

## Day 5 - TESTING, ERROR HANDLING, AND BACKEND INTEGRATION REFINEMENT

On Day 5, the focus was on testing, optimizing, and refining the marketplace to ensure smooth deployment. Key tasks included:

- **Testing Backend Integrations:** Verified that Clerk, and Sanity are properly connected and functioning.
- **Error Handling Implementation:** Added user-friendly error messages for failed payments, invalid inputs, and API failures. And alert message on checkout if user don't sign in or sign up first.
- **Performance Optimization:** Improved load times using caching strategies and optimized data fetching in **Next.js 15**.
- **User Experience Refinement:** Enhanced navigation, checkout flow, and responsiveness for a seamless customer journey.

With these improvements, website is now **more stable, efficient, and ready for real-world use.**

### Key Areas of Focus

## 1. Functional Testing

- Ensured all marketplace features operate as expected.
- Tested core functionalities, including:
  - Product listing and detail pages.
  - Cart operations and checkout flow.
  - Checkout and payment pages.

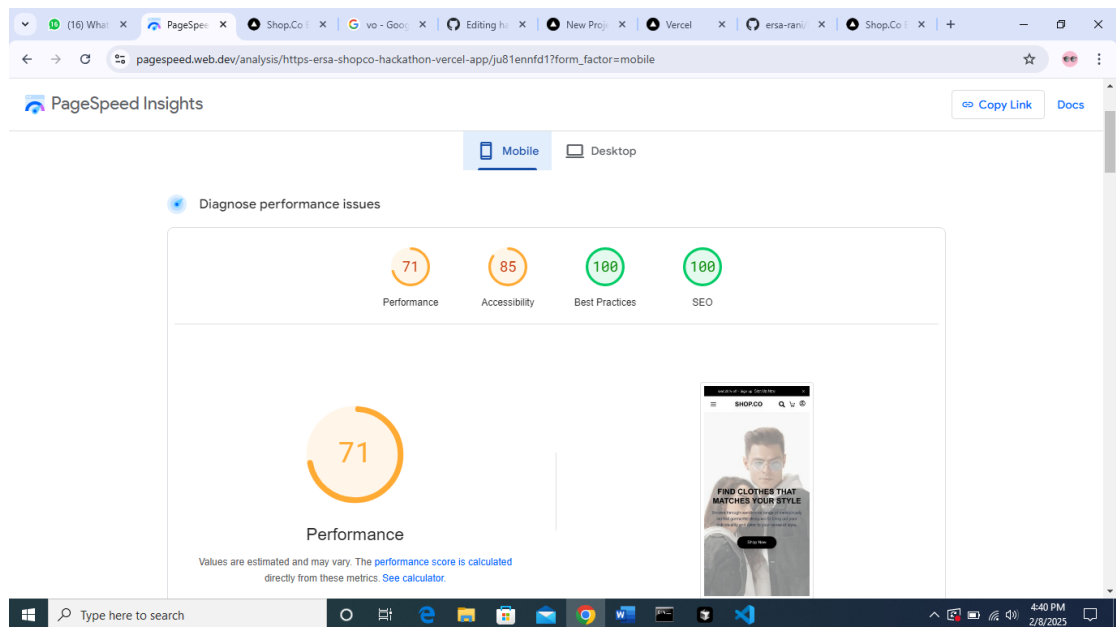
### Error Handling

- Implemented clear error messages for:
  - Without sign in/sign up on checkout
  - Invalid or missing data.
  - Unexpected server errors.

## Performance Testing



- Conducted performance testing using **Google PageSpeed**.



## Cross-Browser and Device Testing

- Tested the marketplace on **Chrome, Firefox, Safari, and Edge** to ensure compatibility.
- Verified responsiveness across **desktop, tablet, and mobile** devices.
- Ensured a seamless user experience across all screen sizes.

## Security Testing

- Implemented **input validation** to prevent injection attacks.
- Ensured all communication is over **HTTPS** for security.
- Verified that **API keys are not exposed** in the frontend code.

## User Acceptance Testing (UAT)

- Simulated real-world user interactions to ensure a smooth experience.
- Verified that browsing, searching, and checkout workflows are **intuitive and error-free**.



## Documentation Updates

- Recorded testing results, fixes, and best practices.
- Summarized key findings and resolutions in **detailed test reports**.
- Ensured reports follow **market standards** with a structured format.
- Maintained consistency in headings and subheadings.

