Product List Page

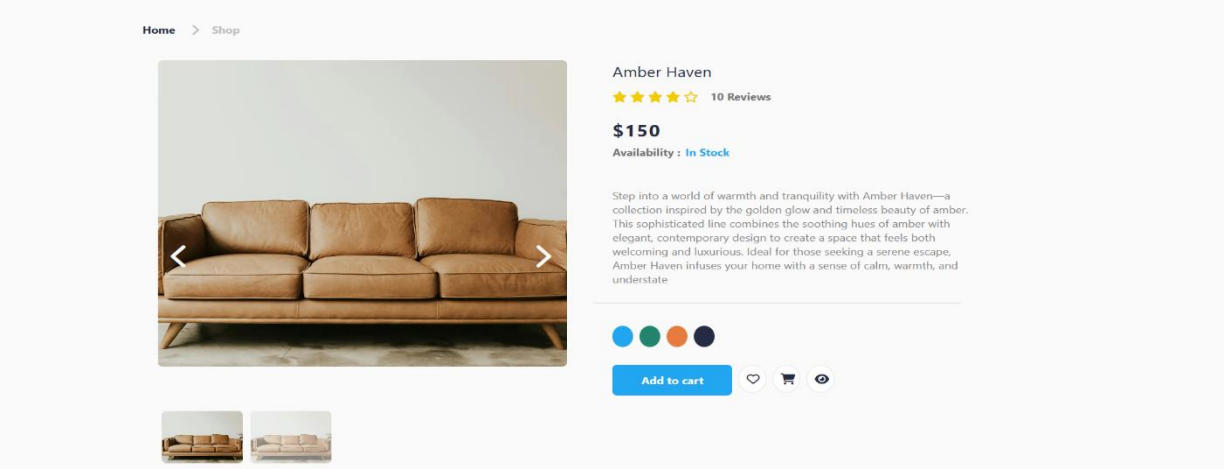
Overview:
The Product List Page is designed to display all the available products in a clean and organized layout. It provides users with a seamless browsing experience, featuring dynamic routing and essential functionalities like pagination and search.

Key Functionalities:

Dynamic Routing:

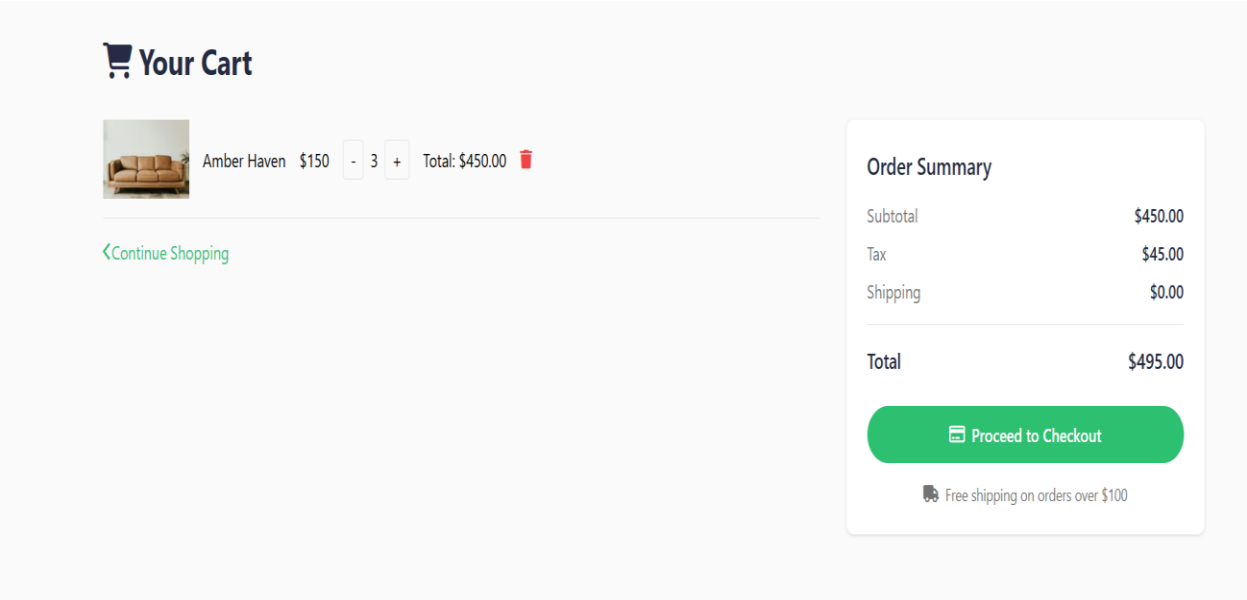
Each product is rendered dynamically, enabling scalability and improving performance.

URL structure follows a pattern (e.g., `/products/[id]`) for direct access to individual product details.



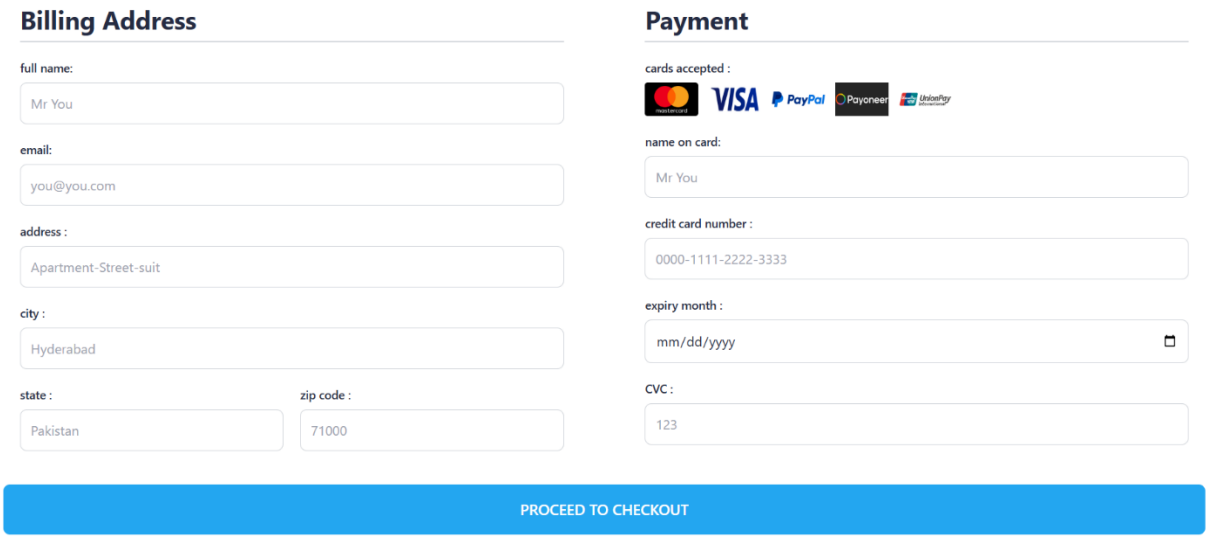
Add to Cart

• **Importance:** The Add to Cart functionality enhances the shopping experience by allowing users to save items for purchase while browsing.
• **Implementation:** Built using React Context API for centralized cart state management, ensuring seamless data sharing across components.
• **Features:** Users can add items, update quantities, and remove products, with real-time updates to totals and visual feedback (e.g., toast notifications).
• **Responsive Design:** Optimized for all devices, ensuring a consistent user experience.
• **Future Plans:** Integrate cart syncing across devices for logged-in users and persistent storage for guest users.



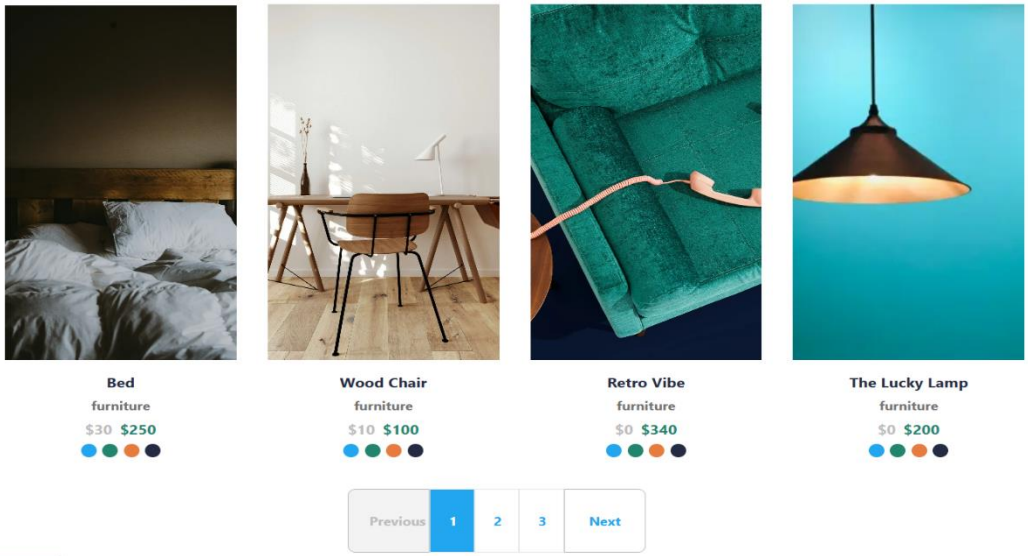
Checkout

- **Importance:** The Checkout Page is crucial for completing purchases, ensuring a smooth and secure transaction process.
- **Implementation:** Displays cart summary, total price, and payment details, with validation to ensure all required information is provided.
- **Features:** Includes fields for shipping details, payment options, and order review, with real-time updates to order totals.
- **State Management:** Uses React Context API to fetch cart details and finalize orders.
- **Future Plans:** Add payment gateway integration and order confirmation notifications.



Pagination

• **Importance:** Enhances navigation by dividing product listings into manageable pages, improving user experience and page load times.
• **Implementation:** Built with dynamic data handling to fetch and display products for the current page.
• **Features:** Includes next/previous buttons and clickable page numbers, with active page highlighting for better usability.
• **Responsive Design:** Optimized for seamless navigation across all screen sizes using Tailwind CSS.
• **Future Plans:** Add options to adjust the number of products displayed per page and infinite scroll functionality.



Search bar

• **Importance:** The Search Bar allows users to quickly find products by name, category, or keywords, improving the overall user experience.
• **Implementation:** Integrated with dynamic filtering to display relevant results as users type, with a debounce mechanism to optimize API calls.
• **Features:** Displays search suggestions and instantly updates product listings based on user input.
• **Responsive Design:** Adapted for mobile and desktop, ensuring smooth interaction on any device.
• **Future Plans:** Enhance with advanced filters (e.g., by price, rating) for more precise searches.