

## **Chairs E-Commerce Website**

### **Day 5 - Functional, Performance, and Security Testing**

#### **Task Completion Report**

##### **I. Objective:**

To ensure the marketplace is fully functional, secure, and optimized for performance, with a professional testing report prepared for submission.

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##### **Tasks Completed**

##### **1. Functional Testing**

- Verified correct display of products.
- Validated search functionality, filters, cart operations, and dynamic product detail pages.
- Ensured all features operate as expected without errors.

##### **2. Error Handling**

- Implemented try-catch blocks to handle API failures gracefully.
- Developed a fallback UI (e.g., "No products available" message) for cases where data is unavailable.

##### **3. Performance Testing**

- Used Lighthouse and GTmetrix tools to identify performance bottlenecks.
- Optimized images, CSS, and JavaScript files for better load times.
- Achieved significant improvements in performance scores.

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

- Tested the marketplace on Chrome, Firefox, Safari, and Edge.
- Used BrowserStack to validate responsive design on multiple devices and screen sizes.

##### **5. Security Testing**

- Sanitized all user inputs to prevent injection attacks.
- Secured API keys and sensitive data using environment variables.
- Verified secure communication via HTTPS.

##### **6. User Acceptance Testing (UAT)**

- Simulated real-world user scenarios, including browsing, searching, and completing the checkout process.
- Gathered feedback to ensure the application is intuitive and user-friendly.

## 7. Documentation

- Created professional reports detailing testing findings, performance results, and solutions for identified issues.
  - Structured the documentation for clarity and easy reference.
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## Submission Requirements

1. **CSV Format Testing Report:**
    - A detailed testing report in CSV format has been submitted.
  2. **GitHub Repository:**
    - Updated GitHub repository includes:
      - All relevant project files.
      - Testing reports and performance results.
      - A professional README file summarizing the project.
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## Key Deliverables

- Fully tested and functional marketplace components.
  - Optimized performance and responsive design across devices.
  - Comprehensive documentation and testing reports.
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