

Day 5 – Test Execution Documentation

Overview:

This document provides a comprehensive summary of the test cases executed, performance optimizations, challenges faced, and resolutions applied.

Performance Optimization Steps

- **Image Optimization:** Compressed images to reduce load time.
- **Lazy Loading:** Implemented lazy loading for images and components.
- **Code Splitting:** Used Next.js dynamic imports to optimize rendering.
- **Caching Strategies:** Implemented browser caching and CDN usage.
- **Lighthouse Audit:** Ensured a performance score above 70.

Test Report CSV Image

	Test Case ID	Test Type	Test Scenario	Test Steps	Expected Result	Actual Result	Status	Severity Level	Remarks
1	TC001	API Calls	Verify API response status and data format	Send a GET request to the API endpoint	API returns status 200 and JSON data	200 & JSON	Pass	High	Successful
2	TC002	Functionality	Verify product listing	Load homepage and navigate to the products page	Products should be displayed correctly	As expected	Pass	High	Successful
3	TC003	Functionality	Verify dynamic routing for product pages	Click on a product to open its details page	Product details should load dynamically	As expected	Pass	High	Successful
4	TC004	Functionality	Verify add-to-cart functionality	Select a product and click "Add to Cart"	Product should be added to cart successfully	As expected	Pass	Medium	Successful
5	TC005	Form Validation	Verify checkout form validation	Submit the checkout form with empty fields	Validation errors should appear	As expected	Pass	High	Successful
6	TC006	Functionality	Verify order placement	After filling checkout form correctly	Order should be placed successfully	As expected	Pass	Medium	Successful
7	TC007	Functionality	Verify order history	Navigate to "Order History Page" after order placement	Past orders should be displayed correctly	As expected	Pass	Medium	Successful
8	TC008	Responsiveness	Verify website layout on different screen sizes	Open the website on mobiles tablets and desktop	Layout should adjust properly without breaking	As expected	Pass	Medium	Successful
9	TC009	Lighthouse Test	Check website performance using Lighthouse	Run Lighthouse audit in Chrome DevTools	Performance should be above 70	71 (as per screenshot)	Pass	Medium	Successful
10	TC010	Cypress Test	Verify navigation using Cypress	Run Cypress test script to check navigation across pages	Navigation should work correctly without errors	As expected	Pass	Medium	Successful

Don't worry I have also submit this csv report along with repository

Challenges Faced & Resolutions

All these challenges were faced while making the application. My habit is to check the application consistently, which is why now I am free of errors and all tests are successful.

Challenge 1: Handling Dynamic Routing Issues

- **Issue:** Product details were not loading dynamically.
- **Resolution:** Fixed API calls and ensured correct route handling in Next.js.

Challenge 2: Checkout Form Validation Errors

- **Issue:** Form validation was inconsistent.
- **Resolution:** Implemented client-side and server-side validation to ensure data integrity.

Challenge 3: API Error Due to Incorrect GROQ or Schema

- **Issue:** API was failing to fetch data due to incorrect GROQ queries or schema issues.
 - **Resolution:** Fixed schema definitions and corrected GROQ queries for accurate data retrieval.
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Conclusion

All test cases were executed successfully, and necessary performance optimizations were implemented. The system is stable, responsive, and optimized for production deployment.