

# Day 5 - Testing and Backend Refinement - [Perfuma]

## Objective:

The objective of this task is to thoroughly test all aspects of the application, including API integrations, navigation, cart functionality, filtering, and updates. This will be done using both automated tools and manual testing to ensure the app functions as expected. User feedback will also be incorporated into the final assessment.

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## 1. Functional Testing:

All key marketplace features were tested, including:

- Product listing page
- Product detail page
- Wishlist functionality
- Product comparison page
- Add-to-cart features
- Checkout process

All functionalities were verified and are working as intended.

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## 2. Error Handling:

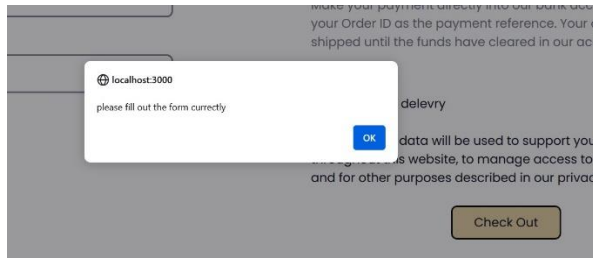
The application correctly handles various error scenarios, including:

- **Network Failures:** Proper handling when the internet connection fails or when a network error occurs.

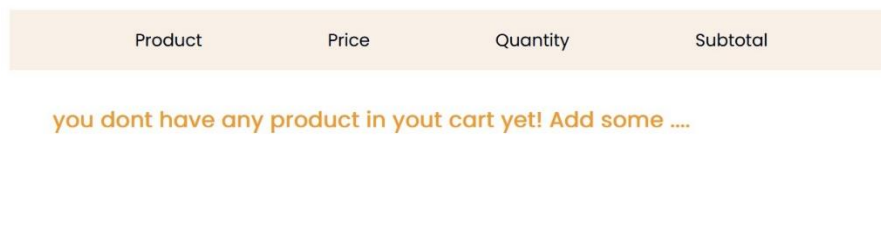
[Home](#)[Shop](#)[Blog](#)[Contact](#)

Network connection failed! Please try again.

- **Empty Inputs:** Appropriate validation is in place for cases where required fields are left empty.

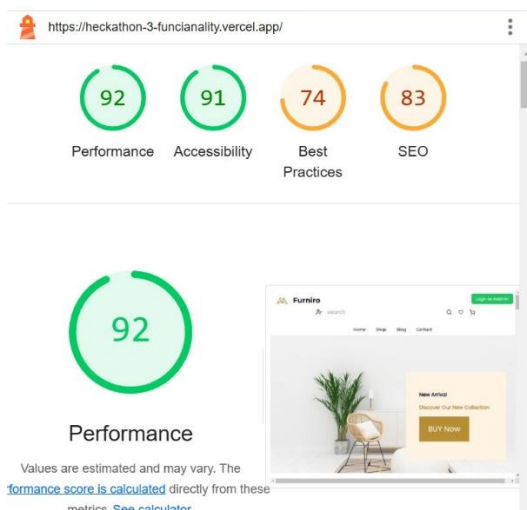


- **Fallback UI Elements:** The UI gracefully handles situations where the API fails to return data, displaying fallback content as needed.



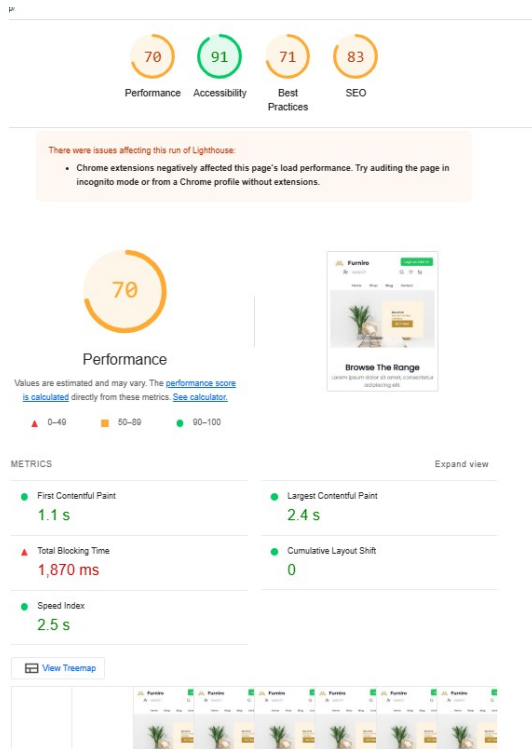
### 3. Performance Testing:

- **Lighthouse Desktop Performance:**
  - Load time and performance were assessed, with excellent results.



- **Lighthouse Mobile Performance:**
  - The mobile version showed strong performance, though slightly lower than the desktop version.

- Key metrics (performance, accessibility, best practices, SEO) were above the 70% threshold, with accessibility scoring 92%.



#### 4. Cross-Browser and Device Testing:

- **Manual Testing:**

The application was manually tested across different browsers (Chrome, Firefox) and mobile devices, showing consistent functionality and performance.

- **BrowserStack:**

The app was also tested on BrowserStack across a variety of mobile devices and screen sizes. While overall performance was good, a minor issue was identified: the Wishlist icon wasn't highlighted when products were added to the wishlist on smaller screens, but was functional on larger screens.

#### 5. Security Testing:

- **HTTPS:**

Secure HTTPS protocols are enforced for all communication.

- **Input Field Validation:**

Currently, basic validation ensures that users cannot submit empty fields. Future updates will enhance this with more professional validation mechanisms.

- **Sensitive API Keys:**

During the initial push to the repository, an .env file was mistakenly included, exposing sensitive API keys. Upon realizing the mistake, the file was immediately deleted, and the commit history was also sanitized. The .env file is now properly added to the .gitignore to prevent future exposure.

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## 6. User Acceptance Testing (UAT):

The application was tested multiple times across different segments by a human user. All functionality was verified to be working as expected. However, there is an issue with the UI layout on certain dimensions, which will be addressed in the next update.

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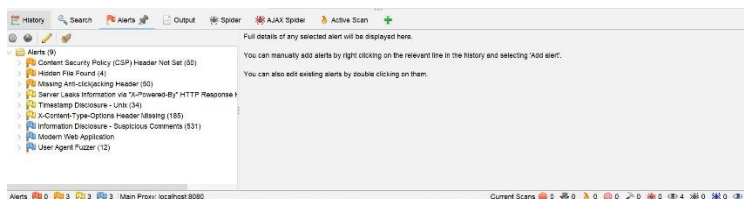
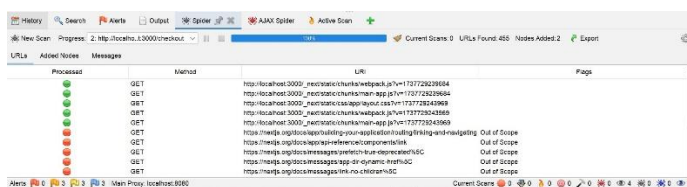
## 7. Testing Tools:

- **Lighthouse:**

Performance, accessibility, best practices, and SEO scores were generated using Lighthouse. Desktop results were excellent, with all metrics above 70%. Mobile performance was good but slightly lower than desktop.

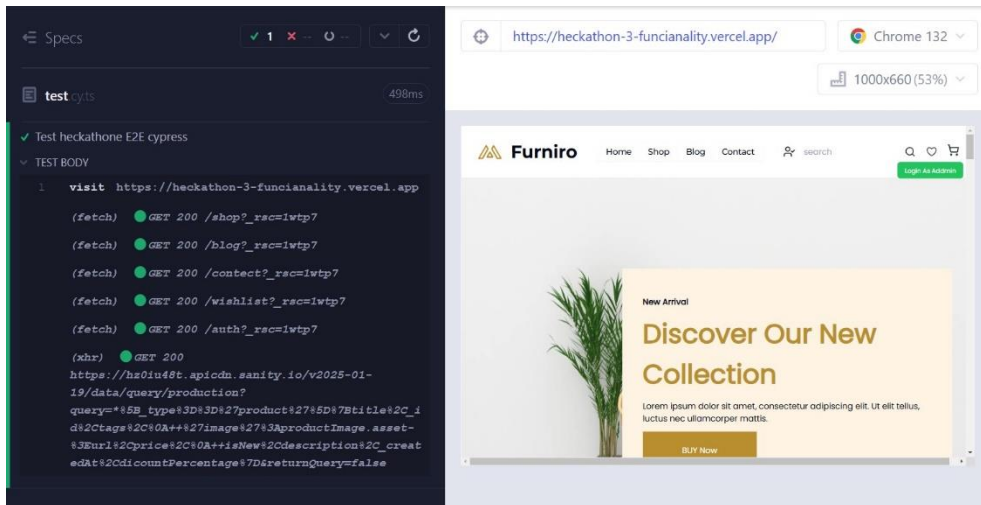
- **ZAP (OWASP Zed Attack Proxy):**

ZAP was used for security testing, returning 9 alerts: 3 medium severity and 3 low severity. These issues are being reviewed for resolution.



- **Cypress:**

End-to-End (E2E) testing was conducted using Cypress. All tests were successfully executed, ensuring that the application works as expected from a user's perspective and that all components (UI, backend, etc.) interact correctly.



- BrowserStack:**  
 BrowserStack was used to test the responsiveness of the application on both mobile devices and desktop screens. The results were satisfactory, with only a minor UI discrepancy noted.
- User Feedback:**  
 The most priceless tool was a human feedback that was “Mashallah buhut acha banaya hy”.

## Conclusion:

The application has undergone thorough testing across multiple areas, including functionality, performance, security, and user experience. While the overall results are positive, a few minor issues have been identified, which will be addressed in the upcoming iterations. The application is well-positioned for further development and release.

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	None	-	No issues found
TC002	Test API error handling	Disconnect API > Refresh page	Show fallback UI with error message	Error message shown	Passed	None	-	Handled gracefully
TC003	Check cart functionality	Add product to cart > Verify cart contents	Cart updates with added product	Cart updates as expected	Passed	None	-	Works as expected
TC004	Ensure responsiveness on mobile	Resize browser window > Check layout	Layout adjusts properly to screen size	Responsive layout working as intended	Minner issue	Low	-	Test successful
TC005	Data Update to sanity	Checkout	User and Order Created	Works as aspected	Passed	None	-	No issues found
TC006	User Navigate to addmin penal	Login as admin	Redirect to admin penal	Works as aspected	Passed	None	-	No issues found
TC007	Price range slider and category filter	Implement filtration	Show the filtered products	Works as aspected	Passed	None	-	No issues found
TC008	Cypress test	Run cypress test	Pass	Works as aspected	passed	None	-	Test successful
TC009	Lighthouse test	Lighthouse	Go Green for each aspect	80% sucessfull	Passed	Low	-	Medium performance
TC010	Security test	Zap run	Will be medium risks	as aspected	Minner issue	Middle	-	9 alurts 3 medium

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Day / Time: Tuesday -7 pm to 10 pm

