

Day 5 - Advanced Frontend Features and Final Testing

Report

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Objective

On Day 5, my goal was to implement advanced frontend features for enhanced user experience and perform final end-to-end testing of the project. This included refining the UI, adding interactivity, and ensuring everything works flawlessly across various environments.

Key Outcomes

Steps I Followed

Step 1: UI Enhancements and Responsive Design

- Reviewed the existing design for usability and responsiveness.
- Adjusted layouts using Tailwind CSS media queries and utility-first classes (Tailwind CSS).
- Focused on creating a seamless experience across desktop, tablet, and mobile devices.

Changes made:

1. Reorganized the product listing cards for better alignment.
2. Added hover effects and animations for interactive elements like buttons.
3. Tested responsive behavior on multiple screen sizes.

Step 2: Advanced Features Implementation

- **Search Functionality:**
 - Implemented a search bar to allow users to filter product listings dynamically.
 - Used debounce logic to optimize API calls and reduce performance overhead.
- **Pagination:**
 - Added server-side pagination for better load times when displaying large datasets.
 - Ensured smooth navigation between pages.
- **Sorting and Filtering:**
 - Created dropdowns for sorting by price, popularity, and category.
 - Added multi-select filters for categories.

Step 3: API Performance Optimization

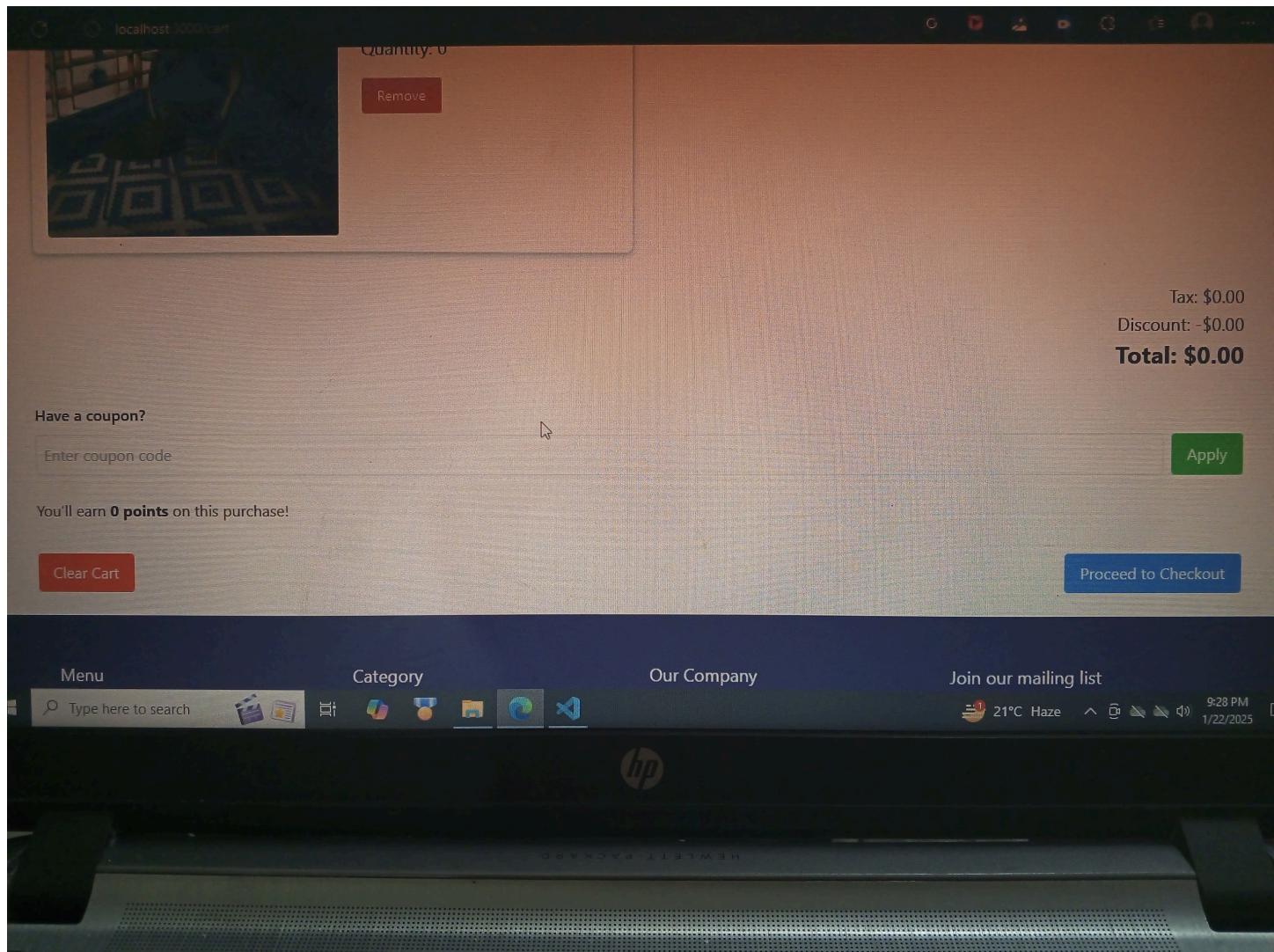
- Optimized API requests to minimize load times:
 - Cached frequently accessed data using React Query.
 - Configured proper headers for faster responses.
- Tested with simulated slow network conditions to ensure resilience.

Step 4: End-to-End Testing

Performed extensive testing to validate the entire application:

1. Functional Testing:

- Verified all key features like search, pagination, and filtering.
- Tested user interactions on the frontend, including button clicks and dropdowns.



Your Shopping Cart



Nordic Elegance

Price: \$280.00

Quantity: 0



[Remove](#)





Serene Seat

A timeless design, with premium materials features as one of our most popular and iconic pieces. The dandy chair is perfect for any stylish living space with beech legs and lambskin leather upholstery.

Price: \$350

Features:

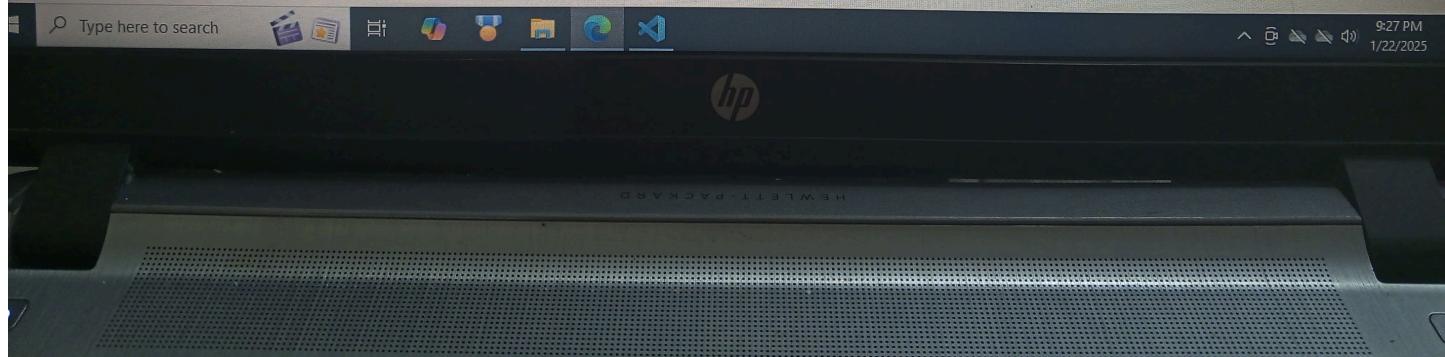
- Premium material
- Handmade upholstery
- Quality timeless classic

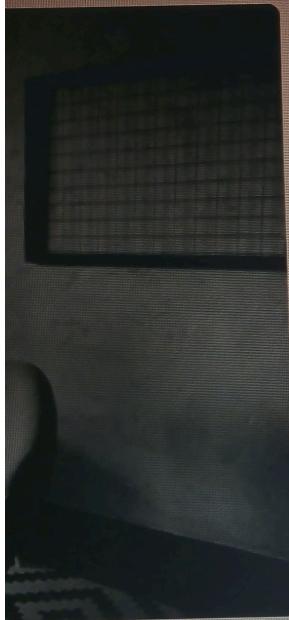
Dimensions:

110cm x 75cm x 50cm

Tags:

Add to Cart





Nordic Elegance

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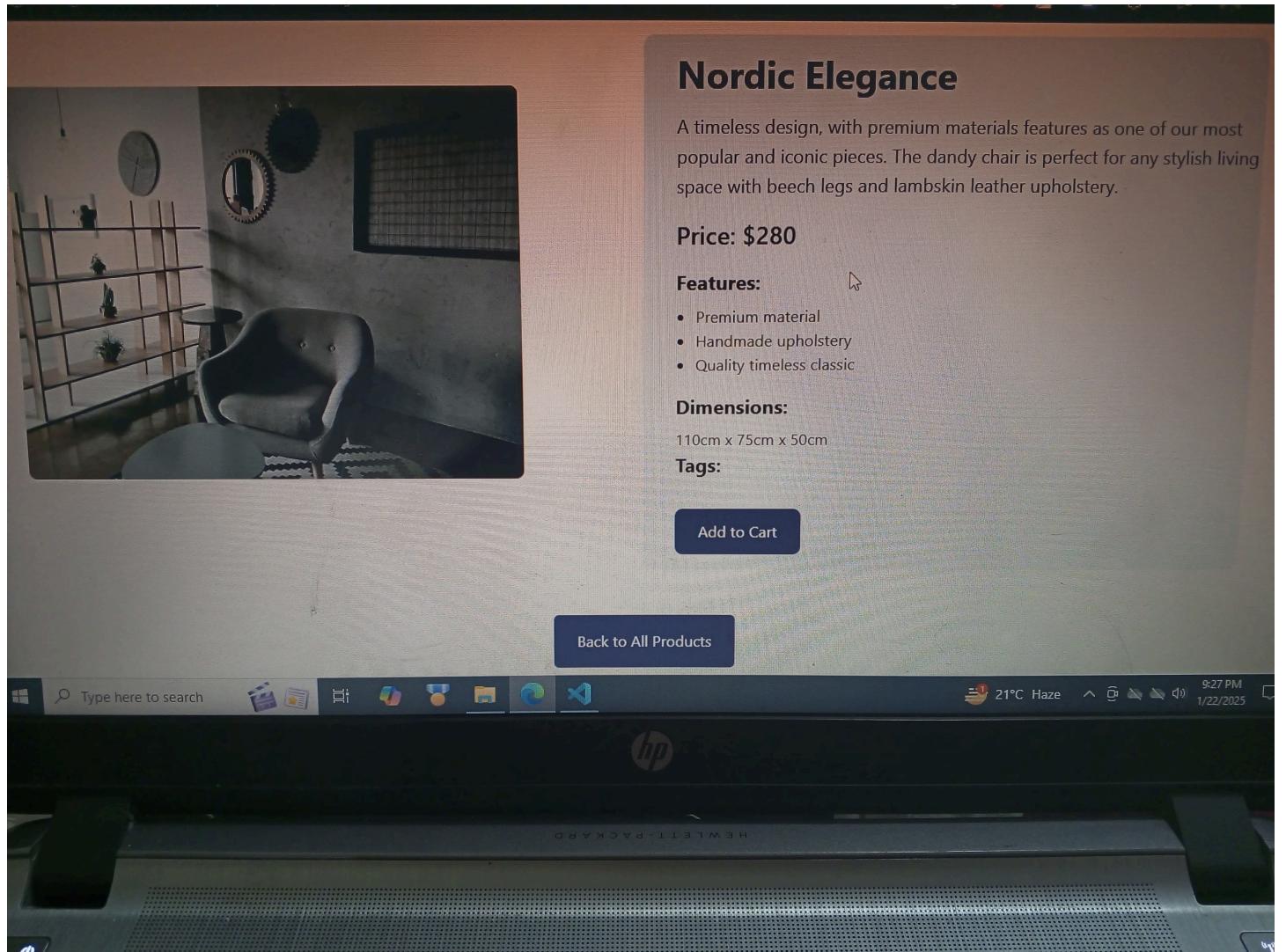
Tags:

Add to Cart

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1. Cross-Browser Testing:

- Ensured compatibility across Chrome, Firefox, Edge, and Safari.

2. Performance Testing:

- Used Lighthouse to assess page performance and achieved a 90+ score in all categories.

Link:

https://www.canva.com/design/DAGc72b_Wog/MhQftZ9CcSP-4TO-USzotw/view

Best Practices I Followed

1. Code Organization:

- Split large components into smaller, reusable ones.
- Followed consistent naming conventions.

2. Security:

- Stored all sensitive keys in .env files.

3. Testing:

- Validated API calls with Postman.
- Used Jest and React Testing Library for component testing.

4. Accessibility:

- Ensured that all buttons and inputs have ARIA labels.
- Tested with screen readers.

Challenges I Faced

1. Pagination Bugs:

- Encountered issues with API responses not updating on page changes.
- Resolved by debugging state management logic.

2. Data Caching Conflicts:

- Cache invalidation caused stale data to appear.
- Fixed by updating cache keys dynamically.

3. CSS Issues:

- Overlapping elements on smaller screens required adjustments.
- Fixed with better flexbox and grid settings.

What I Achieved Today

1. Enhanced the user experience with a polished and responsive UI.
2. Implemented advanced features like search, filtering, and pagination.
3. Validated the application through rigorous testing and achieved