

Day 5-Testing and Backend Refinement-**Restaurant Website**

Test Cases Executed and Their Results:

1. **Product Display:** Ensured products are displayed correctly on the homepage, and all products were shown with accurate details.
2. **Search and Filter:** Validated that filters and search functionalities provided accurate results based on user inputs, which worked seamlessly.
3. **Cart Operations:** Tested adding, updating, and removing items from the cart. These operations worked as expected without issues.
4. **Dynamic Routing:** Verified that individual product detail pages load correctly and display accurate details.
5. **Item Component with Cypress:** Initially encountered an error related to the missing 'slug' property, but it was fixed, and the test passed.
6. **Product Grid Rendering with Cypress:** Encountered an error, and it remains unresolved.
7. **API Test (Sanity CMS):** Successfully fetched product data from Sanity CMS API, validating the accuracy of product details.
8. **Error Handling for API Requests:** Implemented error handling using try-catch blocks and displayed error messages on the UI when an issue occurred.
9. **Initial Loading Time:** Verified that the website loads in less than 2 seconds, meeting performance expectations.
10. **Cross-Browser Testing:** Ensured the website rendered correctly across different browsers.
11. **Cross-Device Testing:** Used BrowserStack and physical devices to test and ensure the website rendered correctly.
12. **Input Validation:** Verified the correct validation for email, password, and required fields in the form.

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Performance Optimization Steps Taken:

- **Image Optimization:** Optimized image sizes by compressing large images, and converted SVG images to PNG format to reduce file size.
- **Lazy Loading:** Implemented lazy loading for large images and assets to improve performance.
- **CSS Optimization:** Reduced unused CSS to enhance page load times.
- **Lighthouse Results:** Used Lighthouse to identify speed issues and made performance improvements, resulting in a better loading time.

Security Measures Implemented:

- **Input Validation:** Ensured all form fields, including email and password, were validated properly before submission to prevent invalid or malicious inputs.

Challenges Faced and Resolutions Applied:

- **Image Optimization Issue:** Encountered challenges with image formats, specifically SVG. The images were converted to PNG and then compressed for faster loading times.
- **Cypress Test Issue:** Faced an issue with the missing 'slug' property in the item component, which was fixed by updating the component's data handling.