

# Day 5 Documentation

## 1. Overview

On Day 5, we focused on performance optimization, authentication fixes, and UI refinements for the **Food Tuck** e-commerce website. Key areas of work included:

- Fixing authentication redirection issues.
  - Optimizing cart functionality.
  - Conducting performance tests using Lighthouse.
  - Improving mobile responsiveness.
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## 2. Tasks Completed

### 2.1 Authentication Fix

- Issue: After signing in, users were redirected to the login page instead of the cart page.
- Solution: Updated the AuthGuard component to correctly handle user authentication state.
- Code Adjustments:
  - Used `useEffect` to track authentication changes.
  - Ensured `useUser` from Clerk properly verified the session before rendering components.

### 2.2 Cart Page Enhancements

- Implemented **local state updates** to prevent unnecessary API calls.
- Fixed the **increment/decrement logic** to ensure the correct cart quantity updates.
- Used `localStorage` to store discount coupons temporarily.

### 2.3 Performance Testing





- Ran **Lighthouse** audits for performance, accessibility, best practices, and SEO.
- Identified **render-blocking JavaScript** and **large images** affecting page speed.
- Applied the following optimizations:
  - Enabled **lazy loading** for images.
  - Used **WebP format** for product images.
  - Minified **CSS and JavaScript files**.
  - Implemented **server-side caching** for API responses.

### 2.4 UI & Mobile Responsiveness

- Fixed layout shifts (Cumulative Layout Shift - CLS) by optimizing font loading.
- Improved button sizes for better **touch accessibility** on mobile.
- Verified that pages render properly on different screen sizes.

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### 3. Test Results & Improvements

Test Case ID	Test Scenario	Expected Result	Actual Result	Status
TC001	Validate product listing page	Products display correctly	Products displayed correctly	 Passed
TC002	Test API error handling	Show fallback UI with error message	Error message shown	 Passed
TC003	Check cart functionality	Cart updates correctly	Cart updates as expected	 Passed
TC004	Ensure mobile responsiveness	Layout adapts to mobile screens	Responsive layout working fine	 Passed

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#### 4. Next Steps

- Implement **checkout page optimizations**.
  - Refactor API calls for better efficiency.
  - Conduct further testing on different network conditions.
  - Prepare deployment on **Vercel** and monitor production performance.
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