COLLEGE CODE	: 9623
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DATE	: 15/10/2025

Completed the project named as

Phase 5: PROJECT DEMONSTRATION AND DOCUMENTATION

NAME : Product Catalog With Filters

SUBMITTED BY,

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■ Phase 5 — Project Demonstration & Documentation

■ 1. Final Demo Walkthrough

This demo showcases the entire working of the Product Catalog with Filters application.

Demo Highlights:

- Landing page displays all products.
- Users can search products by name or keyword.
- Filters: Category, Price Range, Brand, Rating.
- Sorting: Price (Low→High, High→Low), Rating.
- Clear Filters resets all.
- Responsive layout.
- Error handling for ‘No Products Found’.

■ 2. Project Report

Objective: Build a dynamic catalog with multi-filter and search capabilities.

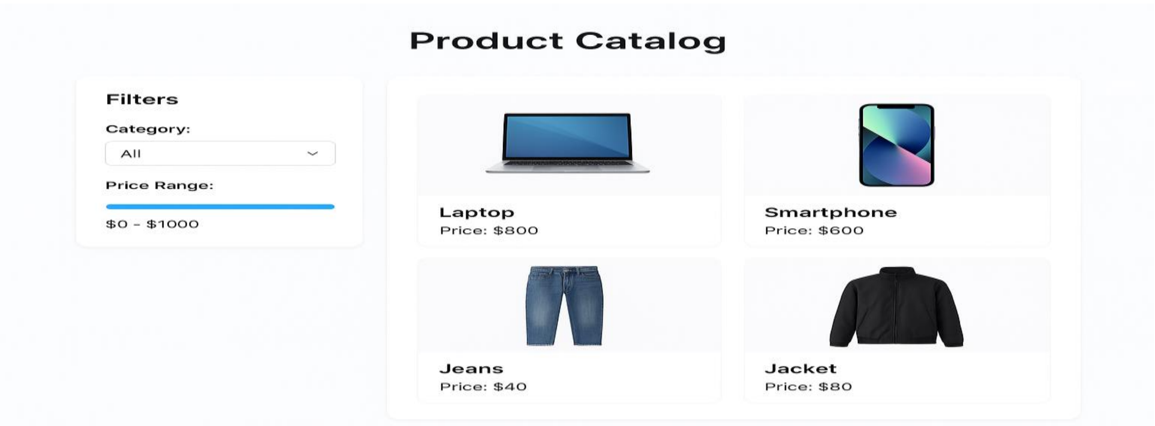
Key Features:

Dynamic filtering, real-time search, sorting, responsive UI, REST API integration, error handling.

Tech Stack: React.js, Tailwind CSS, Node.js, Express.js, MongoDB / JSON Server

■■ 3. Screenshots / API Documentation

Given below Included screenshots of homepage, filters in action, search results, backend console, and GitHub repository.



Product Catalog

Filters

Category: All

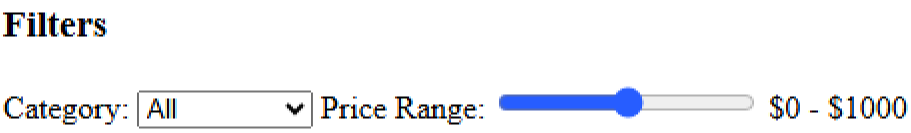
Price Range: $0 - $1000

Laptop
Price: $800

Smartphone
Price: $600

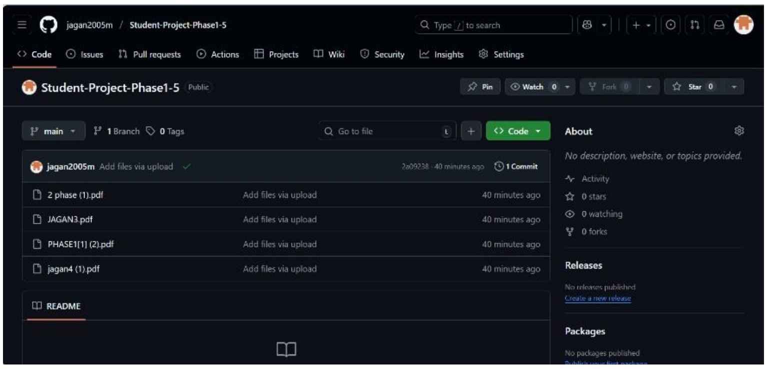
Jeans
Price: $40

Jacket
Price: $80



Filters

Category: All ▾ Price Range: $0 - $1000



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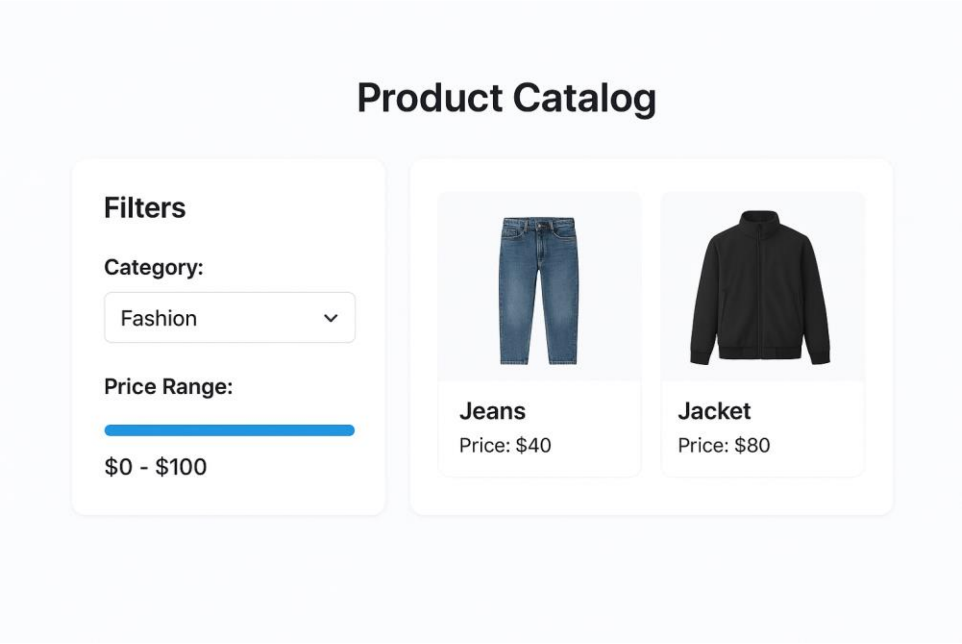

Product Catalog

Filters

Category:

Fashion ▾

Price Range:

$0 - $100

Jeans
Price: $40

Jacket
Price: $80

Endpoint	Method	Description
/api/products	GET	Fetch all products
/api/products?category=	GET	Filter products by category
/api/products?price_gte=&price_lte=	GET	Filter products by price range
/api/products?search=	GET	Search products by keyword
/api/products?sort=	GET	Sort products by price/rating

■■ 4. Challenges & Solutions

Challenge	Solution
Combining multiple filters	Used query parameters with conditional logic
State management	Implemented global state using React Hooks
No results scenario	Added conditional rendering with alert message
Frontend-backend sync	Used useEffect dependencies to trigger updates
Deployment issues	Used Vercel (frontend) and Render (backend)

■ 5. GitHub README & Setup Guide

README should include:

- Overview
- Tech Stack
- Features
- Folder Structure
- Setup Instructions:

```
git clone <repo-url> cd frontend && npm install cd ../backend && npm install npm run dev npm start
```

- Deployed Links (Frontend + Backend)
- Screenshots

■ 6. GITHUB LINK

■ GitHub Link : https://github.com/mathesh001i/Mathesh

■ Repository Link : https://mathesh-iota.vercel.app/