

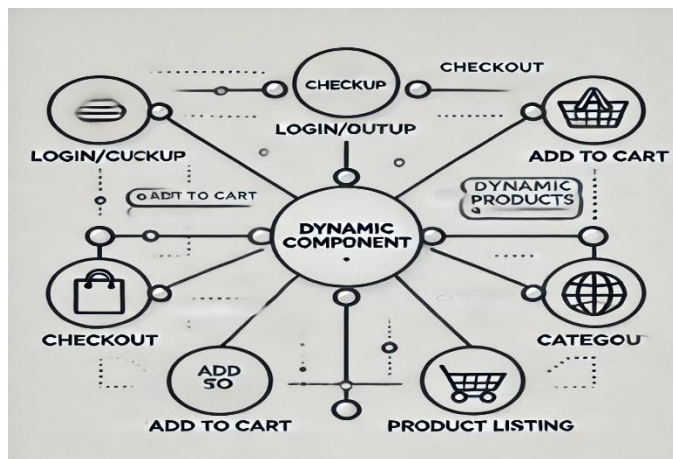
# Day 4

## Dynamic Frontend Components Report for an e-commerce marketplace

### Introduction:

Day 4 focused on the development of dynamic and responsive frontend components for an e-commerce marketplace. This task emphasized to implement modular, reusable, and responsive components to handle data fetched from APIs or Sanity CMS, ensuring a seamless and user-friendly shopping experience.

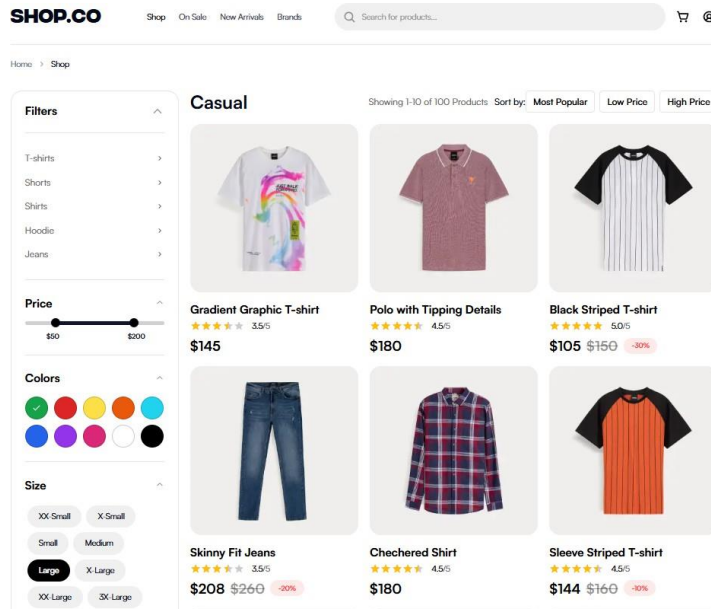
Here is a Workflow Dynamic Component diagram



### Tasks Overview

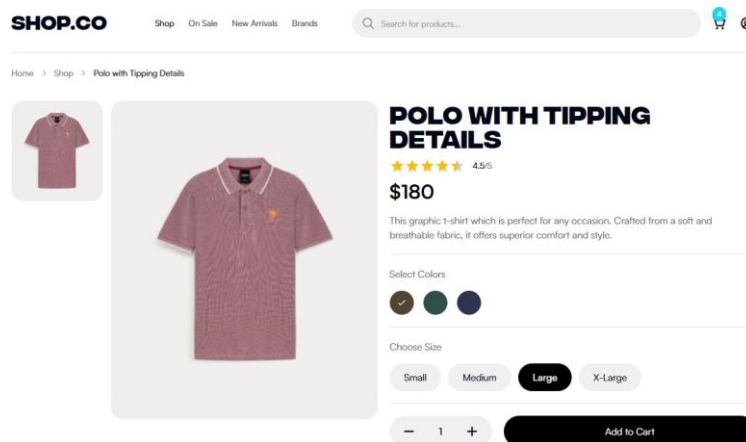
#### 1. Product Listing Workflow

- Rendered product data dynamically in a responsive grid layout.
- Displayed key fields, including product name, price, image, and stock status.



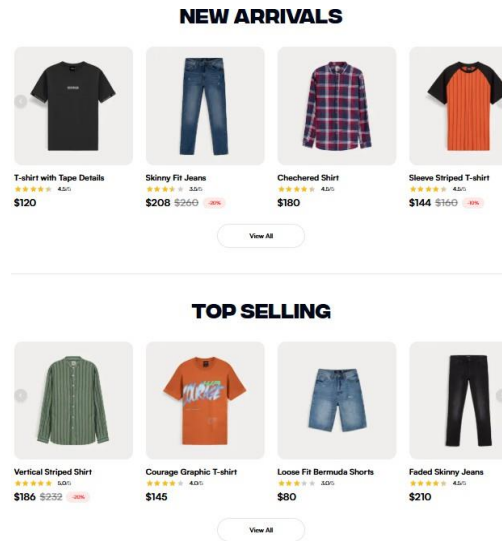
## 2. Product Detail Workflow

- Created detailed product pages using dynamic routing in Next.js.
- Showcased additional details like product description, price, sizes, and colors.



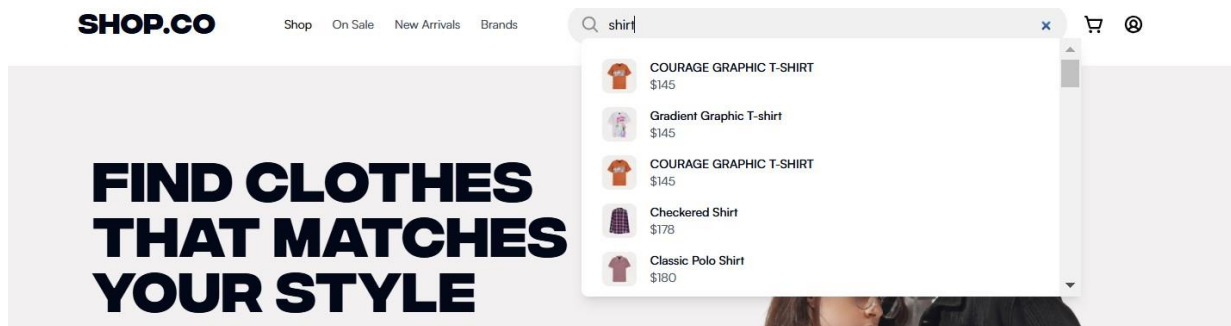
## 3. Category filtering Workflow

- Dynamically fetched categories from the data source.
- Enabled users to filter products based on selected categories.



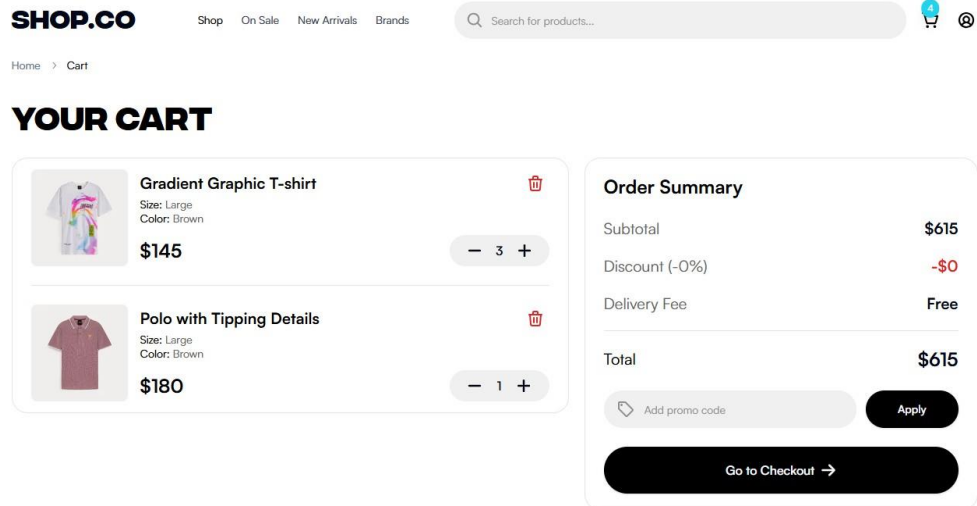
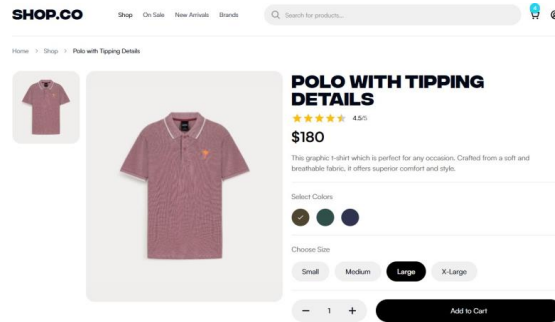
#### 4. Search Bar Workflow

Designed and integrated a real-time search bar to filter products by name or tags.



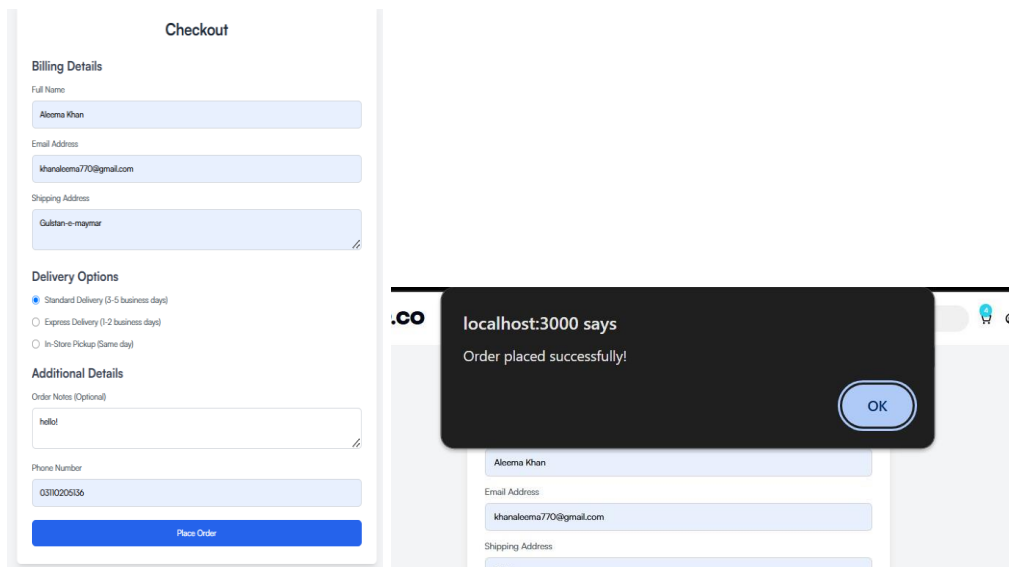
#### 5. Cart Management Workflow

- Allowed users to add/remove products from the cart dynamically.
- Enabled selection of product attributes like size, color, and quantity
- Updated cart totals and displayed a checkout button for order completion.



## 6. Check-Out Workflow

- Implemented a multi-step form to handle user details, billing, and shipping information.
- Designed a confirmation step to finalize the order.



**Key Outcomes**

- Dynamic product listing and detail pages for better user interaction.
- Advanced filtering and search functionalities to refine product exploration.
- Fully functional cart and checkout system with responsive updates.
- Modular and reusable components for scalability

**Self-Validation Checklist**

Frontend Component	Status
Dynamic Product Listing	✓
Product Detail Page Functionality	✓
Category Filter Component	✓
Search Bar Functionality	✓
Cart Functionality (Add/Remove)	✓
Checkout Workflow and Login/SignUp	✗

Styling and Responsiveness	Status
Responsive Grid Layout	✓
Consistent UI Design	✓
Mobile Responsiveness	✓

Code Quality	Status
Modular and reusable components	✓
Clean and commented code	✓
Optimized for performance	✓

Documentation	Status
Component Documentation	✓
Steps for Setup	✓
Code Comments	✓

Documentation	Status
Full Functionality Testing	✓
UI/UX Review	✓
Bug-Free Development	✓

**Conclusion**

The dynamic frontend components successfully enhanced the shopping experience, focusing on responsive layouts and user-friendly interactions. All features were tested for functionality and responsiveness, aligning with professional standards for e-commerce projects.