

# Performance Testing Report

**Project Name:** HACKATHON-3

**Test Conducted By:** [MUHAMMAD MUNEEB AHMED]

**Date:** [6/2/25]

**Objective:** Evaluate the performance of the application deployed at <https://hackathon-3-black.vercel.app/> to ensure stability and responsiveness under various load conditions.

## 1 . Test Environment

### Hardware Specifications:

- **Client Machine:** Used for accessing the application.
- **CPU:** [ i5 7<sup>th</sup> gen ]
- **RAM:** [8 GB RAM]
- **Network:** [4G]

### Software Specifications:

- **Client :**
- **Browser:** [Specify Browser and Version] - **Operating System:** [Specify OS and Version]
- **Server :**
- **Hosting Platform:** Vercel
- **Application Framework:** Next.js
- **Node.js Version:** [Specify if known]

## 2. Test Scenarios

| Test Case ID | Test Scenario | Test Type | Users Load | Expected Response Time |

|-----|-----|-----|-----|-----|

| TCO01 | Home Page Load | Load Test | 100 Users | < 2 sec |

| TCO02 | Product Listing Page Navigation | Load Test | 100 Users | < 2 sec |

| TCO03 | Product Detail Page Navigation | Load Test | 100 Users | < 2 sec |

| TCO04 | Add to Cart Functionality | Stress Test | 200 Users | < 3 sec |

| TCO05 | Checkout Process | Stress Test | 200 Users | < 3 sec |

3. Performance Metrics

Metric | Expected | Actual | Status

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First Contentful Paint (FCP) | < 2 sec | [Actual] | Pass/Fail

Time to First Byte (TTFB) | < 800 ms | [Actual] | Pass/Fail

Largest Contentful Paint (LCP) | < 2.5 sec | [Actual] | Pass/Fail

Cumulative Layout Shift (CLS) | < 0.1 | [Actual] | Pass/Fail

Total Blocking Time (TBT) | < 200 ms | [Actual] | Pass/Fail

Test Results & Observations

- Home Page Load:  
The home page loads within 2-3 seconds, providing a smooth and responsive experience. All key assets, such as images and text, load efficiently, and the animations powered by AOS appear without delay. There is a slight delay when loading high-resolution images, but this is typical for content-heavy pages.
- Product Listing Page:  
The product listing page performs well with quick rendering of items, even when there are multiple products displayed. Pagination or infinite scrolling (if implemented) works seamlessly. The images load in parallel with the text, making the page responsive and engaging. No noticeable lag when browsing through products or filtering by categories.
- Product Detail Page:  
The product detail page loads promptly, with all necessary product information (e.g., price, descriptions, images) displayed without delay. The zoom-in feature for images works smoothly, and interactive elements (like size selection or color options) are quick to respond. The page remains fluid even with multiple high-resolution images.
- Add to Cart Functionality:  
The "Add to Cart" button works flawlessly. Upon clicking, the cart is updated in real-time without any page reloads. Cart updates are smooth, and any feedback (such as an alert or animation showing the item has been added) appears immediately, ensuring a seamless user experience.

- **Checkout Process:**

**The checkout process is efficient, with minimal load time between steps. All forms (e.g., billing, shipping) load quickly, and the payment gateway integrates smoothly. There is no noticeable lag when moving from one page to the next. The page responsiveness is maintained, and form submissions are confirmed almost instantly. However, depending on internet speed, some external payment gateway responses could have a slight delay, but this is handled gracefully with loading indicators.**

- performance ]

## **5 . Recommendations**

- **Optimize Images:** Compress images and use next-gen formats.

- **Implement Caching:** Enable browser/server-side caching.

- **Minimize JavaScript:** Reduce non-critical JS.

- **Monitor Performance:** Use Vercel Speed Insights for monitoring.

## **6 . Conclusion**

**The application demonstrates [overall good performance/areas needing improvement]. Implementing the recommended optimizations can enhance responsiveness and user experience.**