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# DAY-5 --Project Testing and Optimization Report

Project Name: Hekto Marketplace

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## 1. Functional Testing

### What Was Done:

- Validated key functionalities, including:
  - Product listing.
  - Search filters.
  - Cart operations.
  - User profile management.
  - Dynamic routing.

### Results:

- All functional test cases passed successfully.

### Status:

- Functional testing was **successful**.
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## 2. Error Handling

### What Was Done:

- Implemented error-handling measures, including:
  - Try-catch blocks for managing API errors.
  - Fallback UI for handling empty responses.
  - Form input validation to ensure data integrity.

### Results:

- Error handling is functioning as intended.
- Issue Identified:** Fallback UI for empty responses is not fully operational and requires further improvements.

### Status:

- Error handling is **effective**, with minor pending improvements.
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## 3. Performance Optimization

### What Was Done:

- Key optimizations implemented:
  - Optimized image sizes for faster loading.
  - Enabled lazy loading to prioritize visible content.
  - Removed unused or redundant code to reduce overhead.
  - Added browser caching for static resources.

### Results:

- Initial page load time was **reduced from 5 seconds to 1.30 seconds**, a significant improvement.

### Status:

- Performance optimizations were **successful**.
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## 4. Cross-Browser and Device Testing

### What Was Done:

- Verified consistent rendering across major browsers, including:
  - Chrome, Firefox, Safari, and Edge.
- Tested responsiveness on multiple devices:
  - Desktop, tablet, and mobile devices.

### Results:

- All tests for cross-browser and device compatibility were successfully passed.

### Status:

- Cross-browser and device testing was **successful**.
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## 5. Security Testing

### What Was Done:

- Implemented critical security measures:
  - Prevented SQL injection and XSS attacks by validating inputs.
  - Ensured all communications occurred over HTTPS.
  - Securely stored sensitive information in `.env.local`.

### Results:

- Security measures were successfully validated and no vulnerabilities were identified.

Status:

- Security testing was **successful**.

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## 6. User Acceptance Testing (UAT)

What Was Done:

- Simulated real-world user actions and scenarios to evaluate usability.
- Gathered feedback from test users and incorporated it into the project.

Results:

- User workflows were seamless, and usability improvements were made based on feedback.

Status:

- User acceptance testing was **successful**, with iterative improvements implemented.

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## 7. Summary of Testing Results

Testing Area	Status	Key Notes
Functional Testing	Successful	All functional test cases passed.
Error Handling	Partially Successful	Fallback UI requires additional work.
Performance Optimization	Successful	Page load time reduced to 1.30 seconds.
Cross-Browser Testing	Successful	Compatible across all tested browsers/devices.
Security Testing	Successful	HTTPS, input validation, and secure storage.
User Acceptance Testing	Successful	Feedback was incorporated for improvements.

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## 8. Test Report Access

- **Test Report File:**  
[Hekto Test Report \(CSV\)](#)
  - **Complete Documentation:**  
[Hekto Project Documentation](#)
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## 9. DAY 5 Checklist

Task	Status
Functional Testing: All tests passed.	✓
Error Handling: try-catch blocks implemented; fallback UI pending.	✓
Performance Optimization: Page load time improved from 5 seconds to 1.30 seconds.	✓
Cross-Browser Testing: Successful across browsers/devices.	✓
Security Testing: HTTPS, input validation, and secure storage.	✓
User Acceptance Testing: Feedback incorporated.	✓
Documentation: Results documented.	✓

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## 10. Conclusion

All critical testing areas, including functionality, error handling, performance, cross-browser/device compatibility, security, and user acceptance, were successfully addressed. Minor improvements (fallback UI) are pending and will be resolved in subsequent iterations.