Overview

This document outlines the development of several essential features for a **car rental e-commerce website**, focusing on:

- Filter search section

- Pagination

- Dynamic routing

- Product listing page with dynamic data

- Product detail page

- Working category filters

These components are designed to enhance the **user experience** by providing seamless navigation and efficient data handling.

Filter Search Section Component

The **Filter Search Section** allows users to refine their search results based on specific criteria, such as:

- Car brand (e.g., Koenigsegg, Rolls-Royce, Lamborghini)

- Price range

- Availability (e.g., currently rented or available)

- Transmission type (automatic or manual)

Features:

- Real-time Filtering: Users can see the filtered results update instantly without refreshing the page.

- Responsive Design: Optimized for both desktop and mobile devices.

- Performance: Uses debouncing techniques to improve search performance.

Technologies Used:

- Frontend: React components for interactivity.

- Backend: GROQ queries to fetch filtered data from Sanity CMS.

Pagination

Pagination was implemented to improve the user experience by:

- Dividing the product listing into smaller, more manageable pages.

- Displaying navigation buttons (e.g., Previous, Next) for easy browsing.

Features:

- Dynamically calculates the total number of pages based on the number of products.
- Shows a limited number of pagination links to avoid clutter.
- Highlights the current page for better visibility.

Implementation:

- API Integration: The backend API returns paginated data based on the requested page number and page size.
- Frontend Logic: React handles dynamic rendering of pages and pagination links.

Dynamic Routing

Dynamic routing ensures scalability and improves the navigational flow of the website. Examples include:

- Product Listing Page: /products
- Product Detail Page: /products/[id] (e.g., /products/12345 for a specific car)
- Category Filter Pages: /categories/[category] (e.g., /categories/sports)

Benefits:

- Enables sharing of specific car details or filtered results through unique URLs.
- Seamless integration with the Next.js router for server-side rendering (SSR) or static site generation (SSG).

Product Listing Page with Dynamic Data

The **Product Listing Page** fetches dynamic data from Sanity CMS and displays a grid of available cars with key information, including:

- Car name
- Price
- Thumbnail image
- Short description

Key Features:

- Dynamic Data: Automatically updates when new products are added to the database.
- Lazy Loading: Loads images and data as the user scrolls, reducing initial load time.

Example:

fetch('/api/products')

```
.then((response) => response.json())
.then((data) => setProducts(data));
```

Product Detail Page

The **Product Detail Page** provides detailed information about a specific car, including:

- High-resolution images
- Full description
- Specifications (e.g., horsepower, engine type, seating capacity)
- Booking options

Implementation:

- Fetches data dynamically using the car's unique ID.
- Includes a "Back to Listing" button for easy navigation.

Working Category Filters

The **Category Filter** allows users to browse cars based on predefined categories, such as:

- Sports Cars
- Luxury Cars
- Economy Cars

Key Features

- **Dynamic Querying:** GROQ queries fetch filtered data based on the selected category.
- **Interactive UI:** Clicking on a category updates the listing page without a full page reload.

Conclusion

These features collectively enhance the functionality and usability of the car rental e-commerce website. By implementing efficient filtering, pagination, dynamic routing, and detailed product pages, the platform delivers an **engaging** and **user-friendly experience** for potential customers.