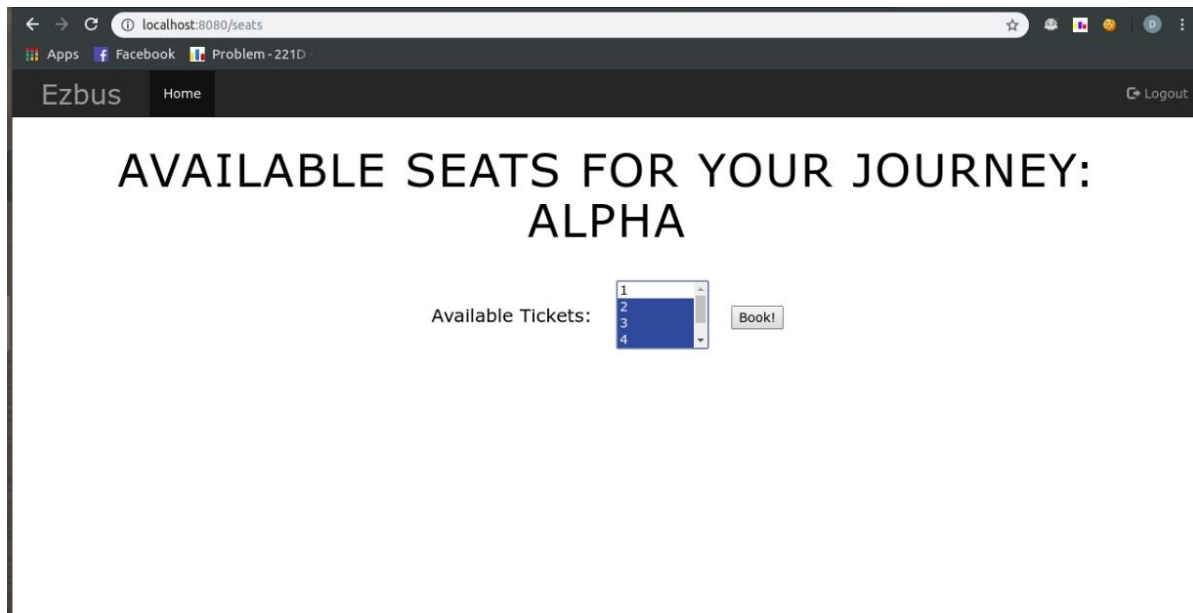
Available Buses Page

Buses available in accordance to the search are shown here. From here you can select a bus and check for available seats, therefore select your preferred seats and book them.

The screenshot shows the 'Available Buses' page. It features a large heading 'AVAILABLE BUSES FOR YOUR JOURNEY: ALPHA'. Below this is a table listing available buses. Each row contains a 'BUS_ID', a 'BUS TYPE', and a 'SEATS' column with a 'Check for seats' button.

BUS_ID	BUS TYPE	SEATS
1	A.C. SLEEPER	Check for seats
3	A.C. SLEEPER	Check for seats
5	A.C. SLEEPER	Check for seats
6	A.C. SLEEPER	Check for seats

Available seats are shown as given below. On being booked further the tickets are shown in the booking history of the user. User is redirected to Login home page.



Database.js file where server is connecting to MySQL:

