**3. Car Rental Reservation System**

**⚠️ Read the entire requirement thoroughly. Every detail must be carefully reviewed from start to finish.**

**Frontend Requirements for Car Rental Reservation System**

**Objective:**

Create a user-friendly and responsive car rental reservation platform for customers and admins. The system should offer a smooth experience for browsing, booking, and managing cars while providing administrators with tools to manage inventory and reservations.

***Public Pages***

**1. Home Page**

* **Header:**
  + Logo and company name.
  + Navigation menu: Home, About Us, Booking, Contact.
  + Login/Sign Up buttons.
* **Hero Section:**
  + A large banner image showcasing cars with a prominent "Book Now" call-to-action button.
  + A search bar for quickly checking car availability based on location and dates.
* **Featured Cars:**
  + A carousel or grid display of featured cars with images, brief descriptions, and pricing.
* **Why Choose Us?**
  + Highlight unique selling points such as best prices, wide selection, and 24/7 support.
* **Customer Testimonials:**
  + A section featuring reviews and ratings from satisfied customers.
* **Footer:**
  + Links to social media profiles, privacy policy, terms of service, and contact information.

**2. Car Listing Page**

* Display all available cars in a grid or list view.
* Filters for car type (e.g., SUV, hybrid, sedan), price range, and other features or any other relevant fields.
* Each car entry includes a brief description, image, pricing, and a "View Details" button.

**3. Car Details Page**

* Detailed information about the selected car, including features, pricing, availability, and customer reviews.
* High-quality images with zoom functionality.
* Options to choose additional features like insurance, GPS, child seat, etc.
* A prominent "Book Now" button leads to the booking page.

**5. Error Page:**

* Create a visually appealing 404 page that aligns with the overall theme of the site. This page should appear when the user navigates to a route that doesn't exist.
* In case of an error from the backend API (e.g., "There is no car available right now." or any other message returned when no data is available), display the error message to the user.
* Ensure that the page includes navigation options to help users find their way back to safe pages, such as Home and Login.

**6. User Authentication Pages**

* **Sign Up Page:**
  + **Main Form:**
    - Fields: Name, Email Address, Password, Confirm Password, Phone Number (optional).
    - Terms & Conditions checkbox with a link to the document. (you may read the document using the link and use the checkbox for the consent).
  + **Buttons:**
    - Sign Up button.
    - Sign In Instead link for existing users.
  + **Footer:**
    - Links to Privacy Policy and Terms of Service.
  + **Validation & Error Handling:**
    - Real-time validation for email format and matching passwords.
    - Clear error messages for invalid inputs or if the email is already registered.
    - Redirect to the login page after successful registration.
* **Sign In Page:**
  + **Main Form:**
    - Fields: Email Address, Password.
  + **Buttons:**
    - Sign In button.
    - Forgot Password? link to a password recovery page.
    - Sign Up Instead link for new users.
  + **Footer:**
    - Links to Privacy Policy and Terms of Service.
  + **Validation & Error Handling:**
    - Real-time email validation.
    - Error messages for incorrect email or password, with a link to recover the password.
    - Redirect to the dashboard after successful login.

***User Pages [Private/Protected Route]***

**7. User Dashboard (Manage User Data)**

* **Overview:**
  + View personal information and booking history.
  + Update profile details, such as contact information and preferences.
* **Booking Management:**
  + View upcoming and past bookings.
  + Options to modify or cancel existing bookings (after approval of the booking, the user will be unable to modify or cancel the booking).
* **Payment Management:**
  + After returning the car a user will be able to pay the amount
  + Functionality to pay the amount.

***Admin Pages* *[Private/Protected Route]***

**8. Admin Dashboard (Manage Cars) [Private/Protected Route]**

* **Dashboard Overview:**
  + A summary view showing key statistics like total bookings, available cars, revenue, etc.
* **Manage Cars:**
  + Add, update, or delete car listings with fields for car details (name, model, year, features, pricePerHour) etc.
  + Image upload functionality for car photos.
* **Manage Bookings:**
  + View and manage customer bookings.
  + Options to approve, or cancel bookings.
* **Manage Return Cars:**
  + **View and Manage Booked Cars:** Access and manage all cars that have been booked.
  + **Return Options:** Provide the option to return a car. When a car is returned, its status will be updated accordingly, reflecting the car's availability and the completion of the booking process.
* **User Management:**
  + Manage customer and admin accounts.
  + 🚩 admin can change the access of a user. That means the admin can block/activate a user account. Admin can change the role of a user from user to admin if the admin wishes. (admin).🚩
* **Reports: (Optional)**
  + **Generate and View:**
    - Generate detailed reports on car usage, revenue, and other key metrics, displayed with clear charts and graphs.
  + **Filtering:**
    - Filter reports by daily, weekly, monthly, and yearly intervals for easy comparison.
  + **Printing:**
    - Print reports directly from the platform, with an optimized layout for clarity.

***User/Admin Pages* *[Private/Protected Route]***

**9. Booking Page**

* **Search Form:**
  + 🚩 Fields for car type, features, and other relevant criteria.🚩
  + 🚩 Optional: Fields for selecting location, pick-up and drop-off dates, car type, and other relevant criteria.🚩
* **Search Results:**
  + Display a list of available cars based on the search criteria, with each car showing a brief description, image, pricing, and a "Book Now" button.
* **Car Details:**
  + Detailed information about the selected car, including features, insurance options, and cancellation policy.
* **Booking Form:**
  + Input fields for personal details **(NID/Passport, Driving License must)**, payment information, and additional options (e.g., GPS, child seat).
* **Booking Confirmation:**
  + A confirmation page displaying the booking details, where the user can review their information before finalizing the reservation.

**Responsive Design & UI/UX Requirements**

* Ensure all pages are fully responsive and provide a seamless experience across devices (mobile, tablet, desktop).
* Implement intuitive and user-friendly navigation.
* Use consistent branding elements (colors, fonts, logo) throughout the site.

**Bonus Feature**

* **Payment System:**
  + A user can pay the amount after returning the car.
  + Integrate a secure payment gateway for processing online payments.
  + Support for multiple payment methods (AmarPay/SSLCommerz any of these local payment methods).
  + Display a summary of charges before confirming the payment.
  + A confirmation page with a payment receipt.
* **Theme switcher:**
  + Dark/light/system theme switch.

**Deliverables**

* Fully functional frontend application integrated with the backend.
* Responsive design for all pages.
* User and Admin dashboards with described features.
* Complete backend integration.
* Clean, well-organized, and documented code.
* Creative solutions to integration challenges.

**References for Idea Generation**

* **Inspiration Sites:**
  + [Car Rentals: Find Cheap Car Rentals & Rental Car Deals - KAYAK](https://www.kayak.com/cars)
  + [Convene](https://www.gorentals.co.nz/?utm_source=Bing&utm_medium=PPC&utm_campaign=Bing_INT-PPC-Generic&msclkid=872dc177ebc219b805dda7b154721038)

**[ N.B: If you need any modification in the backend of Assignment-3 to meet the above requirements, feel free to do so. ]**