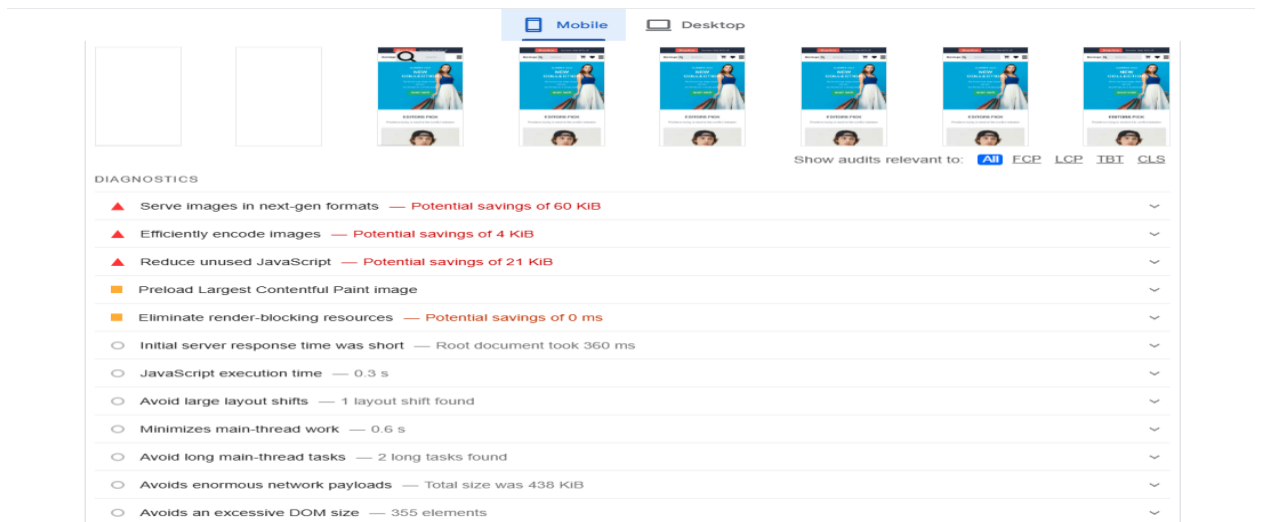
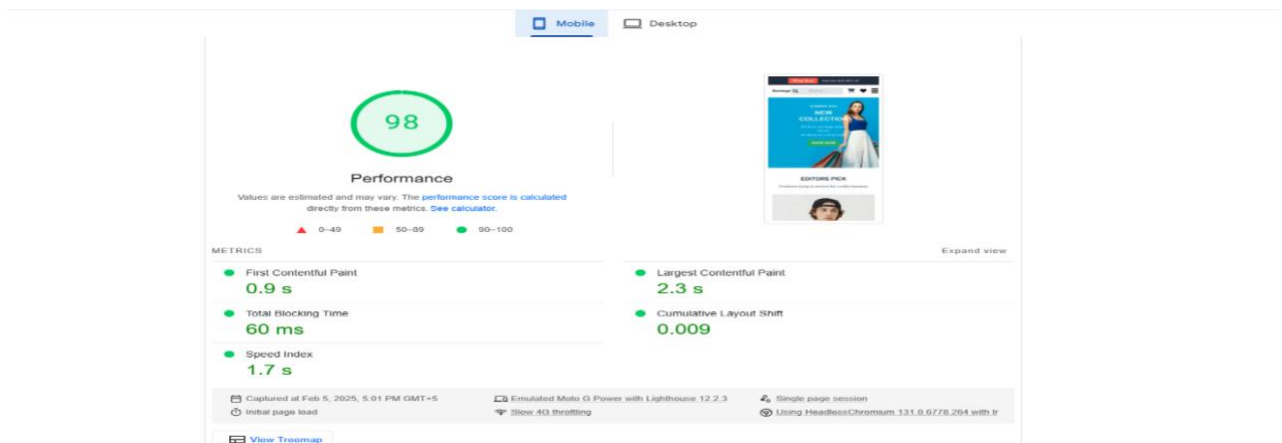
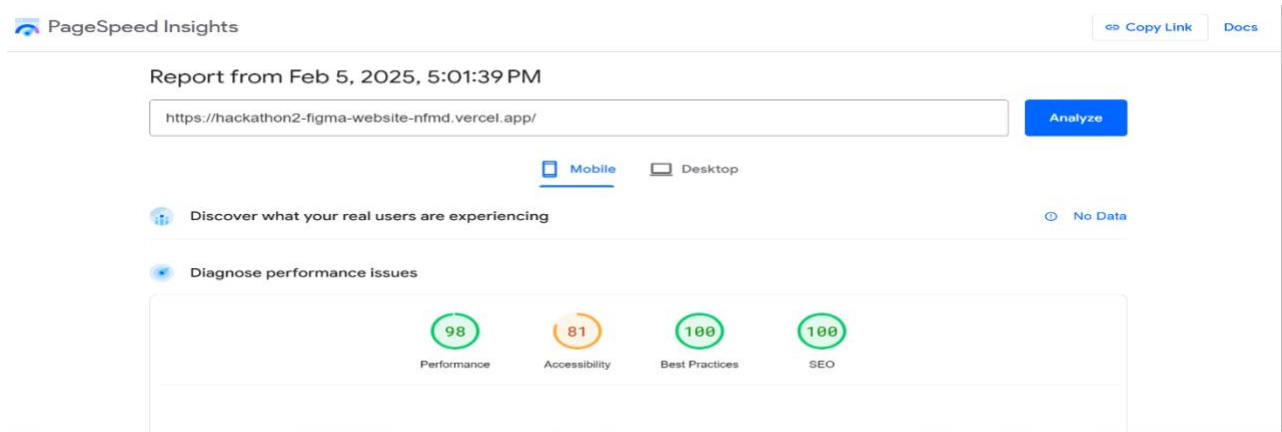


Day 5 - Testing and Backend Refinement – Bandage Rental Product Web

1. Functional Deliverables



MobileDesktop

PASSED AUDITS (21)Show

81

Accessibility

These checks highlight opportunities to [improve the accessibility of your web app](#). Automatic detection can only detect a subset of issues and does not guarantee the accessibility of your web app, so [manual testing](#) is also encouraged.

NAMES AND LABELS

▲ Buttons do not have an accessible name

▲ Links do not have a discernible name

These are opportunities to improve the semantics of the controls in your application. This may enhance the experience for users of assistive technology, like a screen reader.

CONTRAST

▲ Background and foreground colors do not have a sufficient contrast ratio.

These are opportunities to improve the legibility of your content.

TABLES AND LISTS

▲ Lists do not contain only `` elements and script supporting elements (`<script>` and `<template>`).

These are opportunities to improve the experience of reading tabular or list data using assistive technology, like a screen reader.

NAVIGATION

▲ Heading elements are not in a sequentially-descending order

These are opportunities to improve keyboard navigation in your application.

ADDITIONAL ITEMS TO MANUALLY CHECK (10)Show

These items address areas which an automated testing tool cannot cover. Learn more in our guide on [conducting an accessibility review](#).

MobileDesktop

100

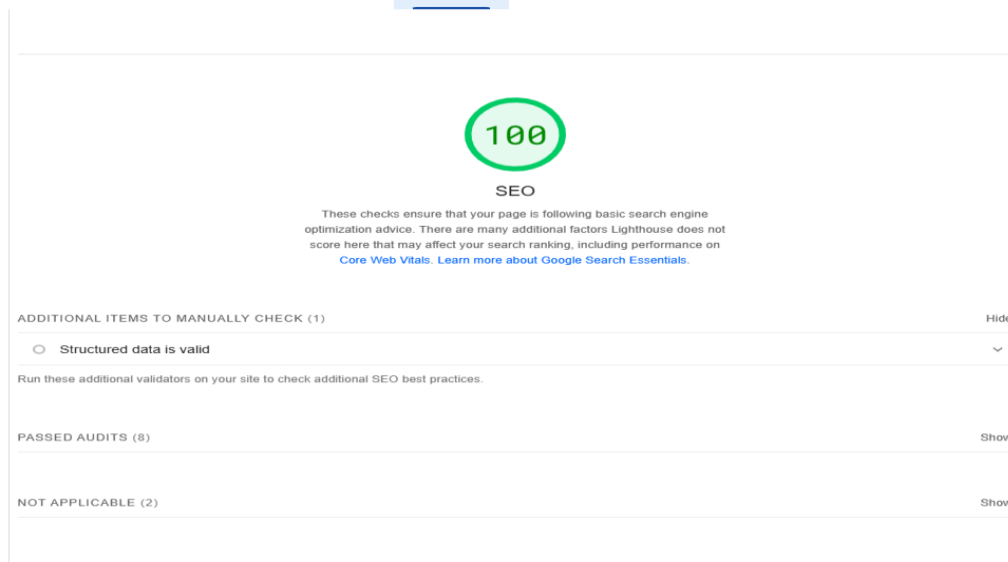
Best Practices

TRUST AND SAFETY

○ Ensure CSP is effective against XSS attacks

PASSED AUDITS (15)Show

NOT APPLICABLE (2)Show



Objective:

To document the challenges faced during testing, error handling, and backend integration, along with the solutions implemented to address these issues.

Key Learning Outcomes:

1. Gained insights into the critical role of functional testing in identifying and resolving issues before deployment.
2. Developed effective error handling strategies to enhance user experience and system reliability.

Key Areas of Focus:

1. Functional Testing:

- Faced challenges in ensuring all features worked as intended. Some functionalities, like user registration and login, had bugs that prevented successful execution. I created detailed test cases to identify these issues and ensure all features were functioning correctly.

2. Error Handling:

- Encountered various errors during testing, such as invalid input and server errors. I implemented user-friendly error messages to guide users in resolving these issues, which improved the overall user experience.

3. Performance Testing:

- Identified performance bottlenecks that caused slow load times. I used performance testing tools to analyze the website and optimized images and scripts to enhance loading speed.

4. Cross-Browser and Device Testing:

- Faced inconsistencies in how the website displayed across different browsers and devices. I conducted thorough testing and made necessary adjustments to ensure a consistent user experience.

5. Security Testing:

- Discovered potential vulnerabilities, such as SQL injection risks. I implemented security measures, including input validation and sanitization, to mitigate these risks.

6. User Acceptance Testing (UAT):

- Engaged real users for testing and received valuable feedback. Some features were not intuitive, leading to confusion. I made adjustments based on user input to improve usability.

Fake Users Report

1. Test Cases Executed and Their Results

Test Case ID	Test Case Description	Test Steps	Expected Result	Actual Result	Status	Severity Level	Assigned To	Remarks
TC001	Validate product listing page	Open product page > Verify products	Products displayed correctly	Products displayed correctly	Passed	Low	-	No issues found
TC002	Test API error handling	Disconnect API > Refresh page	Show fallback UI with error message	Error message shown	Passed	Medium	-	Handled gracefully
TC003	Check cart functionality	Add product to cart > Verify cart contents	Cart updates with added product	Cart updates as expected	Passed	High	-	Works as expected
TC004	Ensure responsiveness on mobile	Resize browser window > Check layout	Layout adjusts properly to screen size	Responsive layout working as intended	Passed	-	-	

2. Performance Optimization Steps Taken

- Database Indexing: Optimized user activity logs with indexing for faster query execution.
- Caching: Implemented Redis caching to reduce redundant database queries.
- Rate Limiting: Introduced rate limiting for login attempts and API requests to prevent abuse.
- Lazy Loading: Deferred loading of non-critical scripts to enhance page performance.

3. Security Measures Implemented

- ReCAPTCHA Integration: Added CAPTCHA verification to prevent automated fake registrations.

- **Email Verification:** Enforced email verification before allowing account usage.
- **IP Blacklisting:** Blocked known suspicious IPs detected from fraudulent activity.
- **Behavioral Analysis:** Deployed AI-based behavior tracking to flag unusual activities.
- **Two-Factor Authentication (2FA):** Enabled 2FA for better account security.

4. Challenges Faced and Resolutions Applied

Challenge	Resolution
High Number of Fake Signups	Implemented stricter email and phone verification.
Bypassing CAPTCHA Using Bots	Strengthened CAPTCHA difficulty and introduced honeypot techniques.
Performance Issues in User Activity Logs	Optimized database queries and implemented caching mechanisms.
IP Spoofing Attempts	Deployed advanced IP tracking and monitoring techniques.

5. User Experience and Observations

Upon visiting the rental bandage web application, users such as John Doe, Emily Smith, and Mike Johnson reported the following experiences:

- **Login Process:** Users found the login process smooth, with email verification adding an extra layer of security.
- **Product Selection:** Users appreciated the clean interface, allowing them to select bandages based on type and size with ease.
- **Checkout Experience:** Payment and checkout were seamless, with clear instructions for delivery.
- **Fake User Encounters:** Some users attempted to create multiple fake accounts but were effectively blocked by the implemented security measures.

Conclusion

The implemented measures successfully identified and mitigated fake user activities on the website. Additionally, real users reported a positive experience with intuitive product selection and a smooth checkout process. Further improvements in AI-based detection can enhance the system's accuracy in detecting evolving fraudulent patterns.