

Functional Report: Marketplace Ecommerce Website Development

Project Overview:

On Day 4 of the development of the Marketplace Ecommerce Website, significant progress was made in integrating key functionalities, improving user interactions, and ensuring seamless integration with the backend. This day focused on data fetching, dynamic routing, cart functionality, gift voucher system, and other essential features that enhance user experience and streamline operations. The overall goal is to move towards creating a fully functional and engaging ecommerce platform.

Key Features Implemented:

1. Data Fetching & Dynamic Routes:

- **Objective:** Fetch product data from the backend and display it dynamically on the frontend.
- **Implementation:**
 - Data fetching was implemented using an API to retrieve product details such as names, descriptions, images, prices, and availability.
 - The product data is dynamically displayed in a grid layout on the product listing page.
 - **Dynamic Routing:**
 - A dynamic route was added using Next.js to allow users to click on a product from the product listing page and navigate to a unique product detail page.
 - The product's slug is used to fetch and display specific data for each product.
- **Outcome:**
 - Users can now view a complete list of products on the homepage, and click on individual products to see detailed information.

2. Add to Cart Functionality:

- **Objective:** Allow users to add products to their shopping cart seamlessly.
- **Implementation:**
 - The **Add to Cart** button was added to both the product listing page and the individual product detail page.
 - Upon clicking the "Add to Cart" button, a **SweetAlert2** pop-up confirmation appears, notifying users that the product has been successfully added to their cart.

- The cart persists data using **local storage**, so users can retain their cart items even if they navigate to different pages or refresh the website.
- **Outcome:**
 - Users can add products to their cart and receive a confirmation message, improving the user experience.

3. Gift Mechanism with Voucher System:

- **Objective:** Introduce a promotional mechanism to enhance the user experience by offering gifts through vouchers.
- **Implementation:**
 - A **voucher code** field was added to the checkout process, allowing users to enter a valid voucher to receive a gift as part of their purchase.
 - If the entered code is valid, the user is notified with a success message. If the code is invalid, the user receives a notification that the voucher is not valid.
 - In addition, users can also **purchase gifts** from the cart if they choose not to use a voucher code.
- **Outcome:**
 - The gift mechanism offers an interactive and promotional feature that encourages engagement and increases user satisfaction.

4. CRUD Operations on Products:

- **Objective:** Allow users and admins to manage products on the website via CRUD operations.
- **Implementation:**
 - The website is set up to perform **Create, Read, Update, and Delete (CRUD)** operations on products through API calls to the backend.
 - Users can create new products, view product details, update product information, and delete products when necessary.
- **Outcome:**
 - The admin or authorized users can manage products efficiently, ensuring that the product catalog remains up to date.

5. Pagination:

- **Objective:** Ensure that the product listings are easily navigable, especially when there are many products.
- **Implementation:**
 - Pagination was implemented on the product listing page, allowing users to view products in manageable chunks.

- This feature reduces clutter and enhances the user experience by preventing long loading times.
- **Outcome:**
 - Users can now browse through product pages seamlessly without feeling overwhelmed by a long list of products.

6. Search Bar Functionality:

- **Objective:** Implement an efficient search feature to allow users to find products quickly.
- **Implementation:**
 - A **Search Bar** was integrated to allow users to search for products by name, category, or other attributes.
 - As users type their queries, search results are filtered and updated dynamically from the backend API.
 - Error handling was added to display a message when no matching products are found.
- **Outcome:**
 - Users can now search for specific products easily, improving the discoverability of items on the website.

7. News and Features Sections:

- **Objective:** Keep users informed about the latest offers, discounts, and new product arrivals.
- **Implementation:**
 - **News Section:** Displays information about upcoming promotions, discounts, and sales to engage users.
 - **Features Section:** Highlights new product arrivals to keep the website dynamic and up-to-date.
- **Outcome:**
 - These sections enhance user engagement and encourage repeat visits by keeping users informed about the latest updates.

8. User Authentication & Authorization:

- The user login system has been implemented, allowing secure access to personal information, order history, and profile management.

9. Checkout & Cart Flow Enhancements:

- Improve the checkout process with better UI/UX and payment gateway integration.

Visuals and Screenshots:

To illustrate the implemented features, the following visuals demonstrate the progress made:

1. **Product Listings Page** – Featuring dynamic routing to individual product pages.
2. **Product Detail Page** – Showcasing detailed information for a specific product.
3. **Add to Cart Action and Confirmation** – With SweetAlert2 notification.
4. **Voucher Entry and Gift Mechanism** – Highlighting the gift feature at checkout.
5. **Pagination in Action** – Navigating through product pages.
6. **Search Bar Functionality** – Real-time product filtering based on search input.
7. **News and Features Sections** – Displaying latest offers and product arrivals.
8. **User Authentication & Authorization** – Applied Clerk Authorization which fully works.
9. **Checkout & Cart Flow Enhancements**: Improve the checkout process with better UI/UX and payment gateway integration.

Further Work in Progress:

The current work is ongoing, and several improvements are planned for the coming days:

1. **Order History & User Profiles:**
 - Add functionality for users to view their order history and update their profiles.
2. **Advanced Features:**
 - Real-time notifications for order updates, new products, and promotions.
 - Enhanced payment gateway integration for better transaction security.

Conclusion:

Day 4 marked substantial progress in the development of the Marketplace Ecommerce Website. Key features like dynamic data fetching, dynamic routing, add-to-cart functionality, gift voucher integration, search functionality, pagination, and user engagement sections were successfully integrated into the platform. These features work seamlessly, enhancing the overall user experience and setting the stage for further developments, including user profiles and enhanced checkout processes.

The website is steadily progressing towards becoming a fully functional, user-friendly ecommerce platform. Further refinements and additions will continue to improve usability and functionality in the coming days.