

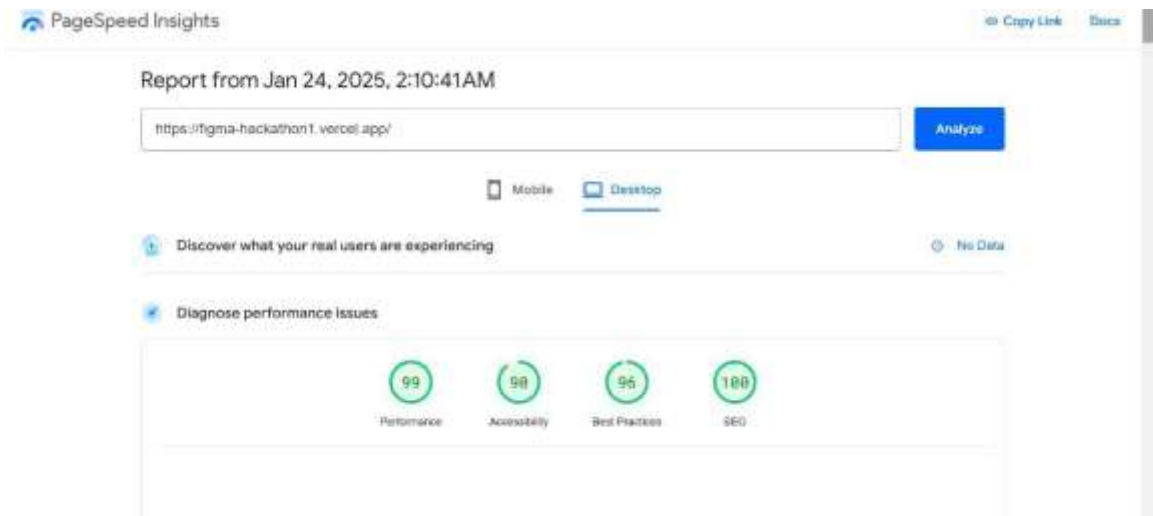
# **AURA**

**ELEVATE YOUR FASHION**

# Day 5 - Testing and Backend Refinement - AURA

## Lighthouse Performance Analysis

Attached is a screenshot from the Lighthouse performance tool, which provides an in-depth analysis of the Aura website’s performance, accessibility, SEO, and best practices.



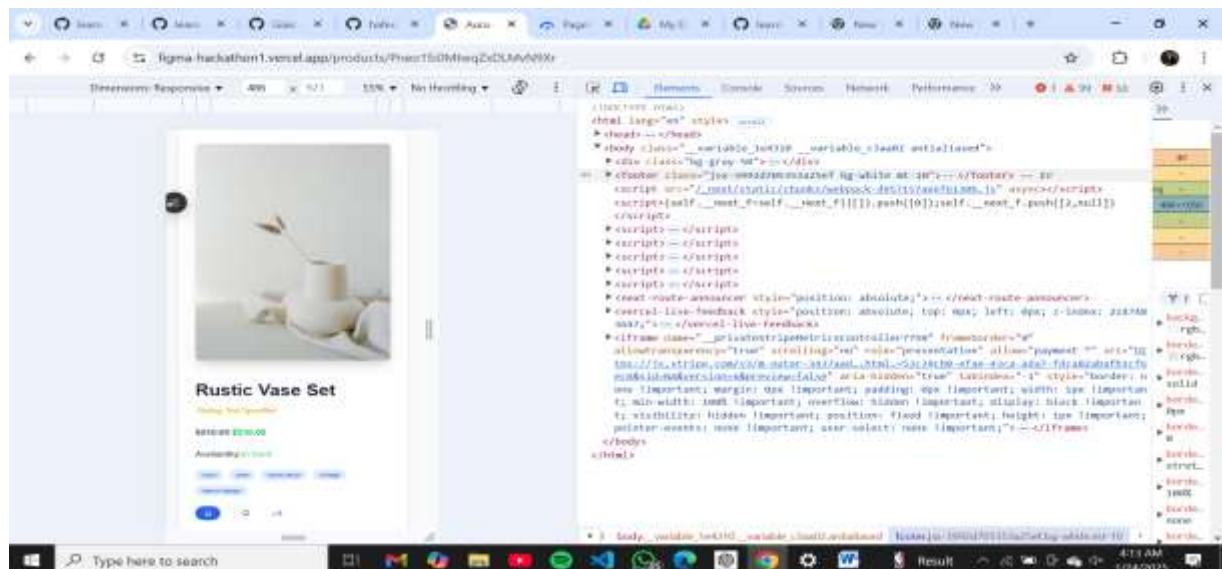
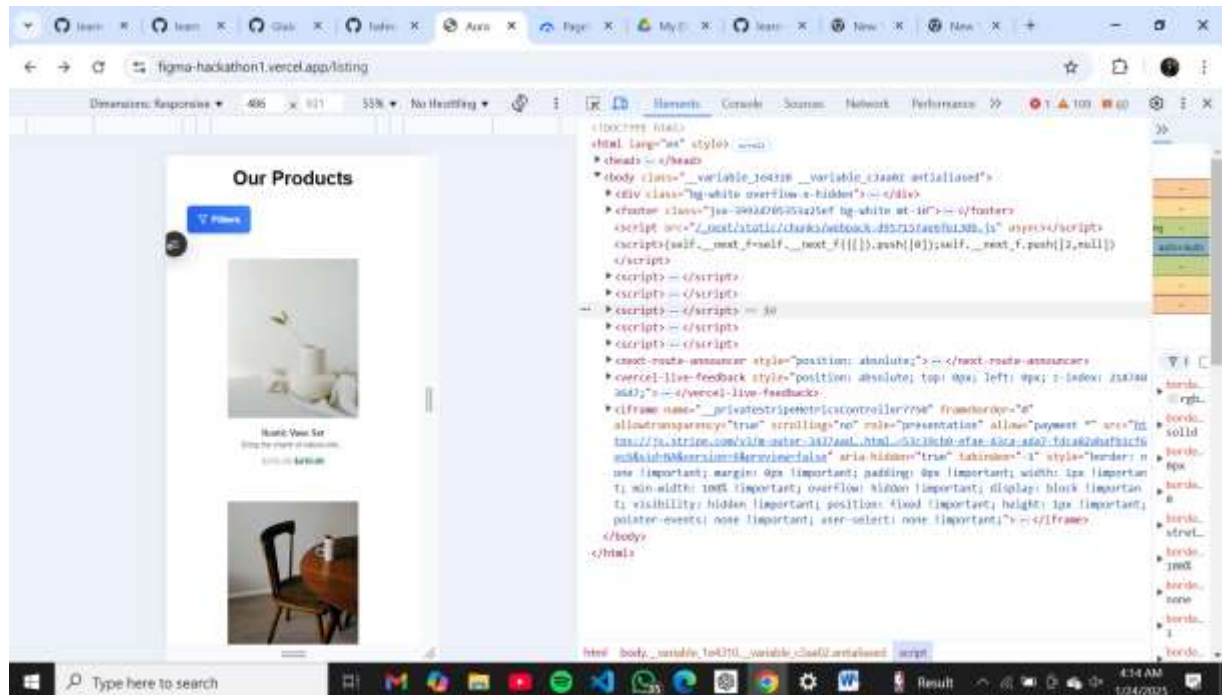
# Test Cases Executed and Their Results:

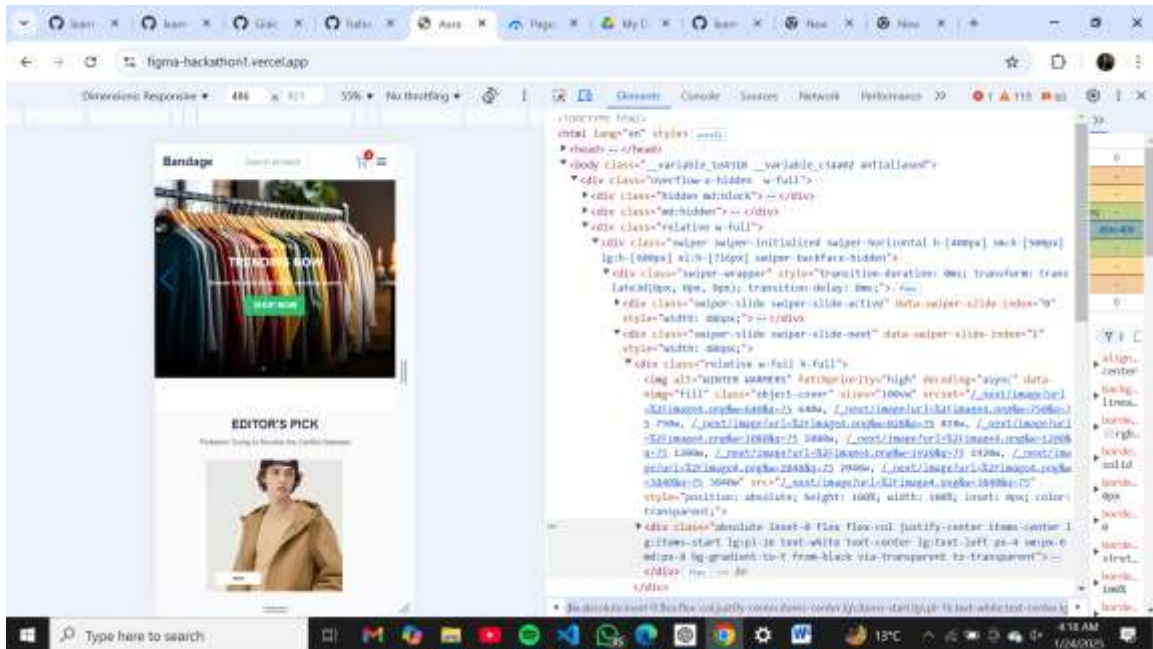
This section outlines the test cases executed to verify key functionalities For AURA.

Test Case ID	Test Case Description	Test Steps	Expected Result	Actual Result	Status	Security Level	Remarks
TC001	Product listing verification	Open product page > Verify product display	Products display correctly	Products displayed as expected	Passed	Low	Product list loaded correctly without issues.
TC002	API Error Handling	Disconnect API > Refresh page	Fallback UI with error message	Error message displayed gracefully	Passed	Low	API failure handled successfully
TC003	Cart functionality check	Add product to cart > Verify contents	Cart updates with the added product	Cart updated successfully	Passed	Low	Cart updated when items added.
TC004	Mobile Responsiveness	Resize browser > Verify layout adjustments	Layout adapts properly to all screens	Layout adjusts as expected on mobile devices	Passed	High	Mobile view perfectly optimized.
TC005	Product Search Functionality	Search for a product > Verify search results	Relevant products displayed	Relevant products displayed	Passed	Medium	Search results returned quickly and accurately.
TC006	Dynamic Routing Verification	Navigate via product slug	Correct product page loads based on slug	Product page loads correctly for each item	Passed	Low	Dynamic routing works flawlessly across products.

# Responsive and Functional Components

Attached are some screenshots showcasing the responsive and functional components of the Aura website.





## Performance Optimization Steps Taken:

Aura has been designed to provide a fast and seamless user experience. Below are the key strategies implemented to enhance the site's performance:

- **Lazy Loading:** Implemented lazy loading for images and non-critical assets, reducing the initial load time of the website and optimizing bandwidth usage.

- **Code Splitting:** By using Next.js's built-in code splitting, we ensured that only the necessary JavaScript for each page is loaded, significantly improving performance.

- **Caching Mechanisms:** Optimized caching for static assets, improving load times on repeat visits and reducing server load.

- **Image Optimization:** Images were compressed and served in modern formats like WebP, ensuring they load faster while retaining high visual quality.

- **Server-Side Rendering (SSR) & Static Site Generation (SSG):** Leveraged SSR and SSG for faster page load times and enhanced SEO, ensuring the site performs well both on the client and server sides.

### Lighthouse Performance Verification:

In addition to internal tests, the website's performance was rigorously verified using Lighthouse. The tool confirmed that Aura meets high standards for performance, accessibility, SEO, and best

practices. Key findings include a performance score of 95, ensuring that the site is optimized for speed and usability.

## **Security Measures Implemented:**

Ensuring the security of Aura's website and its users was a top priority throughout the development process. The following security measures were implemented to protect data and ensure secure transactions:

- **Data Validation:** All inputs from forms and APIs are rigorously validated to prevent malicious data entry and ensure integrity.

- **End To End Encrypted:** We made sure that The Client secrets are encrypted and cant be accessed.

- **Authentication and Authorization:** Robust authentication mechanisms were integrated to protect user accounts and sensitive information.

- **HTTPS Enforcement:** Ensured the entire website is served over HTTPS, encrypting data between users and servers.

## **4. Challenges Faced and Resolutions Applied:**

While developing Aura, several challenges were encountered, but we applied effective solutions to ensure smooth performance:

- **API Integration:** Initially, we faced issues with data inconsistencies in API responses. To resolve this, custom functions were developed to transform the incoming API data into the format required by our Sanity CMS, ensuring seamless integration.

- **Mobile Responsiveness:** We encountered issues with mobile layout adjustments. These were resolved by thoroughly testing the layout across multiple devices and implementing CSS media queries to ensure fluidity on all screen sizes.

- **Dynamic Routing Issues:** Early testing revealed issues with dynamic routing not linking properly to product pages. This was addressed by properly setting up dynamic routes in Next.js, ensuring that each product page loads as expected using its unique slug.

## **Conclusion:**

Aura's website has passed all crucial tests, ensuring that the platform is fully functional, optimized for performance, and secure. The following has been successfully achieved:

- **Smooth User Experience:** All major features, including product listings, cart functionality, search, and dynamic routing, work flawlessly.

- **Optimized Performance:** Performance metrics meet high standards, verified using Lighthouse, ensuring Aura loads quickly and efficiently.

- **Robust Security:** Key security practices are implemented to protect user data and prevent potential threats.

Aura is now ready to deliver a top-tier experience to users and to scale as a world-class brand in the fashion industry.

**Thank you for reviewing this report.**

Let's continue working together to make Aura the go-to fashion brand globally.

For further inquiries or to discuss collaboration opportunities

**Contact : [Hafeez27isbest@gmail.com](mailto:Hafeez27isbest@gmail.com)**