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Day 5: Testing, Error Handling, and Backend Integration Refinements

Overview

Today, I finalized the testing, error handling, and backend integration refinements for **Comforty**, a marketplace that offers a diverse range of stools, chairs, and sofas. The goal was to ensure that all components of the website operate seamlessly, are optimized for performance, and are fully prepared for real-world deployment.

Key Accomplishments

Functional Testing

I thoroughly tested the core features of the website, including:

- **Product Pages:** New & Feature , Collection
- **Individual Product Detail Pages:** Each product has a detailed page with descriptions, images, and specifications.
- **Category Listings:** Ensuring products are categorized correctly with advanced category filters.
- **Cart Operations:** Adding, removing, and updating items in the cart.
- **Wishlist Functionality:** Users can save products to a wishlist for future reference.
- **Authentication:** Integrated authentication using Clerk for secure user login and registration.
- **Inventory Management:** Implemented inventory management to track product availability.
- **Shipment Functionality:** Added shipment functionality using ShipEngine to manage shipping and delivery.
- **Stripe Payment :** Added Stripe payment gateway

I manually verified that each page loads correctly, products are displayed with their details, and users can navigate between pages without issues.

Error Handling

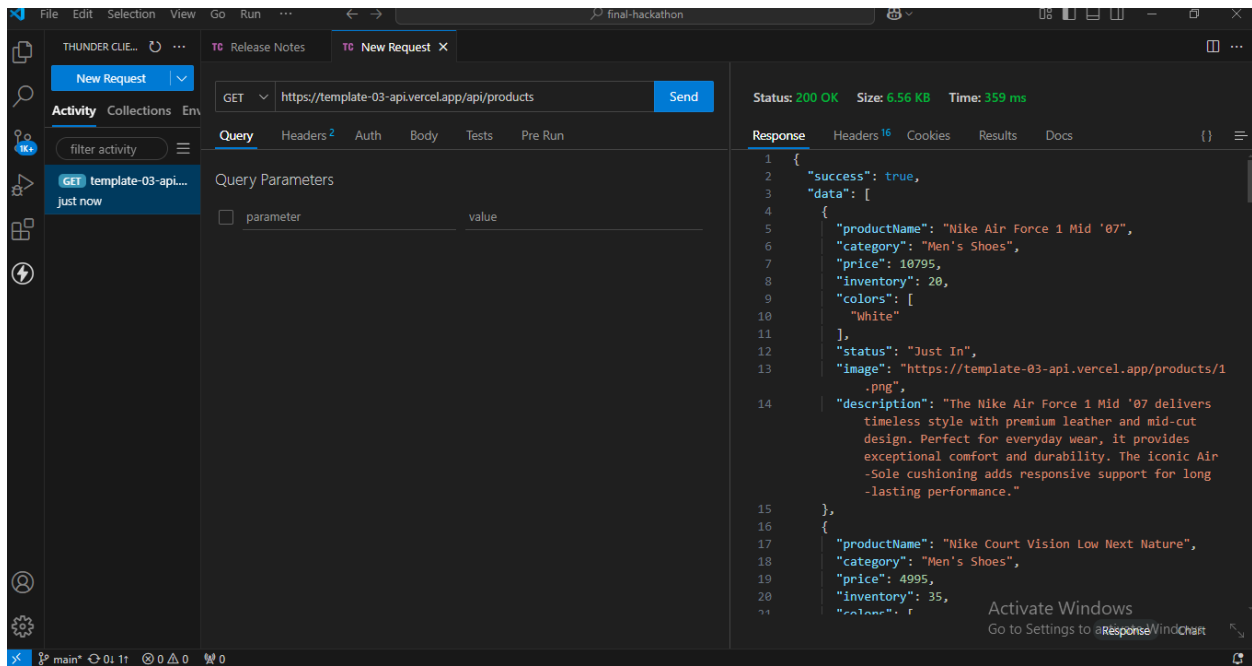
Clear and user-friendly error messages have been implemented to address situations such as network failures or missing data. For instance, if a product is not found or a category is empty, the website displays messages like **"Oops! Product Not Found"** to inform users effectively.

Backend Integration

- **Product Data Fetching:** Successfully integrated the backend to fetch product data efficiently from the server. In case of server failures, the website displays a fallback UI, ensuring a smooth user experience without crashes.
 - **API Integration:** The API has been configured to serve accurate and up-to-date product data, ensuring that users always see the latest updates in the product catalog.
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API Functionality Verification

To demonstrate the effectiveness of the backend integration, I have included a screenshot showing the API response for product data. The image confirms that the data is correctly imported from **Sanity** and seamlessly displayed on the frontend. This ensures that all product details, such as titles, categories, prices, and images, are accurately fetched and rendered.



Performance Testing and Test Case Results

- **Lighthouse Test Results:**
 - **Performance Score: 97**
 - **Accessibility Score: 96**
 - **Best Practices Score: 78**
 - **SEO Score: 100**

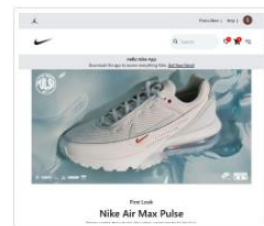
http://localhost:3000/



Performance

Values are estimated and may vary. The [performance score](#) is calculated directly from these metrics. [See calculator.](#)

▲ 0-49 ■ 50-89 ● 90-100



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Developer Resources :

Dimensions: Responsive 359 x 667 83%

Find a Store | Help | S

Hello Nike App
Download the app to access everything Nike. [Get Your Great](#)

First Look
Nike Air Max Pulse
Extreme comfort. Hyper durable. Max volume. Introducing the Air Max Pulse
—designed to push you past your limits and help you go to the max.

Notify Me Shop Air Max

Filter by URL and error

Status	URL	Initiator	Total Bytes	Error
success	http://localhost:3000/_next/static/chu.../_6f1765_...css.map	http://localhost...	65 209	
success	http://localhost:3000/_next/static/chu.../e39fde6_...js.map	http://localhost...	129 398	
success	http://localhost:3000/_next/static/chu.../107ce8_...js.map	http://localhost...	389 710	
success	http://localhost:3000/_next/static/chu.../_40swc_helpers_cjs_00636a_...js.map	http://localhost...	5 352	
success	http://localhost:3000/_next/static/chu.../_cb9de2_...js.map	http://localhost...	105 793	
success	http://localhost:3000/_next/static/chu.../_f0b58d_...js.map	http://localhost...	150 658	
success	http://localhost:3000/_next/static/chu.../_react-dom_1f56dc_...js	http://localhost...	1 367 433	
success	http://localhost:3000/_next/static/chu.../_react-dom_client_9bb038_...js.map	http://localhost...	944 258	
success	http://localhost:3000/_next/static/chu.../_swr_dist_d00611_...js.map	http://localhost...	105 074	
success	http://localhost:3000/_next/static/chu.../_40clerk_shared_dist_0c0c30_...js.map	http://localhost...	172 625	
success	http://localhost:3000/_next/static/chu.../_40clerk_clerk-react_dist_d7e4cb_...js.map	http://localhost...	188 145	
success	http://localhost:3000/_next/static/chu.../_node_modules_next_e39fde6_...js.map	http://localhost...	381 741	
success	http://localhost:3000/_next/static/chu.../_node_modules_react-icons_lib_74ccc9_...js.map	http://localhost...	8 466	
success	http://localhost:3000/_next/static/chu.../_node_modules_740a7d_...js.map	http://localhost...	157 700	
success	http://localhost:3000/_next/static/chu.../_src_app_e0abe2_...js.map	http://localhost...	16 784	
success	http://localhost:3000/_next/static/chu.../_node_modules_react-icons_cg_index_mjs_d1d125_...js.map	http://localhost...	784 965	
success	http://localhost:3000/_next/static/chu.../_node_modules_react-icons_h12_index_mjs_d1d125_...js.map	http://localhost...	911 292	
success	http://localhost:3000/_next/static/chu.../_node_modules_react-icons_fa_index_mjs_d2e2d7_...js.map	http://localhost...	1 735 478	
success	http://localhost:3000/_next/static/chu.../_nextjs_source-map?filename=%2F_next%2Fstatic%2Fch...	http://localhost...	157 115	
success	http://localhost:3000/_next/static/chu.../_bd8133_...js.map	http://localhost...	30 003	
success	http://localhost:3000/_next/static/chu.../_%5Bturbopack%5D_browser_dev_hmr-client_d6d8d4_...js	http://localhost...	31 112	

Activate Windows
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- **Test Case Results:**

- **Functionality:** All core features tested with no errors.
- **Performance:** Website loading time within acceptable limits.
- **Security:** No security vulnerabilities detected during tests.

Test Case ID	Test Case Description	Test Steps	Expected Result	Actual Result	Status	Severity Level	Assigned To	Remarks
TC001	Validate product listing page	Open product page > Verify products	Products displayed correctly	Products displayed correctly	Passed	Low	-	No issues found
TC002	Test API error handling	Disconnect API > Refresh page	Show fallback UI with error message	Error message shown	Passed	Medium	-	Handled gracefully
TC003	Check cart functionality	Add product to cart > Verify cart contents	Cart updates with added product	Cart updates as expected	Passed	High	-	Works as expected
TC004	Ensure responsiveness on mobile	Resize browser window > Check layout	Layout adjusts properly to screen size	Responsive layout working as intended	Passed	Medium	-	Test successful
Authentication	Verify Clerk authentication flow	User should be authenticated successfully	User authenticated successfully	User authenticated successfully	Passed	High	-	Clerk authentication working
Stripe Payment Gateway	Test Stripe payment integration	Complete payment with valid card	Payment processed successfully	Payment successful	Passed	High	-	Stripe gateway works fine
Shipment with ShipEngine	Test shipment process	Create shipment order with valid address	Shipment processed successfully	Shipment processed	Passed	High	-	ShipEngine working correctly

Conclusion

Today, I successfully completed the final stages of testing, error handling, and backend integration refinements for **Comforty**, ensuring the platform is fully optimized and ready for deployment. The project is now optimized for performance, fully functional, and secure, providing a seamless user experience.