

# Car Rental Project

Java Programming for Software  
Development –R044

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# Introduction:

“**Ethraa**” is a national program initiated by the Central Bank of the United Arab Emirates for localization in the financial sector. It stems from the “Empowerment of Human Competencies in the Financial Sector”

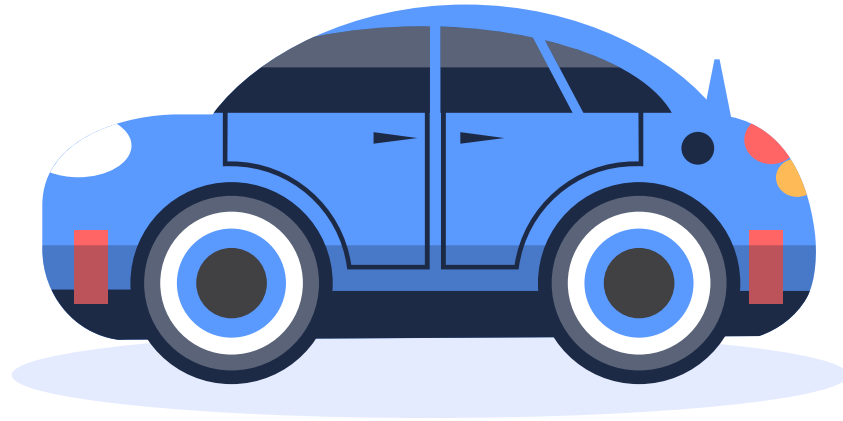
- What does ( EIF ) work for trainee?
- Java Software Development.

# Problem Statement:

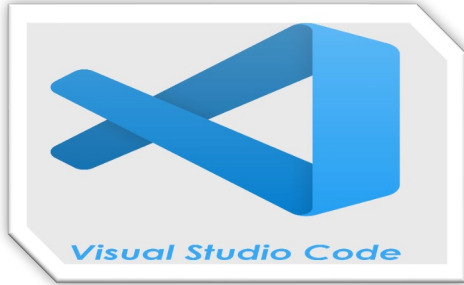
- **Transportation Accessibility:**
- **Cost-Effectiveness:**
- **Environmental Concerns:**

# Solution:

- **Convenience:**
- **Affordability:**
- **Environmental Impact:**

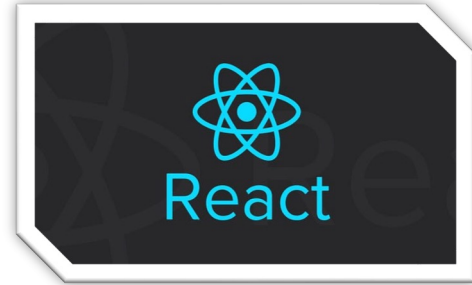


# Front-end Architecture:



## Visual Studio Code (VS Code):

- "VS Code, crafted by Microsoft, is our go-to source-code editor."



## React:

- JavaScript library.
- Build user interfaces.

# Back-end and Database:



## MySQL:

- Is an open-source relational database management system.



## Spring boot (STS)

- An Integrated Development Environment (IDE) based on Eclipse.

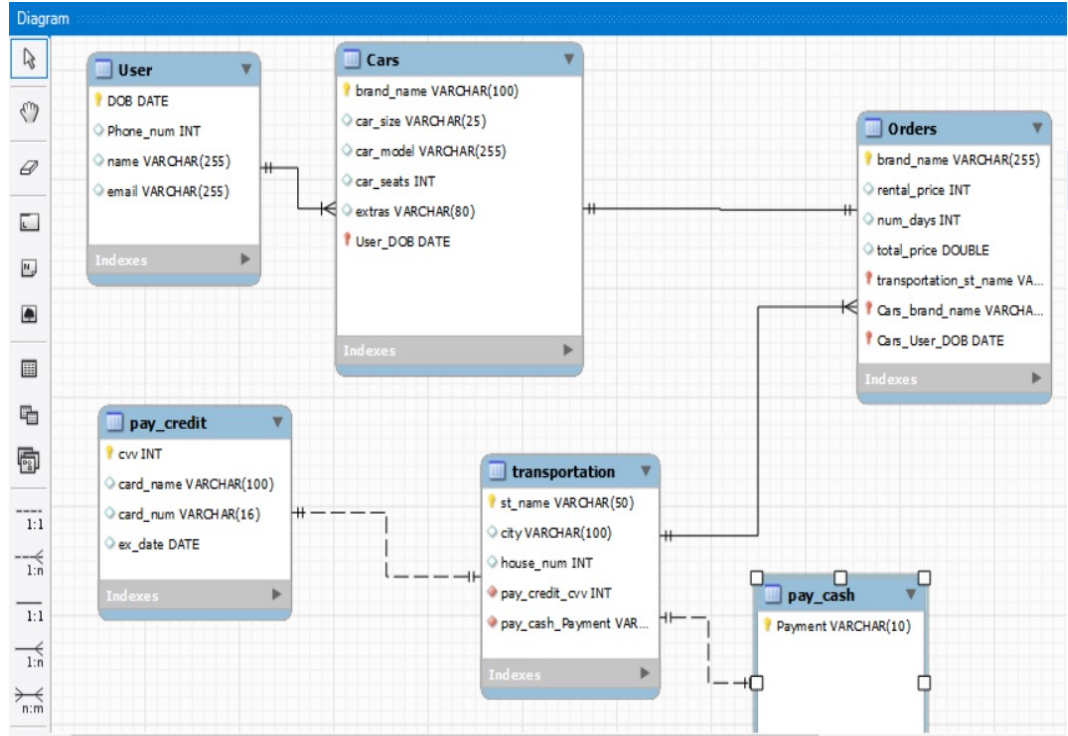


# Our Application (Back-End)

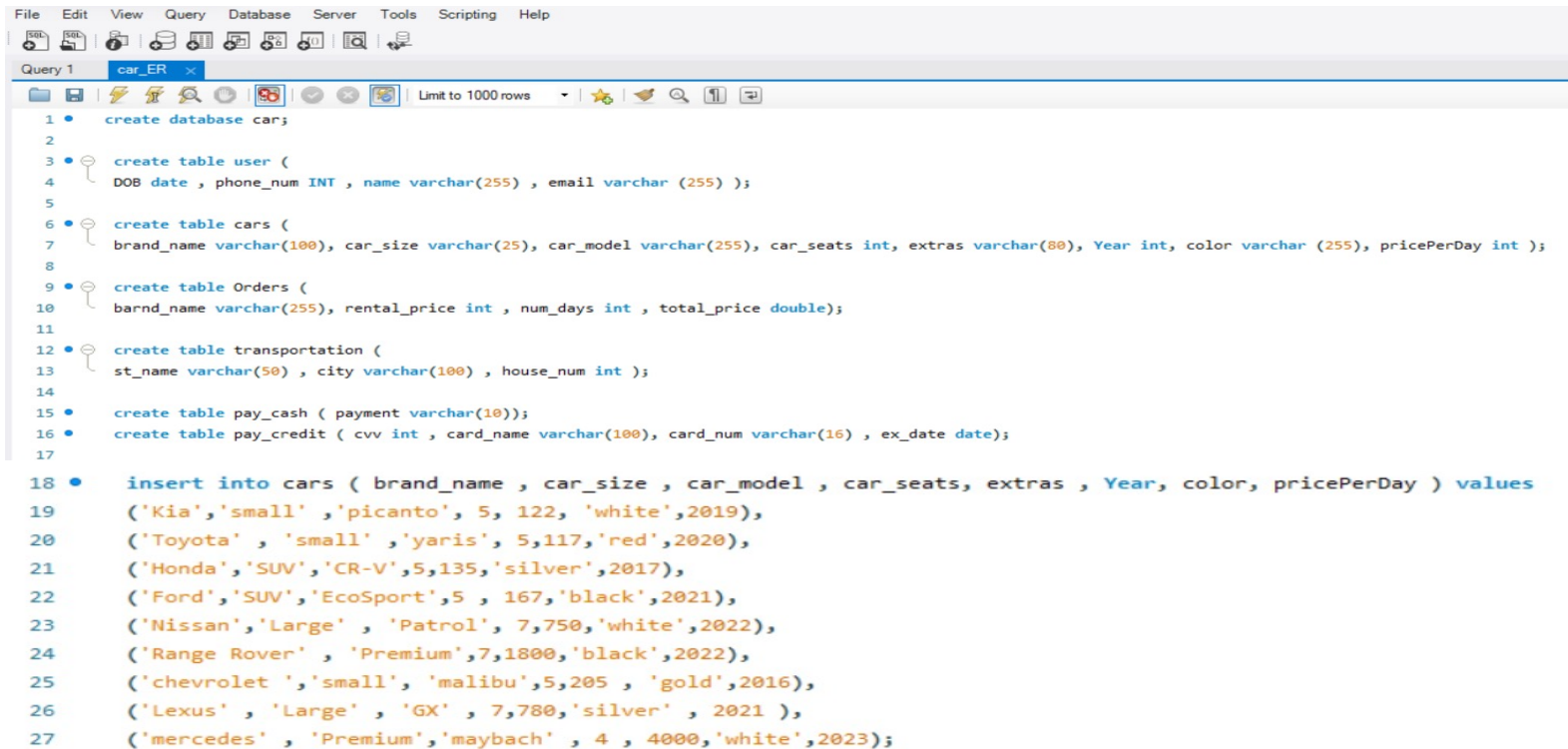
# ER-Diagram (MySQL)

## Why we need it?

1. Visual Representation of Data Structure
2. Database Design and Planning.
3. Identifying Entities and Attributes
4. Defining Relationships
5. Normalization



# Database (MySQL)



The screenshot shows a MySQL IDE window with a menu bar (File, Edit, View, Query, Database, Server, Tools, Scripting, Help) and a toolbar. The active tab is 'Query 1' with the filename 'car\_ER'. The toolbar includes icons for file operations, a 'Limit to 1000 rows' dropdown, and a search icon. The SQL editor contains the following queries:

```
1 • create database car;
2
3 • create table user (
4   DOB date , phone_num INT , name varchar(255) , email varchar (255) );
5
6 • create table cars (
7   brand_name varchar(100), car_size varchar(25), car_model varchar(255), car_seats int, extras varchar(80), Year int, color varchar (255), pricePerDay int );
8
9 • create table Orders (
10  barnd_name varchar(255), rental_price int , num_days int , total_price double);
11
12 • create table transportation (
13  st_name varchar(50) , city varchar(100) , house_num int );
14
15 • create table pay_cash ( payment varchar(10));
16 • create table pay_credit ( cvv int , card_name varchar(100), card_num varchar(16) , ex_date date);
17
18 • insert into cars ( brand_name , car_size , car_model , car_seats, extras , Year, color, pricePerDay ) values
19   ('Kia','small' , 'picanto', 5, 122, 'white',2019),
20   ('Toyota' , 'small' , 'yaris', 5,117,'red',2020),
21   ('Honda' , 'SUV', 'CR-V',5,135,'silver',2017),
22   ('Ford', 'SUV', 'EcoSport',5 , 167,'black',2021),
23   ('Nissan','Large' , 'Patrol', 7,750,'white',2022),
24   ('Range Rover' , 'Premium',7,1800,'black',2022),
25   ('chevrolet' , 'small', 'malibu',5,205 , 'gold',2016),
26   ('Lexus' , 'Large' , 'GX' , 7,780,'silver' , 2021 ),
27   ('mercedes' , 'Premium', 'maybach' , 4 , 4000,'white',2023);
```

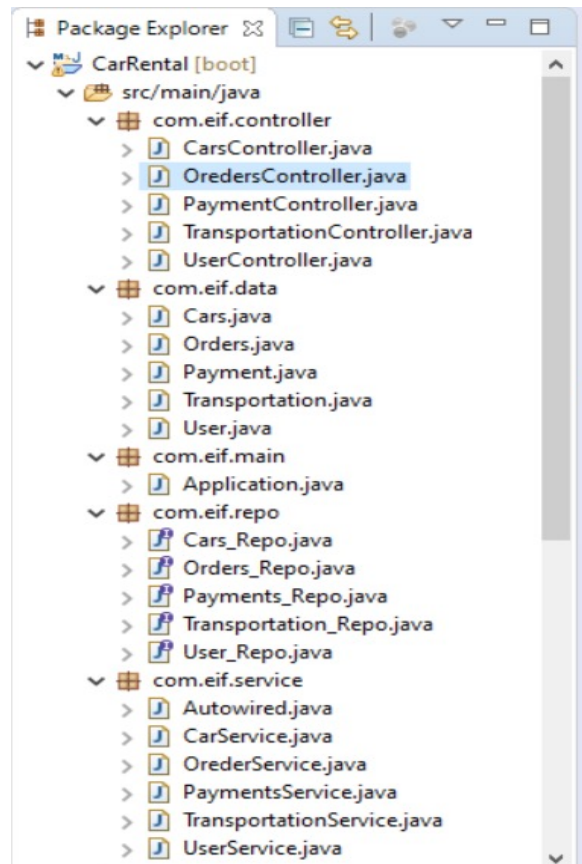




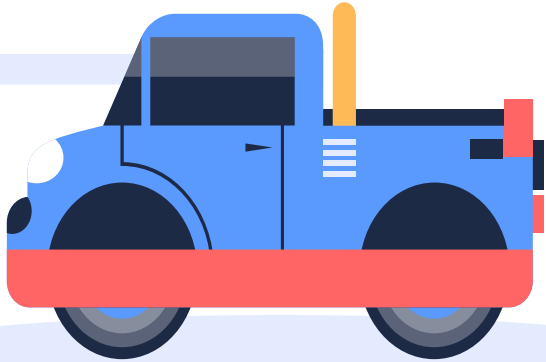
# Maven project

## key aspects of a Maven project:

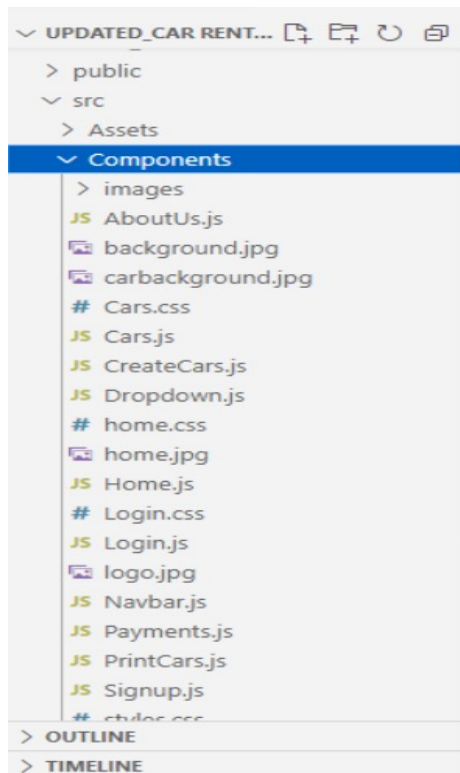
1. Project Object Model (POM)
2. Dependency Management
3. Build Lifecycle
4. Project Lifecycle
5. Integration with IDEs



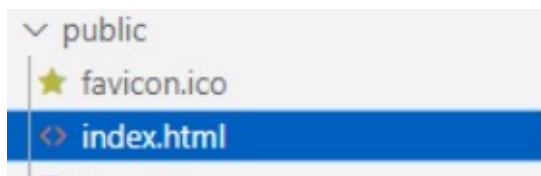
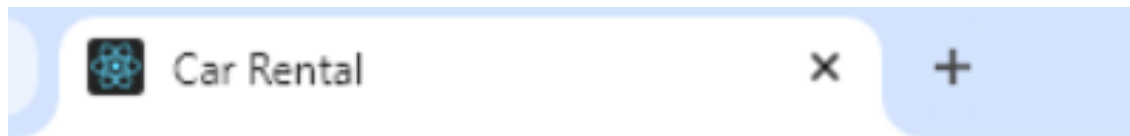
# Our Application (Front-End)



# Visual Studio Code (VS Code)



<Title>



24  
25  
26  
27

```
work correctly both with  
Learn how to configure a  
-->  
<title>Car Rental</title>
```

# Navbar

Welcome to Car Rental

Home

About us

Registration

Explore Cars

Checkout

src > Components > JS Navbar.js > ...

```
1  import { Link } from "react-router-dom";
2
3  const Navbar = () => {
4    return (
      <div className="navbar">
5      <h1> Welcome to Car Rental</h1>
6      <div>
7        <Link to="/"> Home</Link>
8        <Link to="/aboutus">About us</Link>
9        <Link to="/Login">Registration</Link>
10       <Link to="/Cars"> Explore Cars</Link>
11       <Link to="/Transportation"> Checkout</Link>
12     </div>
13   </div>);
14 }
15
16 export default Navbar
```

# Home page

**Welcome to Car Rental**

[Home](#)

[About us](#)

[Registration](#)

[Explore Cars](#)

[Checkout](#)

Book a car near you and  
drive in minutes!



# About us

Welcome to Car Rental

[Home](#)

[About us](#)

[Registration](#)

[Explore Cars](#)

[Checkout](#)

## Welcome to Car Rental

Where we redefine your journey with seamless and reliable car rental solutions. With a commitment to providing exceptional service, we pride ourselves on offering a fleet of vehicles that caters to every need and occasion.

Thank you for choosing Car Rental, where every mile is a memory waiting to be made!



# Registration

← → ↻ localhost:3000/Login 🔍 ☆ ⬇️ □ 👤 Relaunch to update ⋮

## Welcome to Car Rental

Home About us Registration Explore Cars Checkout


### Log In

Email

Password

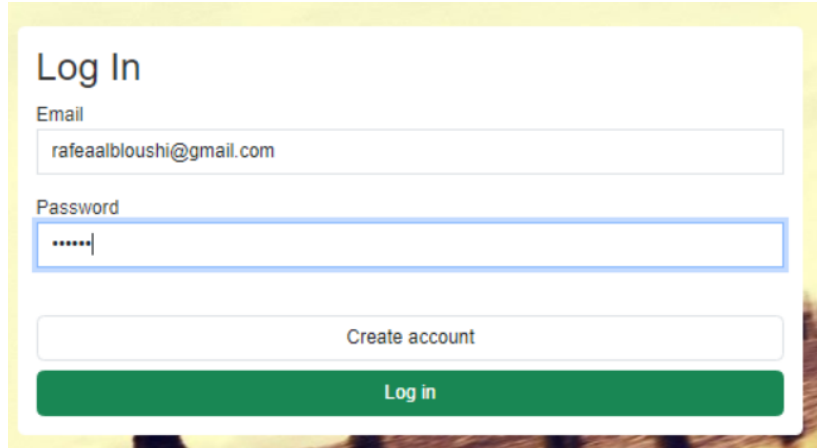
Create account

Log in



localhost:3000/Login

# Login



Log In

Email

rafeaalbloushi@gmail.com

Password

.....|

Create account

Log in

# Login (js)

```
src > Components > JS Loginjs > Login
1 // Login.js
2 import React from "react";
3 import { Link } from "react-router-dom";
4 import "../Login.css"; // Import the CSS file
5
6 function Login() {
7   return (
8     <div className="yellow-img">
9
10      <div className="d-flex justify-content-start box align-items-center g vh-100">
11        <div className="bg-white p-3 rounded col-md-4">
12          <h2>Log In</h2>
13          <form action="">
14            <div className="mb-3">
15              <label htmlFor="email">Email</label>
16              <br />
17              <input
18                type="email"
19                placeholder="Enter email"
20                className="form-control rounded-0"
21              />
22            </div>
23
24            <div className="mb-3">
```

```
src > Components > JS Loginjs > Login
28      type="password"
29      placeholder="Enter password"
30      className="form-control rounded-0"
31    />
32  </div>
33  <br />
34  <Link
35    to="/Signup"
36    className="btn btn-default border w-100 text-decoration-none mb-2"
37  >
38    Create account
39  </Link>
40  <br />
41  <Link to="/Cars" className="btn btn-success w-100">
42    Log in
43  </Link>
44  </form>
45  </div>
46  </div>
47  </div>
48  );
49  }
50
51  export default Login;
```

# Login.css






src > Components > # Login.css > ...

```
1  /* Login.css */
2
3  .login-container {
4      background-color: #white;
5      padding: 3rem;
6      border-radius: 0.25rem;
7      max-width: 1000px;
8      box-shadow: 0 0 10px #rgba(0, 0, 0, 0.1); /* Add a subtle shadow */
9  }
10
11  .bg-white-vh-100 {
12      background-color: #white;
13      height: 100vh;
14  }
15
16  .btn-full-width {
17      width: 100%;
18  }
19
20  .btn-margin-bottom {
21      margin-bottom: 0.5rem;
22  }
```

# Explore Cars



## Choose Your Cars

Choose	Images	Brand	Size	Model	Seats	Extras	Year	Color	Price
<button>Add Car</button>		Kia	small	Picanto	5	122	2019	White	250
<button>Add Car</button>		Toyota	small	Yaris	5	117	2020	Red	150
<button>Add Car</button>		Honda	SUV	CRV	5	135	2017	Silver	200
<button>Add Car</button>		Ford	SUV	EcoSport	5	167	2021	White	300
<button>Add Car</button>									

# Transportation

```
return (  
  <div className="mb-3">  
    <label htmlFor="dropdown" className="form-label">  
      Select City:  
    </label>  
    <select  
      id="dropdown"  
      value={selectedOption}  
      onChange={handleDropdownChange}  
      className="form-select w-100"  
    >  
      <option value="">Select...</option>  
      <option value="Abu Dhabi">Abu Dhabi</option>  
      <option value="Al Ain">Al Ain</option>  
      <option value="Dubai">Dubai</option>  
      <option value="Sharjah">Sharjah</option>  
      <option value="Ajman">Ajman</option>  
      <option value="Ras Al Khaimah">Ras Al Khaimah</option>  
      <option value="Umm Al Quwain">Umm Al Quwain</option>  
      <option value="Fujairah">Fujairah</option>  
    </select>  
    {selectedOption && <p>You selected: {selectedOption}</p>}  
  </div>  
>);  
);
```

```
export default Dropdown;
```



Please fill in your address for Delivery

Select City:  
Select...

Street Name  
Enter Street Name

House Number  
Enter House Number

Submit



Please fill in your address for Delivery

Select City:  
Abu Dhabi

You selected: Abu Dhabi

Street Name  
name

House Number  
1

Submit

# Payment method



Pay with Card

Cash On Delivery

Name

Enter your name

Email

Enter your email

City

Enter your city

Street No

Enter your street r

House No

Enter your house

Submit

Pay with Card

Cash On Delivery

Name on Card

Name on Card

Card number

4242 4242 4242 4242

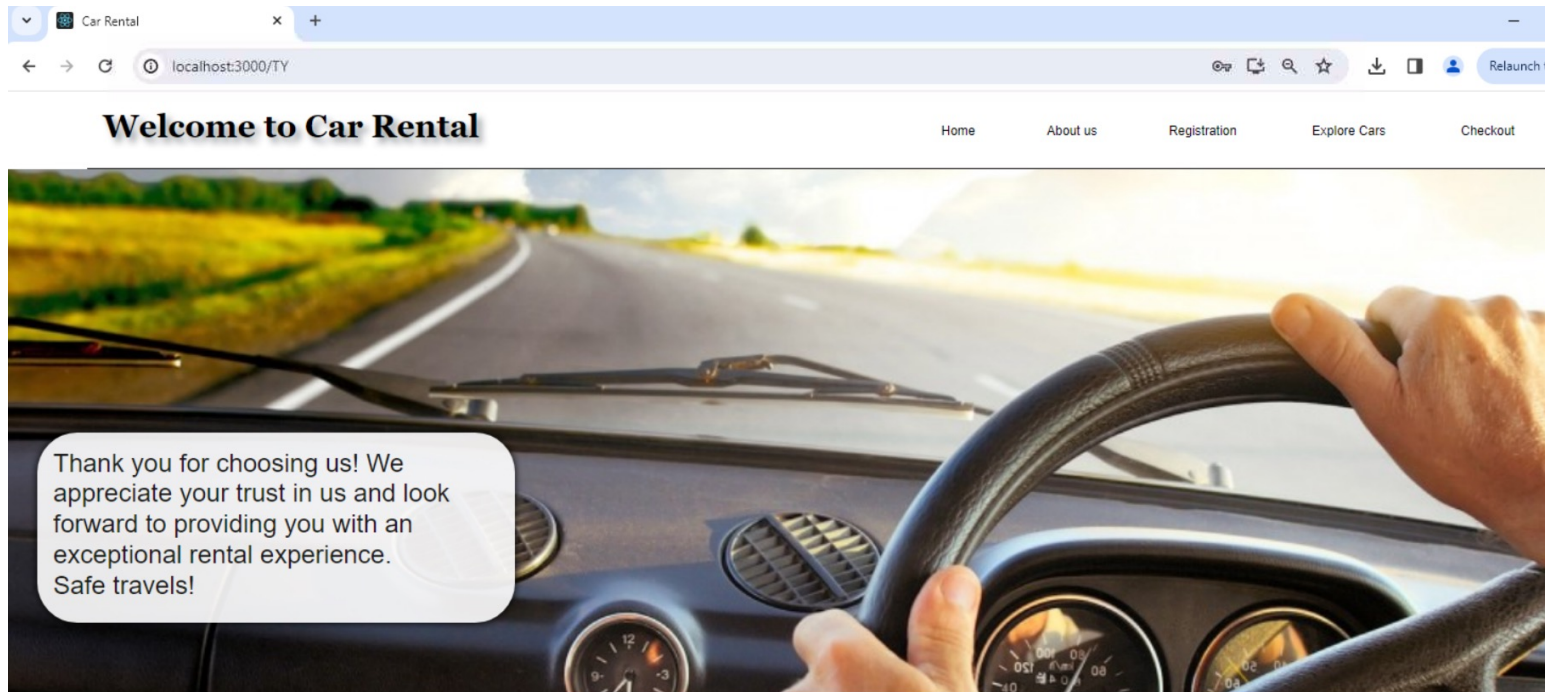
Expiry Date

MM/YY

CVC/CVV

...





# App.js

src > JS Appjs > ...

```
1 import Navbar from './Components/Navbar';
2 import './App.css';
3 import { BrowserRouter as Router, Route, Routes as Switch } from "react-router-dom";
4 import Home from './Components/Home';
5 import Cars from './Components/Cars';
6 import AboutUs from './Components/AboutUs';
7 import Signup from './Components/Signup';
8 import Login from './Components/Login';
9 import Transportation from './Components/Transportation';
10 import Payment from './Components/Payments';
11 import CashOnDelivery from './DBuse/CashOnDelivery';
12 import CreditCard from './DBuse/CreditCard';
13 import TV from './Components/TV';
14 function App() {
15   return (<Router> <div className="App">
16     <Navbar></Navbar>
17     </div> <Switch>
18       <Route exact path="/" element={<Home />} />
19       <Route exact path="/Cars" element={<Cars />} />
20       <Route exact path="/aboutus" element={<AboutUs />} />
21       <Route path="/Signup" element={<Signup />} />
22       <Route path="/Login" element={<Login />} />
23       <Route path="/Transportation" element={<Transportation />} />
24       <Route path="/Cars" element={<Cars />} />
25       <Route path="/payment" element={<Payment />} />
26       <Route path="/cash-on-delivery" element={<CashOnDelivery />} />
27       <Route path="/credit-card" element={<CreditCard />} />
```

```
21 <Route path="/Signup" element={<Signup />} />
22 <Route path="/Login" element={<Login />} />
23 <Route path="/Transportation" element={<Transportation />} />
24 <Route path="/Cars" element={<Cars />} />
25 <Route path="/payment" element={<Payment />} />
26 <Route path="/cash-on-delivery" element={<CashOnDelivery />} />
27 <Route path="/credit-card" element={<CreditCard />} />
28 <Route path="/TV" element={<TV />} />
29
30 </Switch>
31 </Router>
32
33 );
34 }
35
36
37
38 export default App;
39
```

## Future Prospects - Feature Expansion

### Expanding Horizons: Future Features:



**User Accounts and Profiles:** Implement a user authentication system allowing users to create accounts, personalize profiles, and track their rental history.



**Advanced Search and Filtering:** Enhance the search functionality with filters such as car type, fuel efficiency, or specific features, providing users with more tailored results.

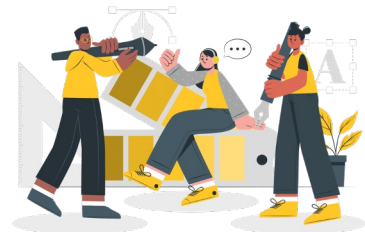


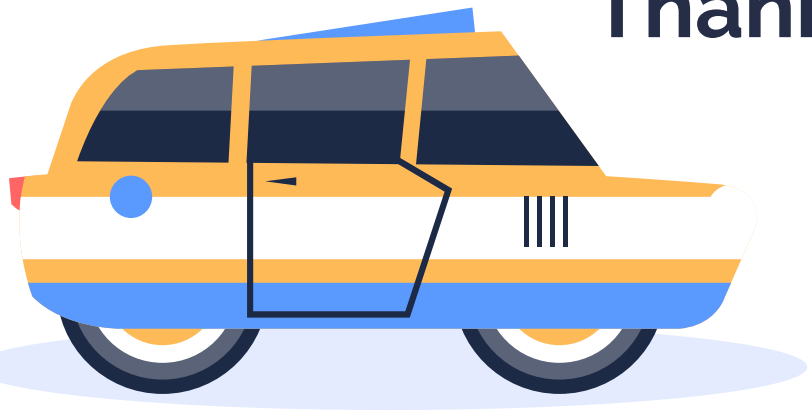
**Integration with Maps and Navigation:** Integrate mapping services for users to view car locations, plan routes, and get directions for a seamless rental experience.



# Evolving with Technology:

- Regular Updates: Commit to ongoing updates and improvements, incorporating user feedback and adapting to technological advancements.
- Mobile Application Development: Consider developing a mobile app for a more versatile and user-friendly experience, allowing users to rent cars on the go.
- Predictive Analytics: Implement data analytics to predict demand, optimize fleet management, and enhance overall operational efficiency.





# Thanks for listening.

Does anyone have any questions?