

Dynamic Frontend Components

Technical Documentation

Summary: This report outlines the steps taken to build and integrate components, challenges faced, solutions implemented, and best practices followed during the development of the e-commerce website.

Steps Taken:

1. Product Listing Page:

- Built a fully functional page displaying dynamic data from Sanity CMS or APIs.
- Integrated pagination for seamless navigation.

2. Product Detail Pages:

- Implemented individual product pages using dynamic routing.
- Added related products section for enhanced user engagement.

3. Advanced Filtering and Search:

- Developed category filters for refined product views.
- Created a search bar to filter products by name or tags.

4. Responsive Design:

- Styled components for a professional and responsive look across devices.

5. Modular Components:

- Ensured components were reusable and scalable for future enhancements.

Challenges & Solutions:

1. Dynamic UI Updates:

- Challenge: Synchronizing dynamic UI changes and state management.

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- **Fix:** Implemented Redux to manage global state efficiently, ensuring consistent updates across components.
- 2. **Displaying Product Details:**
 - Challenge: Showing product detail pages by clicking on a product and maintaining state globally.
 - Fix: Used Redux to store selected product details in the global state, enabling seamless navigation and rendering on the detail page.

Best Practices Followed:

- Maintained a modular and reusable codebase for scalability.
- Secured sensitive information using environment variables.
- Tested extensively to ensure reliability of components and APIs.
- Followed consistent coding standards and thorough documentation practices.

Conclusion: The project successfully delivered a dynamic, responsive, and feature-rich e-commerce platform. Adhering to best practices ensured efficient development and future maintainability.