

Lab Work 2: Product Catalog with Listing and Search

Objective

To enable listing and searching of products through a dynamic product catalog.

Steps:

1. Product Table Setup

Defined a Product model in schema.prisma with fields: id, name, category, price, description, image, createdAt

Field Name	Data Type	Details	What It Means
id	Text (ID)	Unique ID automatically created for each product	A special ID that identifies each product
name	Text	-	The product's name
category	ProductCategory	Indexed for fast searching/filtering by category	The category this product belongs to
price	Number (Float)	-	The price of the product
quantity	Number (Integer)	-	How many units of this product are available
description	Text	-	A detailed description of the product
image	Text (URL/String)	-	The image link or filename for the product
createdAt	Date & Time	Automatically set when the product is added	Records when the product was created
carts	List of Carts	Connected to user carts	Shows in which carts this product is added
reviews	List of Reviews	Connected to product reviews	All reviews given to this product
orderItems	List of Order Items	Connected to order items	All order items related to this product

2. Product Listing

- Created a server-side rendered page that fetches products from the PostgreSQL database using Prisma on the home screen.
- Displayed products in a responsive grid/card layout using Tailwind CSS.
- Each product shows an image, name, category, and price.

- Each product is a clickable element that opens up the specific product page. (/product/:productid)

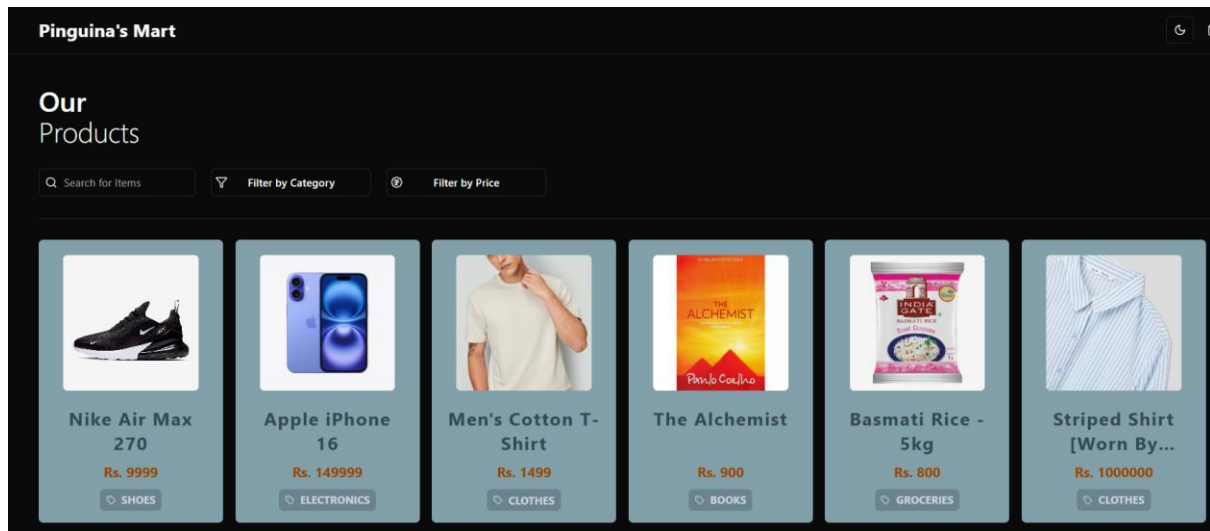


Figure 1: Product Listing

3. Product Search

- Implemented a search bar, filter by category and filter by price that filters products by name, category, and price.

Output:

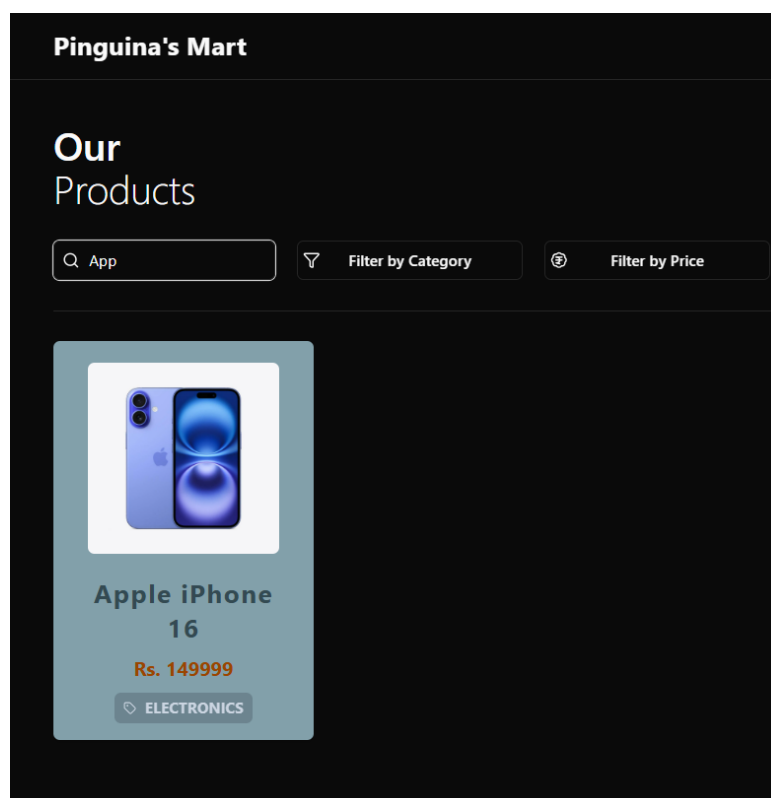


Figure 2: Product Sorting by Search

4. Product Categorization

Added predefined categories like Shoes, Electronics, Clothes, Groceries, etc. to enhance filtering and display logic.

Output:

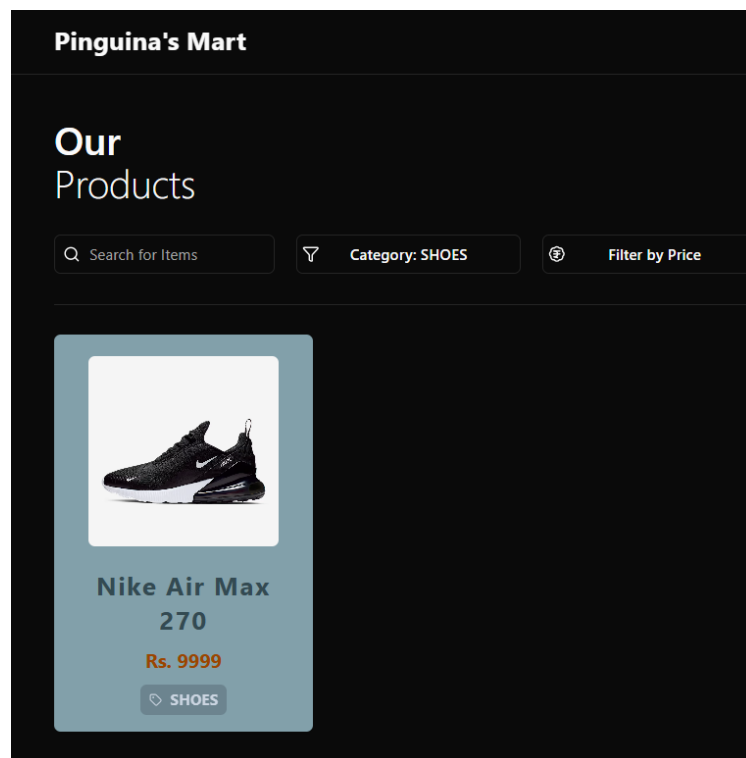


Figure 3: Product Sorting by Category

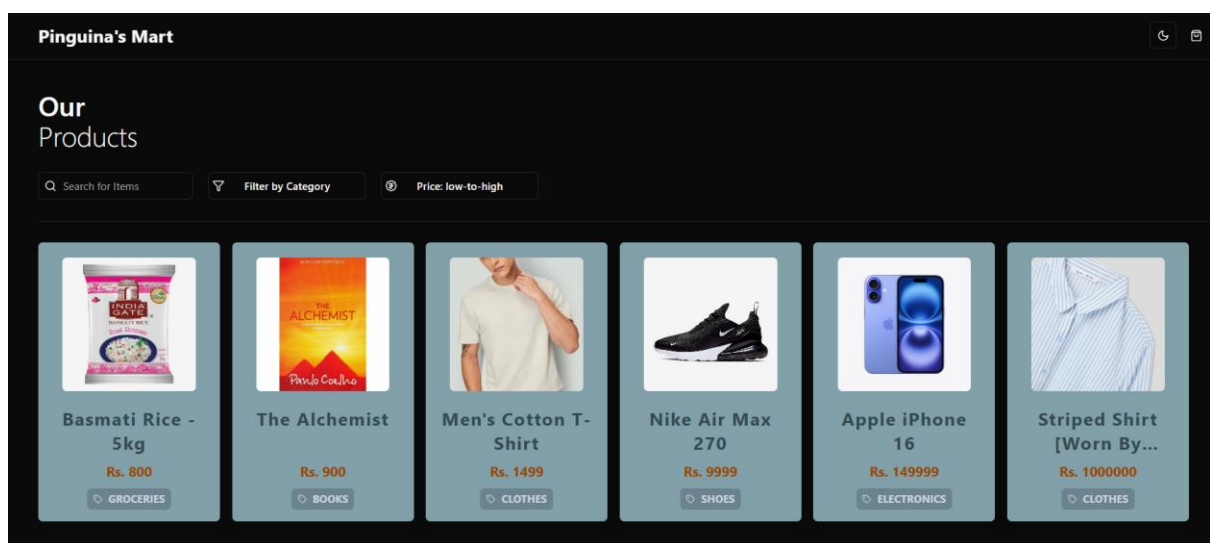


Figure 4: Product Sorting by Price (low-to-high)

Result

Created a dynamic product catalog that allows users to browse and search products by name or category, with the feature to sort by the price.