

Day 4 - Dynamic Frontend Components

1. Product Listing Page with Dynamic Data

- o Description: The product listing page dynamically displays products using a manually exported JSON dataset. Each product includes its image, name, price, and a brief description, presented in a clean and visually appealing layout to enhance user experience.

2. Individual Product Detail Pages with Accurate Routing and Data Rendering

- o Description: Each product detail page dynamically renders detailed

information for the selected product, including the title, full description, price, and related images. Leveraging accurate dynamic routing ensures users are directed seamlessly to the correct product page based on their selection.

3. Working Category Filters, and Search Bar

- Screenshots/Recordings:

- o Demonstration of category filters.

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main_hackaton [Administrator]

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  ts image.ts
  ts lists
  ts queries
  ts types.ts
  schemaTypes
  ts indexes
  ts orders
  ts products
  ts amv
  OUTLINE
  TIMELINE

page.jsx
  app > ProductDetails > page.jsx
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  244
  245 import { sanityFetch } from "../../sanity/lib/fetch";
  246 import { allProducts } from "../../sanity/lib/queries"; // fetch all products query
  247 import Link from "next/link";
  248 import Image from "next/image";
  249
  250 type Product = {
  251   _id: string;
  252   name: string;
  253   description: string;
  254   price: number;
  255   imageUrl: string;
  256 };
  257
  258 const ProductListPage = async () => {
  259   const products = await sanityFetch({ query: allProducts });
  260
  261   return (
  262     <div className="p-8">
  263       <h1 className="text-3xl font-sans text-center mb-8">Product List</h1>
  264       <div className="grid grid-cols-1 sm:grid-cols-2 lg:grid-cols-3 gap-8">
  265         {products.map((product: Product) => {
  266           <div
  267             className="border rounded-lg shadow-lg hover:shadow-xl transition-shadow duration-300 ease-in-out p-4 flex flex-col items-center"
  268             key={product._id}
  269           >
  270             <div className="relative flex flex-col justify-center items-center w-full h-60 mb-4">
  271               <Image
  272                 src={product.imageUrl || "/default-image.jpg"}
  273                 alt={product.name}
  274                 className="object-cover rounded-lg"
  275                 width={250}
  276                 height={300}
  277               />
  278               <div>
  279                 <div className="text-xl font-bold text-center">{product.name}</div>
  280                 <div className="text-center">{product.description}</div>
  281                 <div className="text-lg font-sans text-center">{product.price}</div>
  282               </div>
  283               <Link href={`/ProductDetails/${product._id}`} // link to single product page
  284                 className="mt-4 px-6 py-2 text-white bg-blue-500 rounded-lg hover:bg-blue-600 transition-colors duration-300"
  285               >
  286                 View Details
  287               </Link>
  288             </div>
  289           </div>
  290         )}
  291       </div>
  292     </div>
  293   );
  294 }
  295
  296 export default ProductListPage;
```

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  OUTLINE
  TIMELINE

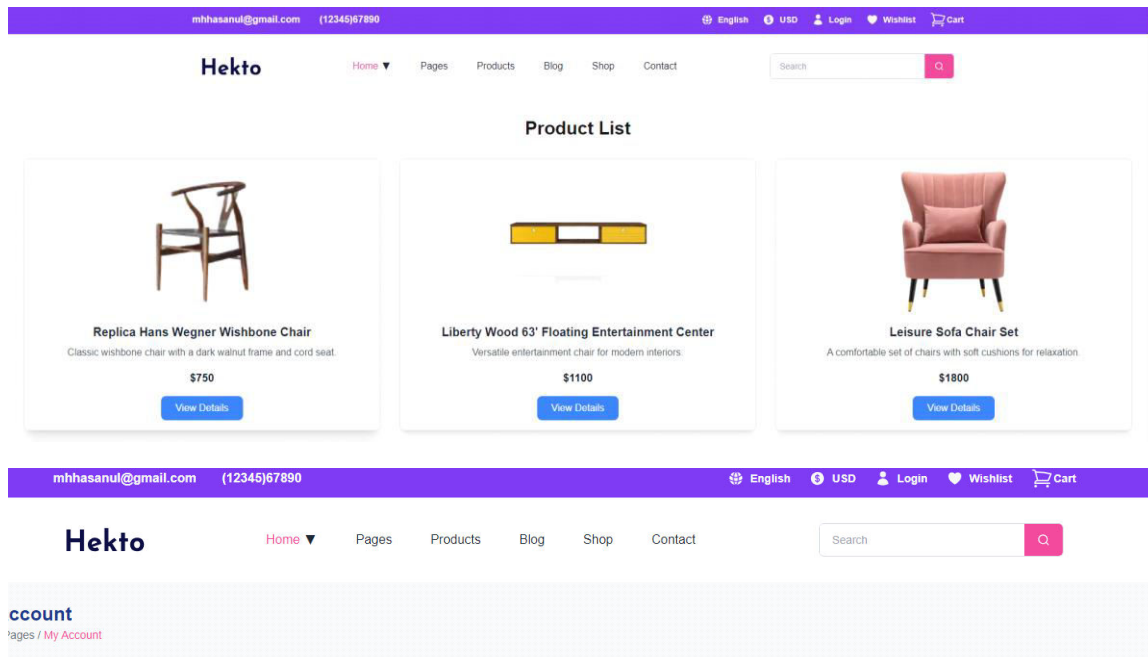
page.jsx
  app > ProductDetails > id > page.jsx
  501 "use client";
  502
  503 import { useState, useEffect } from "react";
  504 import { useCart } from "../../context/CartContext";
  505 import { sanityFetch } from "../../sanity/lib/fetch";
  506 import { singleProduct } from "../../sanity/lib/queries";
  507 import { Product } from "../../sanity/lib/types";
  508 import Image from "next/image";
  509
  510 type ProductDetailPageProps = {
  511   params: { id: string };
  512 };
  513
  514 const ProductDetailPage = ({ params }: ProductDetailPageProps) => {
  515   const [product, setProduct] = useState<Product | null>(null);
  516   const { addToCart } = useCart();
  517
  518   useEffect(() => {
  519     const fetchProduct = async () => {
  520       try {
  521         const productData = await sanityFetch({
  522           query: singleProduct,
  523           params: { id: params.id },
  524         });
  525         console.log("Fetched product data:", productData);
  526         if (productData && productData.length > 0) {
  527           setProduct(productData[0]);
  528         }
  529       } catch (error) {
  530         console.error("Error fetching product:", error);
  531       }
  532     };
  533     fetchProduct();
  534   }, [params.id]);
  535
  536   if (!product) return <div>loading...</div>;
  537
  538   const imageUrl = product.imageUrl || "/default-image.jpg";
  539
  540   const handleAddToCart = () => {
  541     addToCart(product);
  542     alert(`${product.name} has been added to the cart!`);
  543   };
  544
  545   return (
  546     <div className="p-4 md:p-8">
  547       <div className="max-w-4xl mx-auto">
  548         <div className="flex flex-col md:flex-row gap-6">
  549           <div>
  550             <Image alt={product.name} src={imageUrl} width={300} height={300} />
  551             <div>
  552               <h2>{product.name}</h2>
  553               <p>{product.description}</p>
  554               <p>Price: {product.price}</p>
  555             </div>
  556           </div>
  557           <div>
  558             <button
  559               onClick={handleAddToCart}
  560               className="bg-blue-500 text-white px-6 py-3 rounded-lg"
  561             >Add to Cart
  562           </div>
  563         </div>
  564       </div>
  565     </div>
  566   );
  567 }
  568
  569 export default ProductDetailPage;
```

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pagebox
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106 import React, { useState, useEffect } from "react";
107 import { Product } from "../sanity/lib/types"; // Assuming Product type is available
108 import Link from "next/link";
109 import Image from "next/image";
110
111 const CartPage = () => {
112   const [cart, setCart] = useState<Product[]>([]);
113   // On component mount, load cart from localStorage or another source
114   useEffect(() => {
115     const storedCart = localStorage.getItem("cart");
116     if (storedCart) {
117       setCart(JSON.parse(storedCart));
118     }
119   }, []);
120
121   // Function to handle item removal
122   const handleRemoveFromCart = (productId: string) => {
123     const updatedCart = cart.filter(item => item._id !== productId);
124     setCart(updatedCart);
125     // Optionally, update localStorage after removing an item
126     localStorage.setItem("cart", JSON.stringify(updatedCart));
127   };
128
129   // If the cart is empty, show a message
130   if (cart.length === 0) {
131     return (
132       <div className="text-center py-20">
133         <div className="text-3xl font-bold text-gray-800 mb-4">Your cart is empty!</div>
134         <div className="text-lg text-gray-600">Start shopping to fill your cart!</div>
135       </div>
136     );
137   }
138
139   // Calculate total price, ensuring price is treated as a number
140   const totalPrice = cart.reduce((total, item) => total + parseFloat(item.price.toString()), 0).toFixed(2);
141
142   return (
143     <div className="max-w-6xl mx-auto p-6 bg-white rounded-lg shadow-md">
144       <div className="text-4xl font-sans text-gray-800 mb-6">Your Cart</div>
145       <div>
146         {cart.map((product) => {
147           <div key={product._id} className="flex items-center space-x-4">
148             <div>
149               <img alt="Product image" data-bbox={product.image} />
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Documentation:

Steps Taken to Build and Integrate Components

1. Data Preparation:

- o Created a JSON dataset with fields such as id, name, price, image, and category.

2. Component Development:

- o Built reusable components, including Product Card, Product List, and Search Bar.

- o Developed additional components like cart, add-to-cart, and

user profile sections.

3. Dynamic Routing:

- o Implemented Next.js dynamic routing for product detail pages.

4. UI/UX Enhancements:

- o Added category filters, search functionality, and pagination.

- o Styled components using Tailwind CSS for responsiveness and consistency.

Challenges Faced and Solutions Implemented

1. Efficiently Rendering Large Datasets:

- o Solution: Implemented pagination to improve performance and load times.

2. Maintaining Consistent Routing and Data Handling:

- o Solution: Utilized Next.js dynamic routing and centralized data in a JSON file.

3. Creating Responsive and User-Friendly Components: