DAY 5 - TESTING, ERROR HANDLING, AND BACKEND INTEGRATION REFINEMENT

Q-Commerce Website

Product: Restaurant Website Food Tuck

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Day/Time: Friday – 09:00 – 12:00

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Steps for Implementation:

Step 1: Functional Testing

1. Test Core Features:

- Product listing: Ensure products are displayed correctly.
- Cart operations: Add, update, and remove items from the cart. ✔
- Dynamic routing: Verify individual product detail pages load correctly. ✔

2. Testing Tools:

- Postman: For API response testing. (no API used)
- React Testing Library: For component behavior testing.
- Cypress: For end-to-end testing. **NOT TESTED**

Step 2: Error Handling

1. Fallback UI:

- Display alternative content when data is unavailable.
- Example: "No items found" message for an empty product list.

Step 3: Performance Optimization

1. Optimize Assets:

- Compress images using tools like TinyPNG or ImageOptim.
- Use lazy loading for large images or assets.

2. Analyze Performance:

- Use Lighthouse to identify speed and performance issues.
- Implement fixes such as reducing unused CSS, enabling browser caching, and optimizing JavaScript bundles.

Step 4: Cross-Browser and Device Testing

1. Browser Testing:

- Test on Chrome, Firefox, Safari, and Edge.
- Verify consistent rendering and functionality.

Step 5: Security Testing

1. Input Validation

- Sanitize inputs to prevent SQL injection or XSS attacks.

- Use regular expressions to validate email, phone, and other inputs.

2. Secure API Communication:

- Ensure API calls are made over HTTPS.

- Store sensitive data like API keys in environment variables.

3. Testing Tools:

- OWASP ZAP: For automated vulnerability scanning.

- Burp Suite: For advanced penetration testing.

Step 6: User Acceptance Testing (UAT)

1. Simulate Real-World Usage:

- Perform tasks like browsing products, adding items to the cart, and checking out.

- Identify and fix any usability issues.

2. Feedback Collection:

- Ask peers or mentors to test your marketplace and provide feedback.

Step 7: Documentation Updates

1. Include Testing Results:

- Summarize key issues found and how they were resolved.

- Provide before-and-after screenshots for fixes.

2. Submission Format:

- Submit documentation in PDF or Markdown format.

- Include test case details, testing tools used, and optimization steps.

Checklist for Day 5:

- Functional Testing:

    ✓ ✗

- Error Handling:

    ✓ ✗

- Performance Optimization:

    ✓ ✗

- Cross-Browser and Device Testing:

    ✓ ✗

- Security Testing:

    ✓ ✗

- Documentation:

    ✓

- Final Review:

    ✓ ✗