Day 4 - Dynamic Frontend Components - Ras Healthcare Marketplace

Objective

Developing dynamic frontend components for Ras Healthcare Marketplace to enhance user experience and fulfill e-commerce functionality. Components are designed for modularity, reusability, and scalability, adhering to industry best practices.

Key Components

1. Checkout Component

Handles the checkout process, including:

- Collecting customer information.
- Placing orders.
- Responsive drawer/dialog design for desktop and mobile.
- Form validation.
- Seamless integration with the cart system.

2. ProductDetails Component

Manages main product display:

- Image gallery with thumbnails.
- Product information (name, price, stock status, description).
- Quantity selection and add-to-cart functionality.
- Tabs for detailed product descriptions.

3. Cart System Components

Handles shopping cart operations:

- Displays items in the cart.
- Manages quantity adjustments and item removal.
- Provides an empty cart state.
- Calculates total prices and order summary.

4. Discount Management Component

- Validates coupon codes.

- Calculates and applies discounts (percentage or fixed amount).
- Tracks coupon usage and expiration.

5. Administrative Order Handling Component

Provides admin features to manage orders:

- Order listing with sorting and filtering options.
- Date range filtering.
- Order status updates.
- Detailed order view with pagination support.

6. Blog System Component

Supports content management:

- Displays blog posts with SEO optimization.
- Allows rich text content editing.
- Handles metadata and social sharing for posts.

7. Editor Component

Rich text editor with:

- Formatting options (bold, italics, headings).
- Link management and image embedding.
- Task lists, quotes, and content validation.

Implementation Steps

General Workflow

1. **Initialize Components:**
    - Use Next.js pages and dynamic routing for detail views.
    - Employ Tailwind CSS for responsive designs.
2. **API Integration:**
    - Fetch data from the Appwrite backend.
    - Use React Query for state management and caching.
3. **Dynamic Rendering:**
    - Map fetched data to component props.
    - Use conditional rendering for loading and error states.

4. **State Management:**
    - Manage global states using React Context for cart and user sessions.
5. **Styling:**
    - Implement responsive designs for all components.
    - Ensure consistency using reusable utility classes in Tailwind CSS.

Code Snippets

Example: ProductDetails Component

```
import { useState } from 'react';
import { addToCart } from '../utils/cart';

export default function ProductDetails({ product }) {
  const [quantity, setQuantity] = useState(1);

  const handleAddToCart = () => {
    addToCart(product.id, quantity);
  };

  return (
    <div className="product-details">
      <img src={product.image} alt={product.name} className="product-image" />
      <h1>{product.name}</h1>
      <p>{product.description}</p>
      <p>Price: ${product.price}</p>
      <div>
        <label>Quantity:</label>
        <input
          type="number"
          value={quantity}
          onChange={(e) => setQuantity(Number(e.target.value))}
          min="1"
        />
        <button onClick={handleAddToCart}>Add to Cart</button>
      </div>
    </div>
  );
}
```

Example: Cart System Component

```
export default function Cart({ cartItems }) {
  return (
    <div className="cart">
      {cartItems.length === 0 ? (
        <p>Your cart is empty.</p>
      ) : (
        <ul>
          {cartItems.map((item) => (
            <li key={item.id}>
              {item.name} - {item.quantity} x ${item.price}
              <button>Remove</button>
            </li>
          ))}
        </ul>
      )}
      <p>Total: ${cartItems.reduce((sum, item) => sum + item.price * item.quantity, 0)}</p>
    </div>
  );
}
```

Expected Deliverables

Functional Components

- Checkout flow with form validation and responsive design.
- Dynamic product listing and detail pages.
- Cart system with add/remove item functionality.
- Blog system for content marketing.
- Discount management with coupon validation.

Code and Documentation

- Codebase organized in a GitHub repository.
- Component-specific documentation explaining props, state, and API interactions.
- Screenshots demonstrating component functionality (to be added).

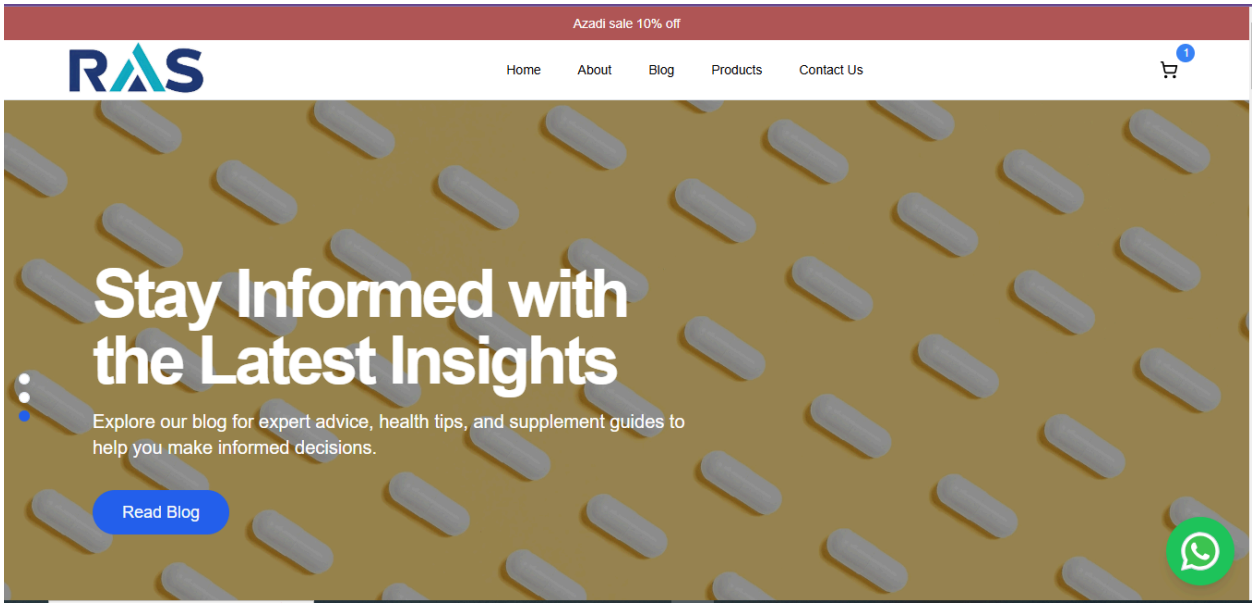
Challenges and Solutions

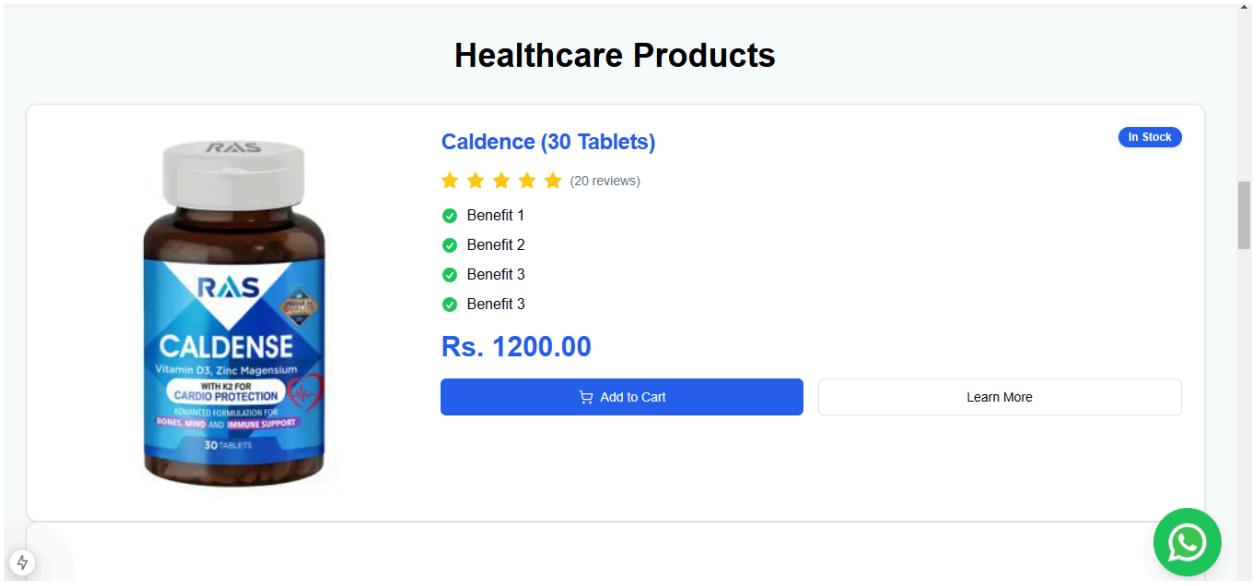
1. **Handling Complex States:**
    - Solution: Used React Context to centralize global states.

2. **Dynamic Data Rendering:**
    - Solution: Integrated React Query to manage API data fetching and caching.
3. **Responsive Design:**
    - Solution: Leveraged Tailwind CSS to ensure adaptability across devices.

Conclusion

Dynamic components for Ras Healthcare Marketplace have been designed and implemented to fulfill core e-commerce functionalities while maintaining scalability and user experience. The modular architecture ensures easy maintenance and expansion in the future.





Featured Products

CALCAR (30 Tablets)

Rs. 600.00

Naturfol (30 Tablets)

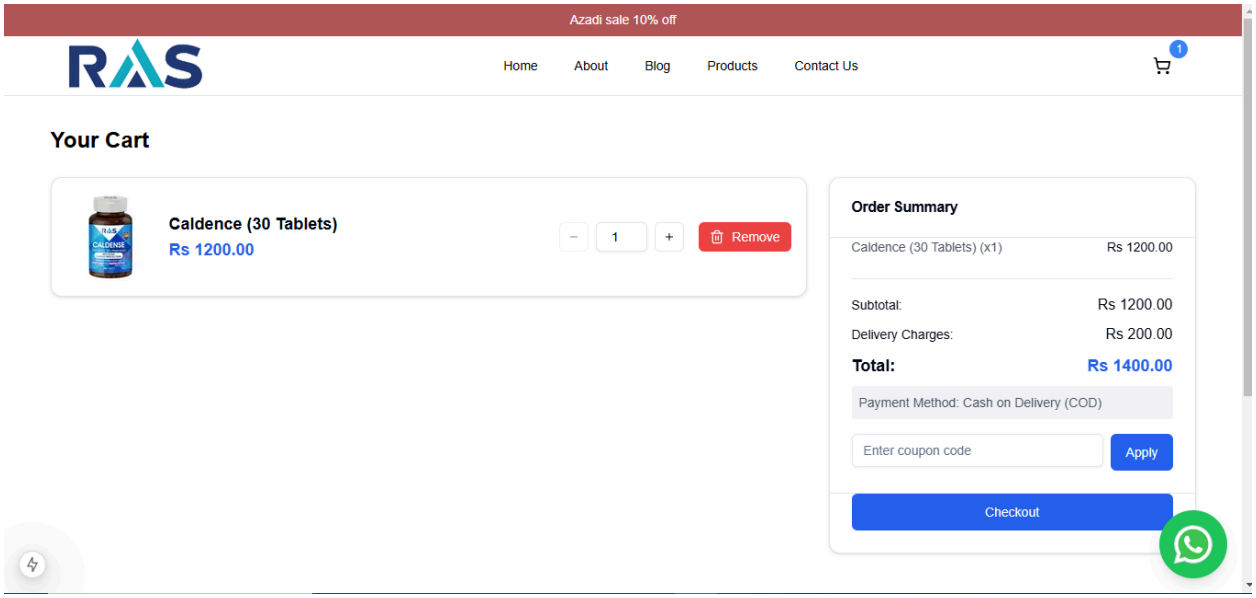
Rs. 1150.00

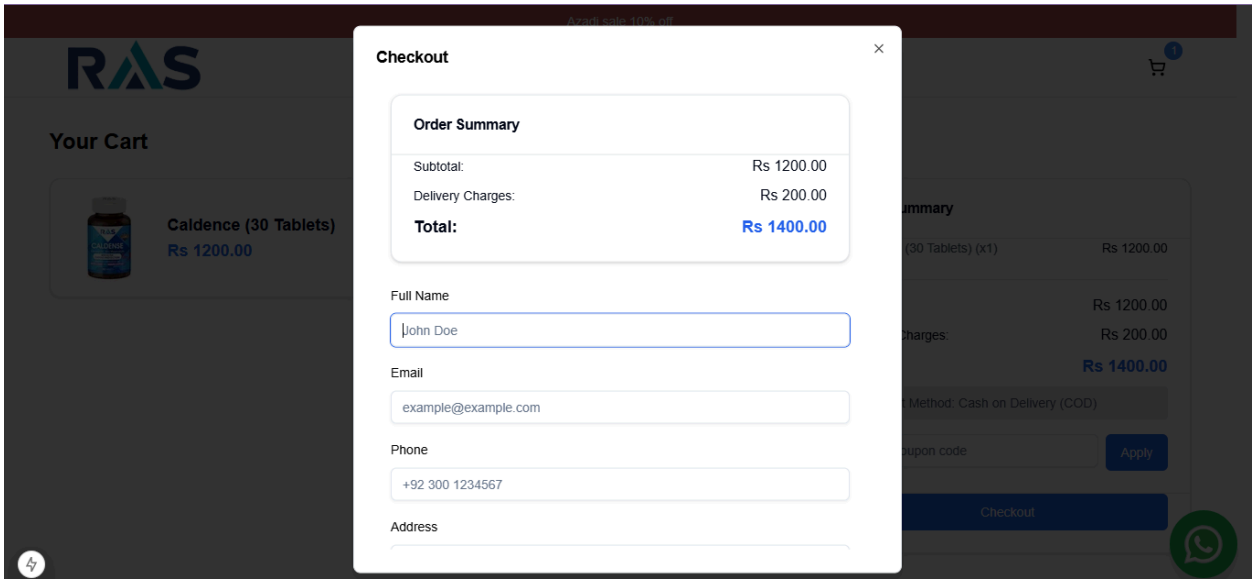
FOLLICARE (60 Tablets)

Rs. 600.00

VITAM-X

Rs. 1200.00


Azadi sale 10% off
RAS
Home
About
Blog
Products
Contact Us
1
Your Cart
Caldence (30 Tablets)
Rs 1200.00
1
Remove
Order Summary
Caldence (30 Tablets) (x1)
Rs 1200.00
Subtotal:
Rs 1200.00
Delivery Charges:
Rs 200.00
Total:
Rs 1400.00
Payment Method: Cash on Delivery (COD)
Enter coupon code
Apply
Checkout


Checkout
Order Summary
Subtotal:
Rs 1200.00
Delivery Charges:
Rs 200.00
Total:
Rs 1400.00
Full Name
John Doe
Email
example@example.com
Phone
+92 300 1234567
Address

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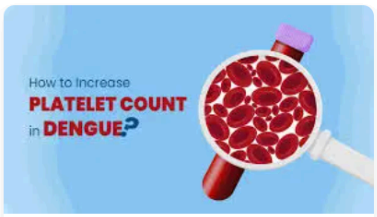
Welcome to Ras Healthcare Blog



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Demo

Learn about the crucial role Vitamin D plays in maintaining your overall health…

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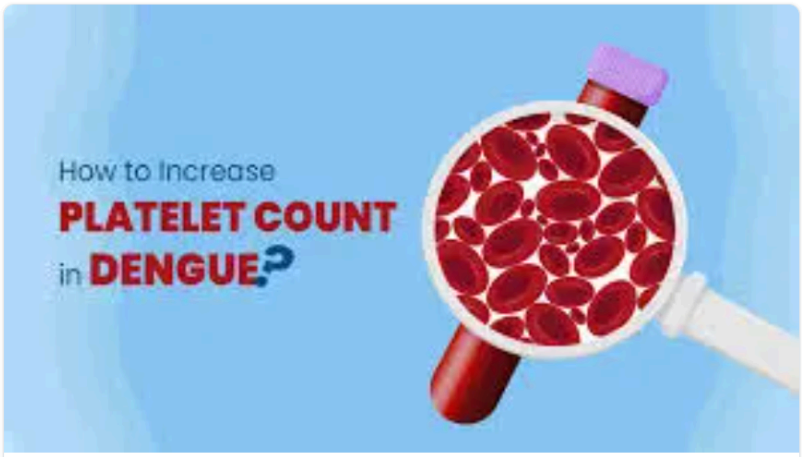

About Us

At Ras Healthcare, we believe that the foundation of a nation's progress lies in good nutrition. For over a decade, we've combined the latest research, technology, and high-quality ingredients to meet diverse nutritional needs. Our goal? To make healthy living simple, empowering you to live your best life and achieve your dreams.

Our Philosophy

With people living longer than ever, maintaining good mental and

Vision

We blend the power of nature with cutting-edge technology to