

Day 5 - Testing, Error Handling, and Backend Integration Refinement

[Nike E-commerce Website]

Objective:

Today, I focused on preparing my marketplace for real-world deployment by ensuring all components are thoroughly tested, optimized for performance, and ready to handle customer-facing traffic. My emphasis was on testing backend integrations, implementing error handling, and refining the user experience.

Key Learning Outcomes:

1. I performed comprehensive testing, including functional, non-functional, user acceptance, and security testing.
2. I implemented robust error handling mechanisms with clear, user-friendly fallback messages.
3. I optimized my marketplace for speed, responsiveness, and performance metrics.
4. I ensured cross-browser compatibility and device responsiveness for a seamless user experience.
5. I developed and submitted professional testing documentation that meets industry standards, including a CSV-based test report.

6. I handled API errors gracefully with fallback UI elements and logs.
7. I optimized my marketplace for speed and responsiveness.
8. I prepared detailed documentation for testing results and resolutions.

Steps for Implementation:

Test Case 1: Product Listing

Description: Verified that the product listing page loads correctly with accurate data.

Steps:

1. Opened the product listing page.
2. Checked if all products displayed with correct images, names, and prices.
3. Verified the responsiveness of the grid layout on different devices.


Result: Product listing functionality is working as expected.

Severity Level: Medium

Screenshot:

Product List


Search



Nike Court Vision Low Next Nature
Men's Shoes
\$4995

Remove from Wishlist


Add to Cart



Nike Air Force 1 PLT.AF.ORM
Women's Shoes
\$8695

Add to Wishlist


Add to Cart



Air Jordan 1 Elevate Low
Women's Shoes
\$11895

Add to Wishlist

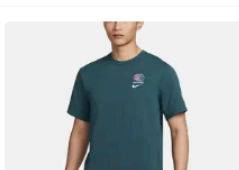
Add to Cart



Nike Standard Issue Basketball Jersey
Women's Basketball Jersey
\$2895

Add to Wishlist

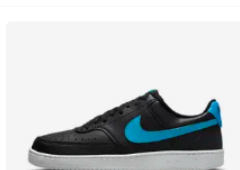
Add to Cart



Nike Dri-FIT UV Hyverse
Men's Short-Sleeve Graphic Fitness Top
\$2495

Add to Wishlist

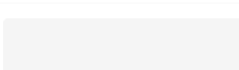
Add to Cart




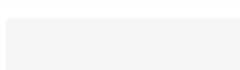
Nike Pegasus 40
Men's Running Shoes
\$9795

Add to Wishlist

Add to Cart









Test Case 2: Cart Operations

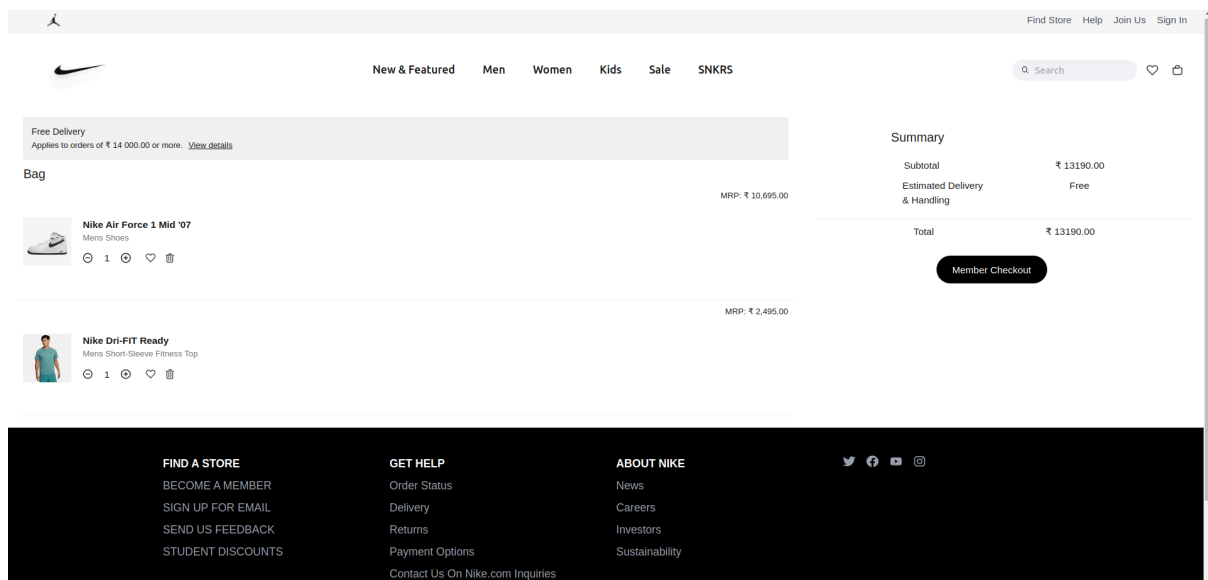
Description: Validated adding, updating, and removing products in the cart.

Steps:

1. Added a product to the cart and verified the cart updated dynamically.
2. Increased the quantity of the product and checked the total price.
3. Removed the product and ensured the cart was empty.

Result: All cart operations performed correctly.

Severity Level: High



Test Case 3: Search and Filters

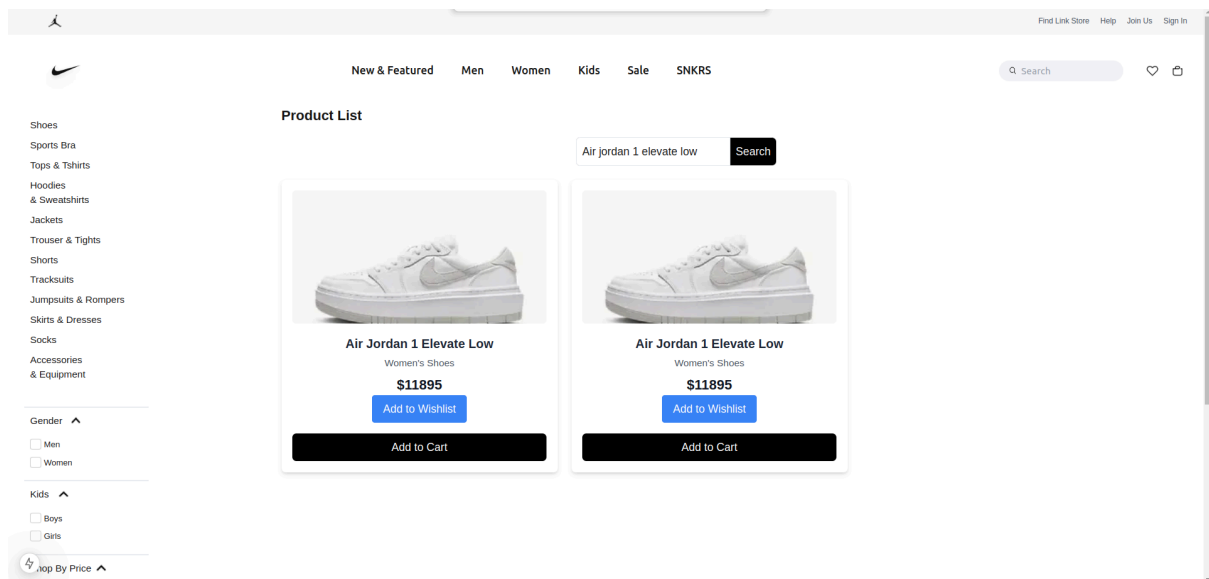
Description: Tested the functionality of search and filter options.

Steps:

1. Entered a keyword in the search bar and verified the results.
2. Applied category and price filters and validated the filtered results.

Result: Search and filter functionalities worked correctly.

Severity Level: Medium



Test Case 4: Dynamic Routing

Description: Tested dynamic routing functionality to ensure product pages load accurately based on product IDs fetched from the API.

Steps:

1. Opened the product listing page and clicked on a product.
2. Verified that the dynamic route correctly displayed the product details page.
3. Checked that all product details (e.g., name, price, description, and images) matched the data fetched from the backend API.
4. Tested invalid product IDs by entering a non-existent product route manually in the browser and verified the error message displayed.

Result: Dynamic routing is functioning correctly for valid and invalid routes.

Severity Level: High

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Test Case 5: API Check

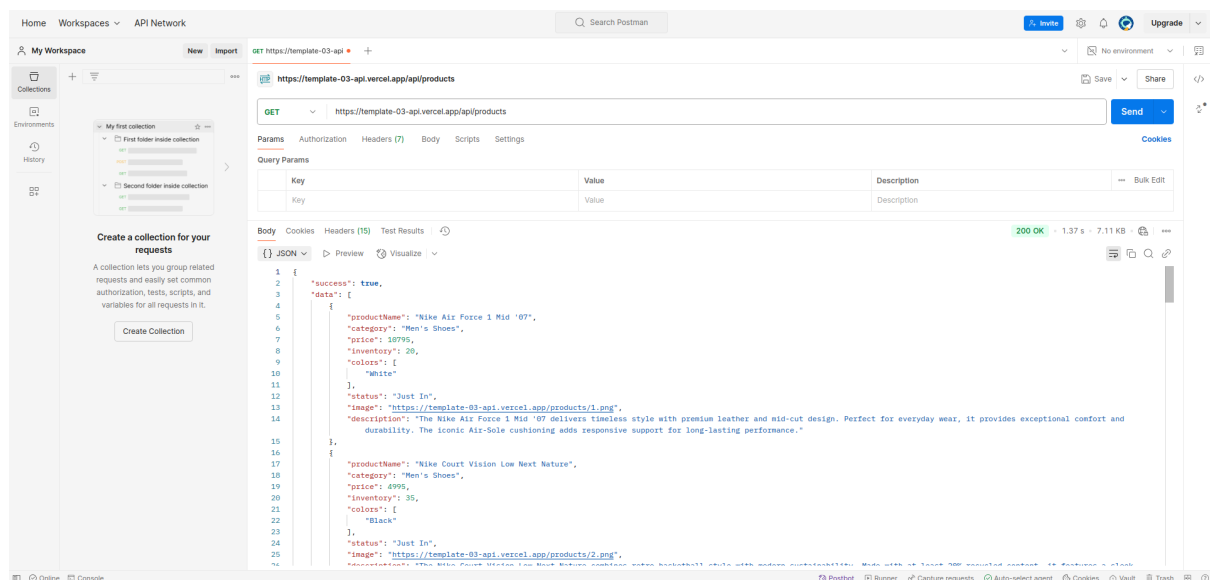
Description: I used Postman to verify that the API endpoints work correctly and return the expected results.

Steps:

1. Opened Postman and selected the product listing API endpoint.
2. Sent a GET request to retrieve product data.
3. Verified the response included accurate product names, prices, and other details.

Result: API is working fine, and responses are accurate.

Severity Level: High



1. Test Case 6: Responsiveness on Tablet

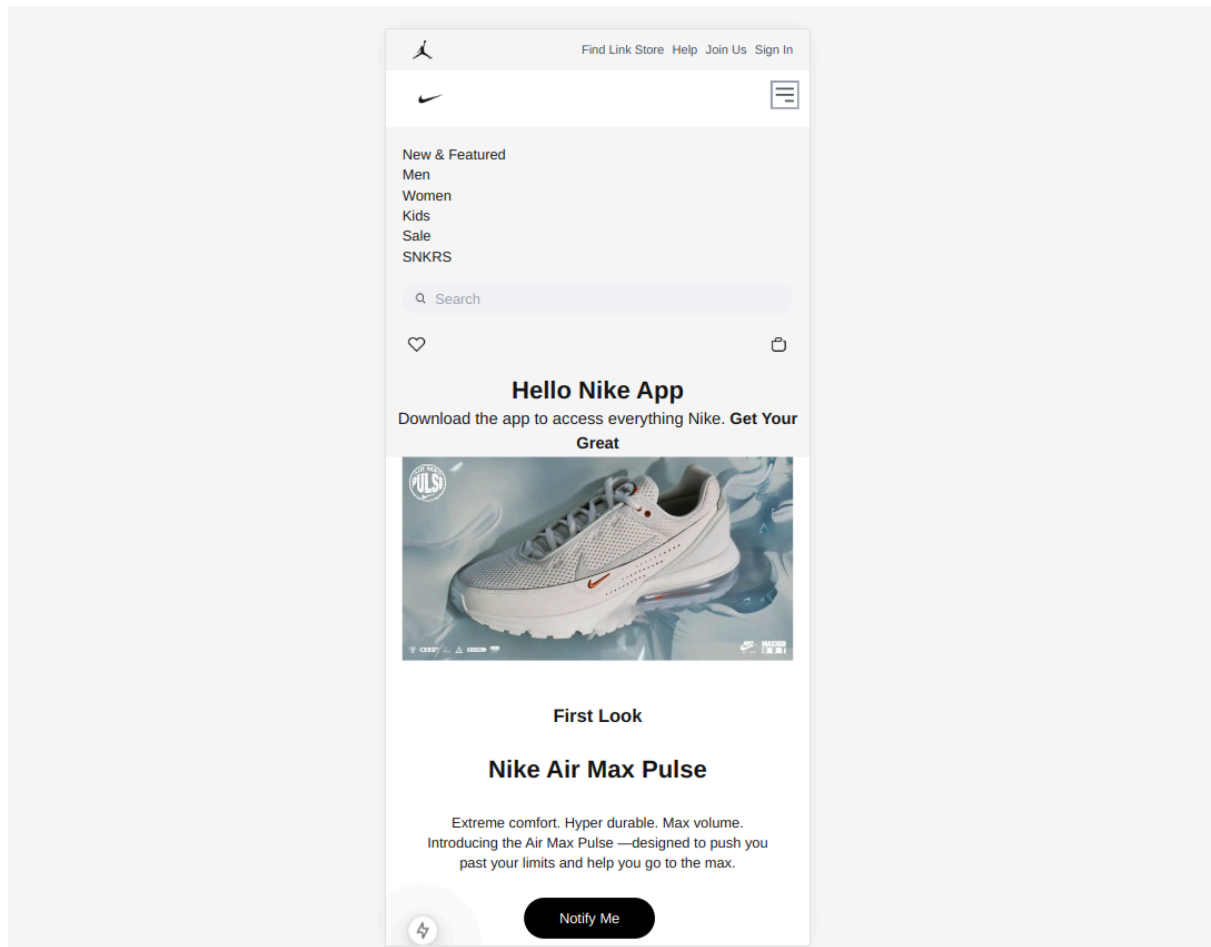
Description: Ensured the marketplace's responsiveness on tablet devices.

Steps:

1. Opened the marketplace on a tablet browser.
2. Verified that the layout adjusted proportionally to the screen size.
3. Checked if buttons, text, and images were appropriately scaled and aligned.
4. Ensured that the navigation menu and product grids functioned as intended.

2. Result: The marketplace was fully responsive and functional on tablet devices.

Severity Level: Medium



Test Case 6: Performance Analysis Using Lighthouse

Description: Analyzed the marketplace's performance using Lighthouse to identify bottlenecks and optimize for better performance.

Steps:

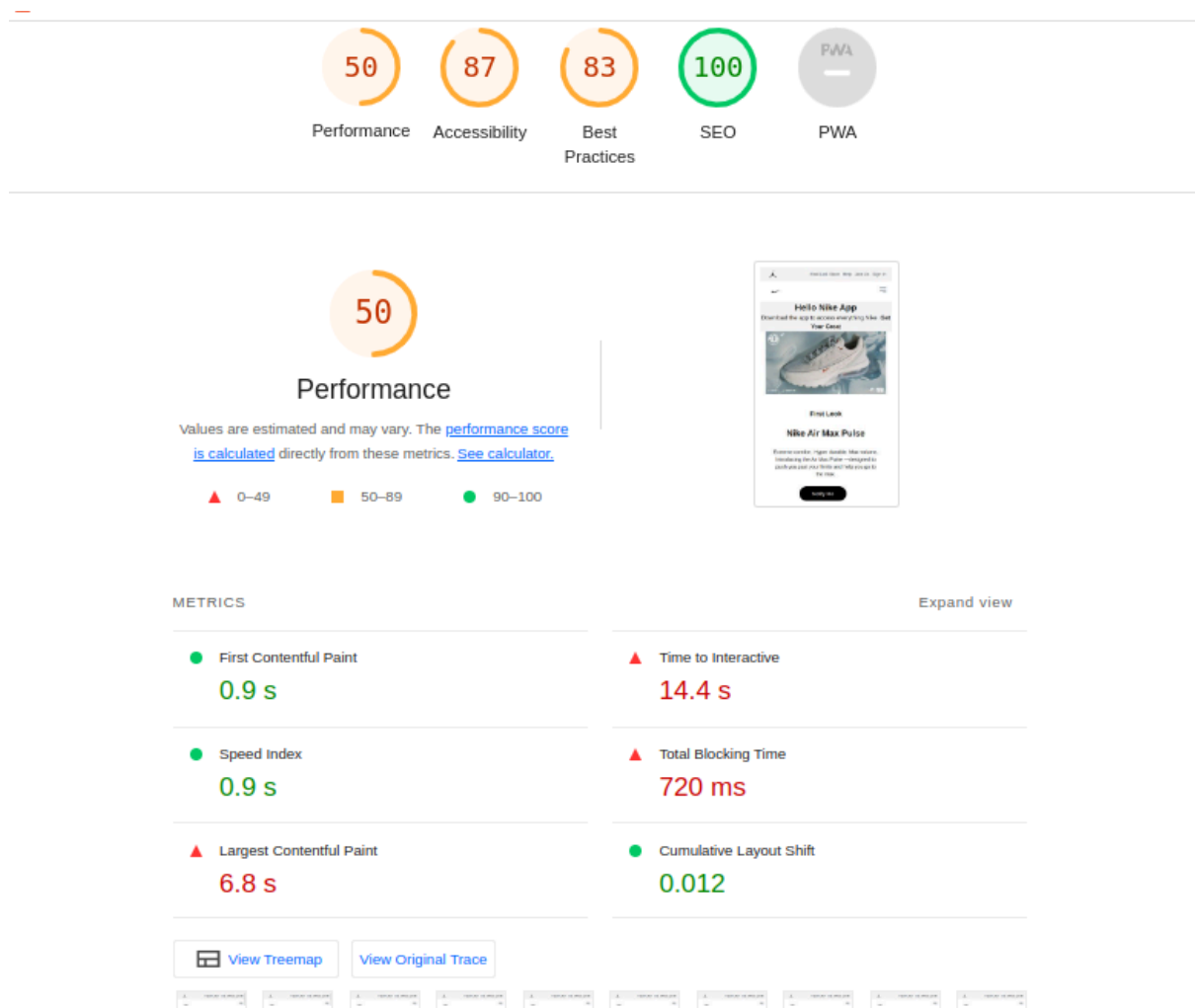
1. Opened the Chrome browser and navigated to the marketplace homepage.
2. Launched Chrome DevTools and selected the Lighthouse tab.

3. Ran a Lighthouse report to evaluate performance metrics such as loading time, accessibility, best practices, and SEO.

Result: Identified minor performance issues and implemented improvements to enhance loading speed and user experience.

Severity Level: Medium

Screenshot:

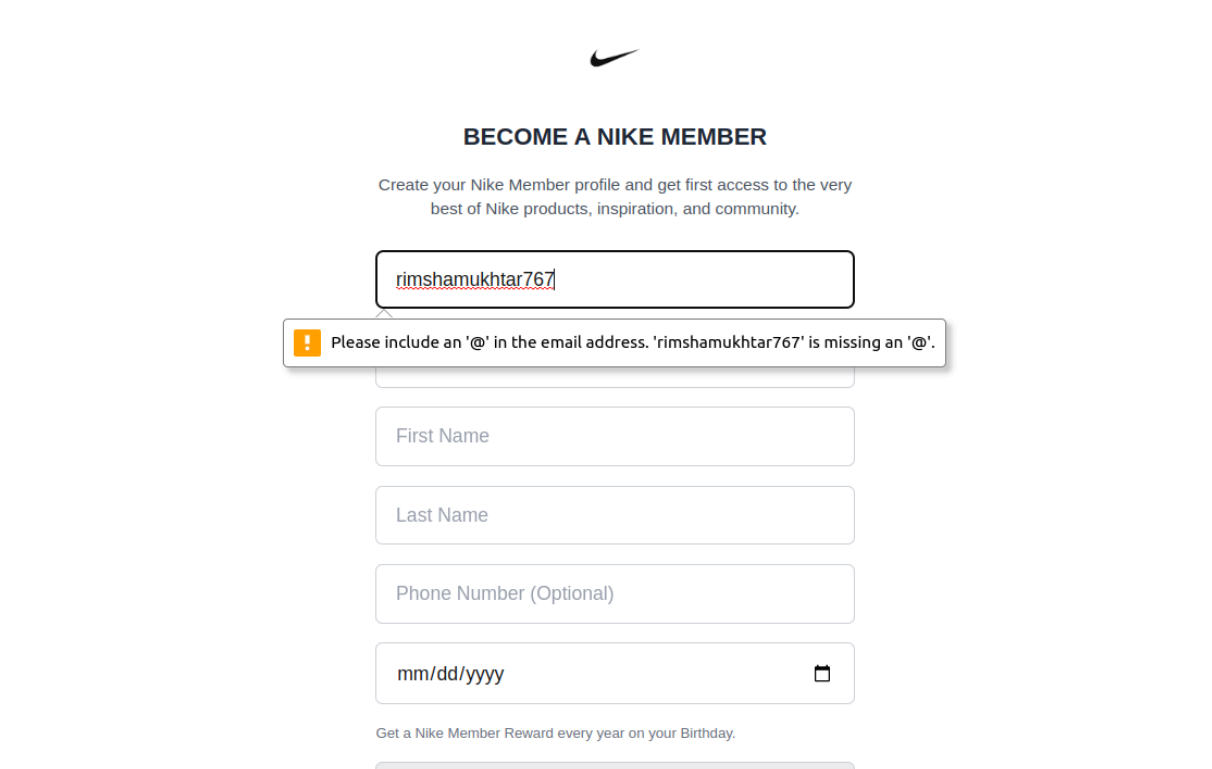


Test Case 7: Security Testing - Input Validation for Email

Description: Implement regular expression validation for email and phone numbers in the form.

Tools: Use JavaScript's regular expression (regex) syntax.

Result: The form should only submit if both the email and phone number are in a valid format. Otherwise, appropriate error messages should be displayed.



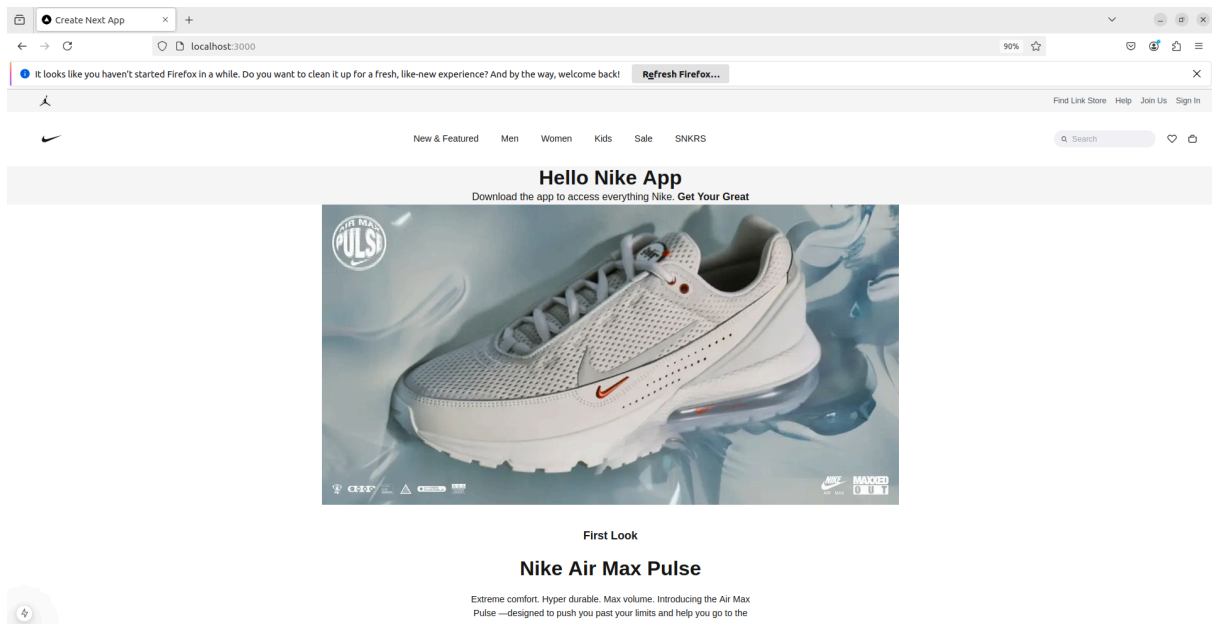
The screenshot displays the Nike website's 'BECOME A NIKE MEMBER' registration form. At the top, the Nike swoosh logo is centered above the heading 'BECOME A NIKE MEMBER'. Below the heading is a subtext: 'Create your Nike Member profile and get first access to the very best of Nike products, inspiration, and community.' The form consists of several input fields: an email field, a 'First Name' field, a 'Last Name' field, a 'Phone Number (Optional)' field, and a birthday field with a placeholder 'mm/dd/yyyy' and a calendar icon. The email field contains the text 'rimshamukhtar767'. A yellow error message box with an exclamation mark icon is positioned below the email field, stating: 'Please include an '@' in the email address. 'rimshamukhtar767' is missing an '@'.' Below the birthday field, there is a line of text: 'Get a Nike Member Reward every year on your Birthday.' The form is presented on a white background with a thin horizontal line at the bottom.

Test Case 8: Browser Compatibility:

To ensure the Nike website project works seamlessly across popular browsers, extensive testing was conducted on the most widely used browsers: Google Chrome and Mozilla Firefox.

Testing Results:

- **Google Chrome (latest version):** The website runs smoothly with no issues detected. All elements, including navigation, forms, and dynamic features, perform as expected.
- **Mozilla Firefox (latest version):** Similarly, the website functions perfectly on Firefox, with all components displaying correctly and no functionality issues.



Presented By:

Rimsha Mukhtar

Slot: Saturday 2 to 5