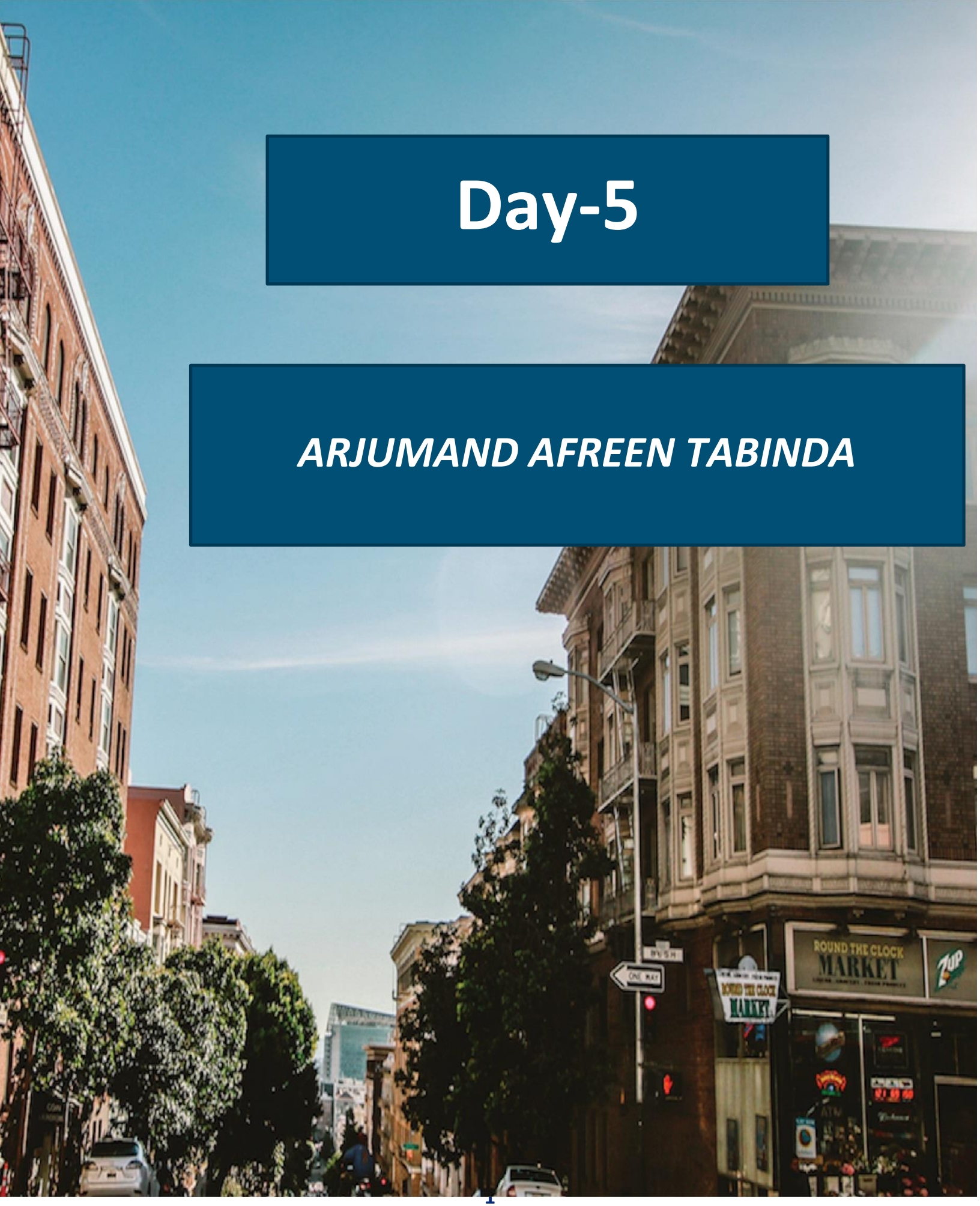


Day-5

ARJUMAND AFREEN TABINDA

Hackathon Marketplace Day-5

PREPARED BY:-

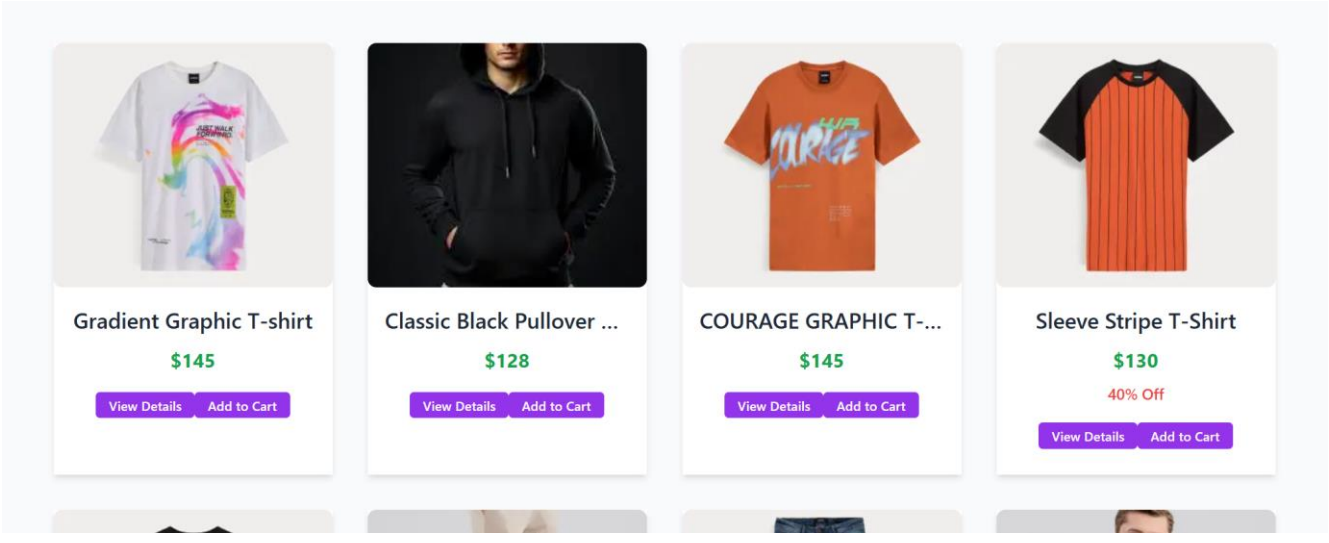
ARJUMAND AFREEN TABINDA

Day 5 - Testing and Backend Enhancements

BANDAGE

Step 1: Accessibility and Responsiveness Testing

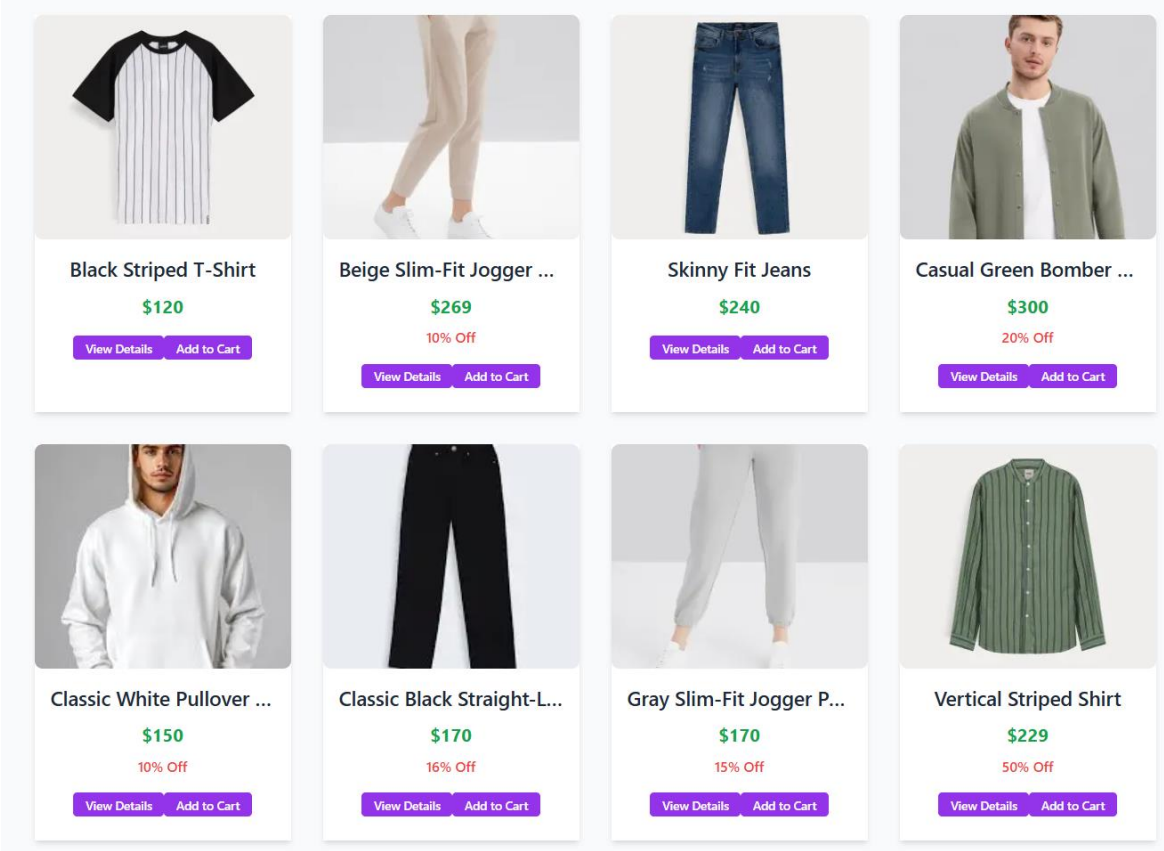
- ***Accessibility Standards:***
  - ***Ensured all pages adhered to basic accessibility guidelines, including:***
    - ***Proper usage of semantic HTML elements like <header>, <main>, <section>, and <footer>.***
    - ***Added descriptive alt attributes for images.***
    - ***Ensured clear keyboard navigation and focus indicators for interactive elements.***
    - ***Maintained sufficient color contrast for text and UI components, following WCAG guidelines.***
- ***Responsiveness:***
  - ***Conducted thorough testing to confirm all pages were fully responsive across devices (mobile, tablet, desktop).***
  - ***Used Chrome DevTools to test for different viewport sizes and adjusted CSS accordingly.***



Step 2: Functional Testing

- **Product Listing:**

- Guaranteed that products are fetched dynamically from the backend database without lag or data loss.
-
    - Confirmed that all product cards are displayed properly, showcasing correct images, titles, prices, and descriptions.



- Cart Functions:
- ○ Verified the "Add to Cart" functionality to confirm that chosen items are correctly added with accurate quantities and pricing.

- **Dynamic Page Rendering:**
  - Checked that each product detail page loads dynamically based on product IDs using `useRouter` in Next.js.
  - Ensured URLs were SEO-friendly and contained meaningful slugs (e.g., `/product/green-bomber-jacket`).

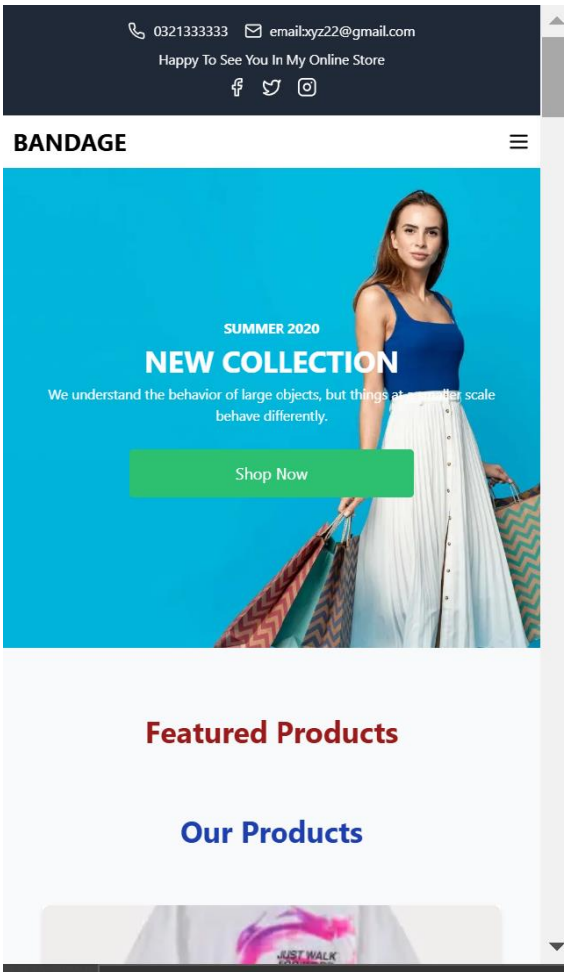
Step 3: Error Management

- **Clear and Informative Error Messages:
  - Integrated `try-catch` mechanisms across key functions (e.g., API requests, cart actions) to efficiently detect and resolve errors.
  - Presented intuitive messages to users, such as:
    - "Your cart is currently empty."

Step 4: Enhancing Performance

- **Speed and Efficiency Testing:**

- Evaluated website performance using Lighthouse in Chrome DevTools.
- Attained a performance score of 61%, with JavaScript loading identified as the main limiting factor.



Load Time Evaluation:
- **Page Speed Assessment:
  - Analyzed loading times for various pages.
  - Ensured most pages loaded within 2 seconds, maintaining a smooth user experience.

Step 5: Compatibility Testing
- **Browser Compatibility:**

- Ensured smooth functionality across leading web browsers:
  - Google Chrome
  - Microsoft Edge
  - Safari
- **Device Responsiveness:**
  - Tested performance on various devices, including:
    - Desktop (Windows, macOS)
    - Mobile (Android, iOS)
- **Results:**
  - Verified that all layouts and features functioned correctly without major bugs or design inconsistencies.

Step 6: Security Assessment
- **Secure HTTP Connections:**

Step 6: Security Verification
- **Secure API Communication:**
  - Used DevTools to verify that all API requests and responses were securely transmitted over HTTPS.
  - Ensured encryption of sensitive user data during transmission.
- **Protected Environment Variables:**
  - Stored confidential details (e.g., API keys, database credentials) in an `.env` file to prevent unauthorized access.
  - Confirmed that the `.env` file was properly excluded from version control using `.gitignore`.

Step 7: User Acceptance Testing (UAT)
Simulated real-user interactions to validate seamless functionality:
- **Product Navigation:**
  - Browsed the product catalog to confirm accurate product details.

Conclusion:

The testing and optimization process greatly enhanced the user experience, performance, and security of the application. All core features are operating smoothly, guaranteeing a top-quality product that is prepared for deployment.