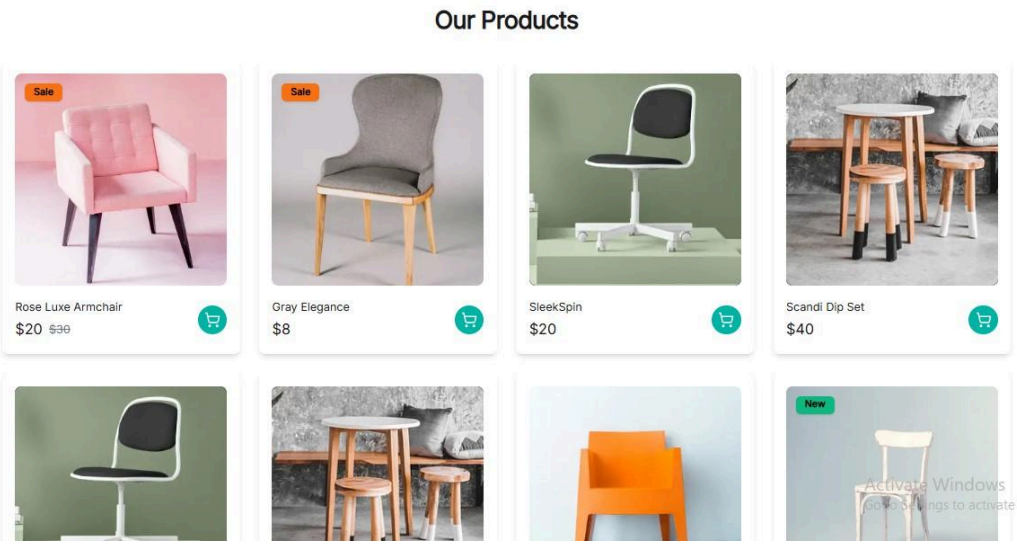
Day 4: Dynamic Frontend Components - Comforty Chair Marketplace

Functional Deliverables

1. Product Listing Page with Dynamic Data

- The product listing page is fully functional and dynamically fetches product data from Sanity CMS or APIs.
- **Features:**
    - o Products are displayed with essential details such as image, title, price, and rating.
    - o Data is rendered dynamically to ensure the page updates whenever new products are added to the CMS.



2. Individual Product Detail

- Each product detail page is implemented using dynamic routing (/products/[id]).
- Displays accurate product details fetched dynamically based on the product ID.

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- **Features:**
    - o High-quality product images.
    - o Title, description, price, rating, and inventory status.
    - o Add-to-cart functionality.
    - o Related products section to suggest similar items.

Rose Luxe Armchair

$20.00 USD ~~$30.00 USD~~

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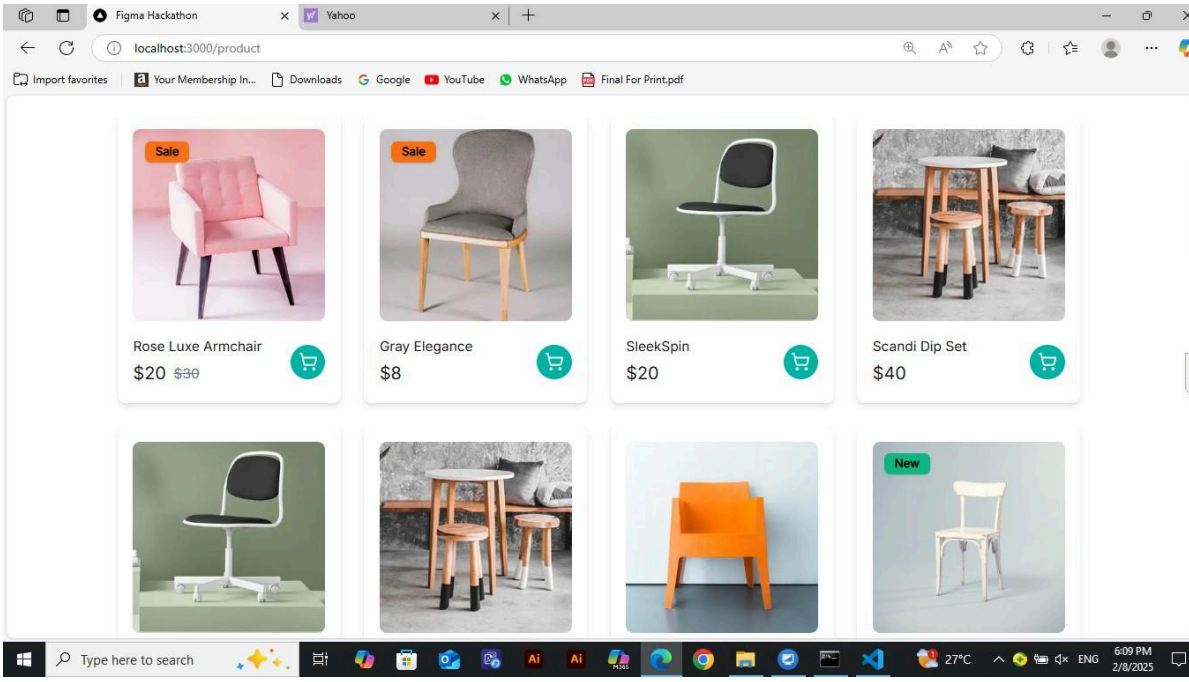
Add To Cart

FEATURED PRODUCTS View All

3. Advanced Category Filters

- Implemented category filters to refine product views dynamically.
- Users can filter products by:
    - o Categories (e.g., chairs, tables, sofas).
    - o Price range.
    - o Ratings.



4. Search Bar

- A search bar is integrated to filter products by name or tags.
- Features:
    - o Real-time search results.
    - o Case-insensitive search functionality.

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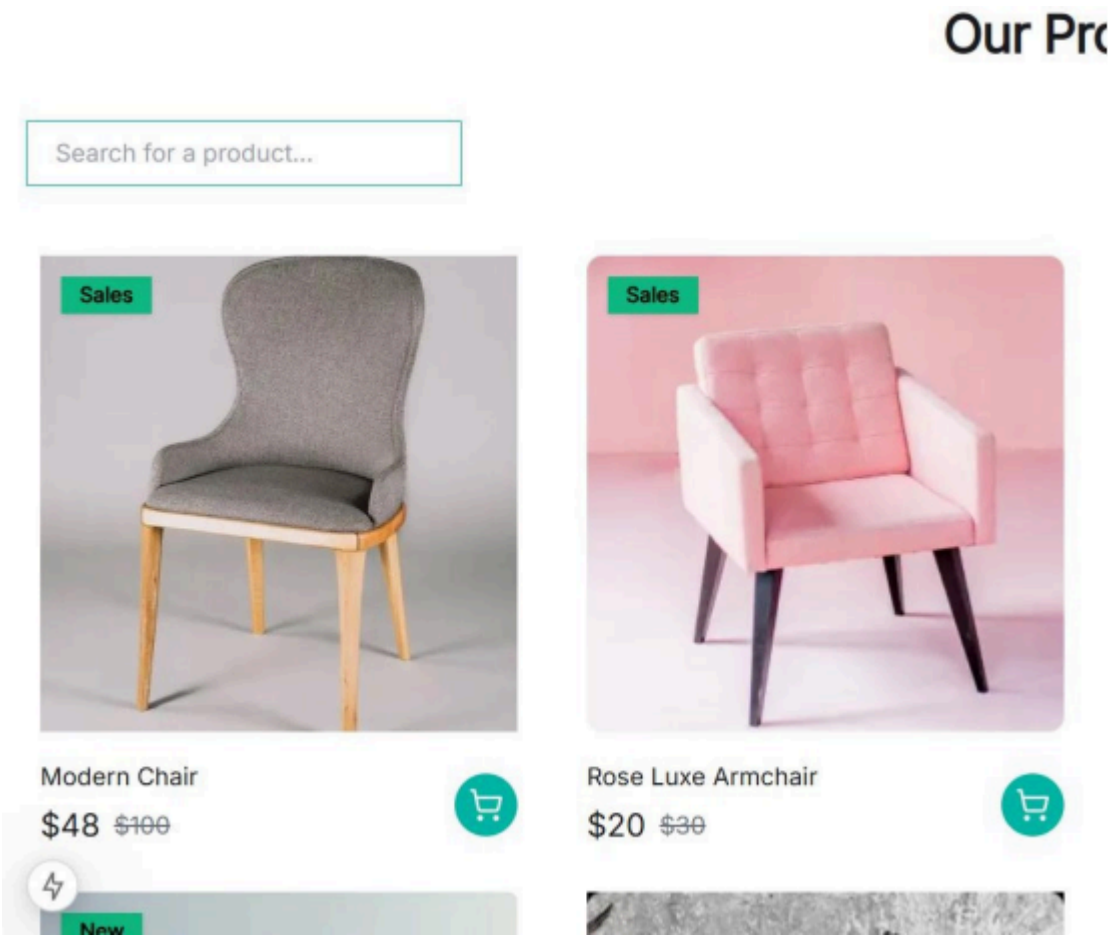

5. Additional Features

- Pagination:
    - o Implemented pagination to load products efficiently, reducing load times for large datasets.
- Related Products:

Displayed on the product detail page to encourage further exploration and purchases.

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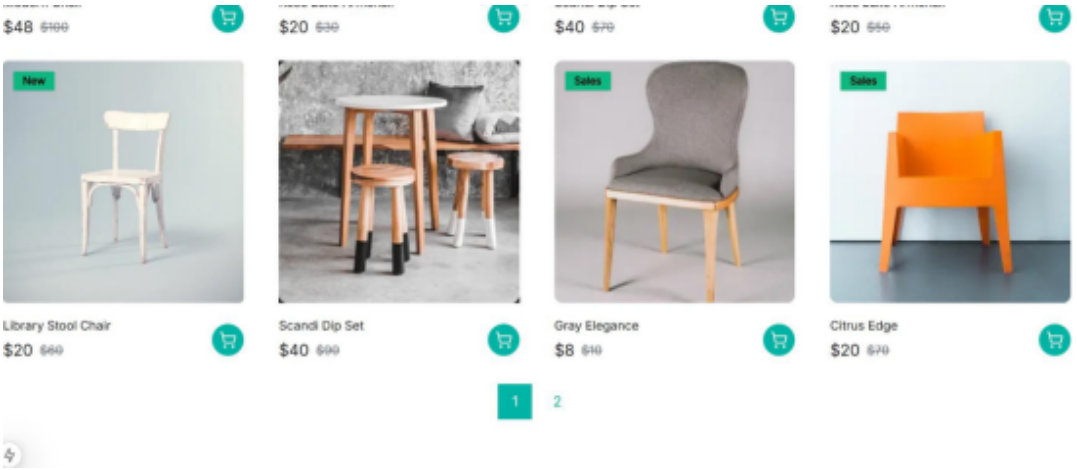


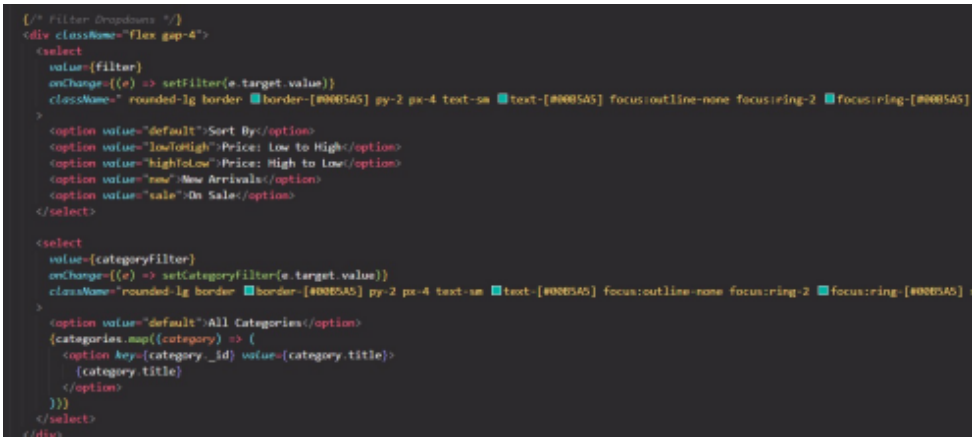
6. Responsive Styling

- All components are styled for responsiveness, ensuring a professional look across devices (mobile, tablet, desktop).
- Used CSS frameworks and custom classes for a polished UI.

Code Deliverables

Key Components:

Filter & Categories



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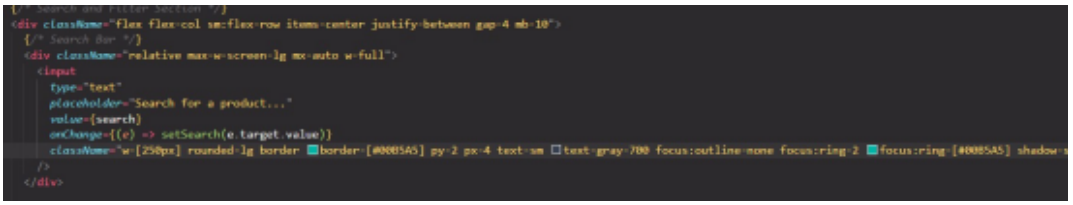
SearchBar



API Integration Logic

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Documentation

Steps Taken to Build and Integrate Component

1. **Dynamic Product Listing Page:**
    - Created a AllProducts.tsx component to fetch and render products dynamically from Sanity CMS.
2. **Dynamic Routing for Product Details:**
    - Used Next.js dynamic routes ([id].tsx) to implement individual product pages.
3. **Category Filters and Search Bar:**
    - Built reusable components (CategoryFilter and SearchBar) with state management.
4. **Pagination and Related Products:**
    - Implemented logic to load products in chunks and display related products based on categories or tags.
5. **Styling and Responsiveness:**
    - Ensured UI components are responsive using Tailwind CSS and media queries.

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Challenges Faced and Solutions Implemented

1. Fetching Data Dynamically:

- Challenge: Ensuring smooth data fetching without delays.
- Solution: Used asynchronous functions and proper error handling.

2. Search and Filter Optimization:

- Challenge: Real-time filtering without performance lag.
- Solution: Used debouncing to optimize search queries.

3. Dynamic Routing:

- Challenge: Handling non-existent product IDs.
- Solution: Added fallback UI for error handling.

Best Practices Followed:

- Modular and reusable component design.
- Clean and maintainable code with proper comments.
- Efficient data fetching with error handling.
- Responsive design principles for cross-device compatibility.

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