

Project Report

Nova Mart E-commerce Storefront

Abstract

Nova Mart project focuses on developing a full-stack e-commerce platform with both customer-facing and admin functionalities. The solution provides product catalog, shopping cart, checkout using Stripe payment gateway, and an admin dashboard for inventory and order management. The system ensures a smooth shopping experience while giving admins control over products and users.

Introduction

E-commerce has become a crucial part of modern business, enabling users to shop online conveniently. This project demonstrates the implementation of a complete e-commerce solution using Next.js for the frontend, MongoDB for the database, and Stripe for payment processing. The system also includes JWT-based authentication, role-based access control, and an admin panel for managing operations. The system is designed to provide a seamless shopping experience for users while enabling administrators to manage product data efficiently.

Tools & Technologies Used

Technology	Purpose
Next.js	Frontend framework for building UI and routing
MongoDB	Database for storing users, products, and orders
Stripe	Payment gateway for handling secure transactions
Tailwind CSS	Styling framework for responsive UI design
JWT (JSON Web Token)	Authentication and secure user sessions
Node.js API Routes	Backend endpoints for handling requests

Steps Involved in Building the Project

1. Setting up Next.js project with Tailwind CSS integration.
2. Creating MongoDB models for Users, Products, and Orders.
3. Implementing JWT authentication and role-based login system.
4. Developing product catalog with search and filtering options.
5. Building shopping cart with add/remove functionality.
6. Integrating Stripe for secure payment processing in test mode.
7. Creating admin dashboard to manage products and orders.
8. Testing the system for various user and admin use cases.

Conclusion

The e-commerce storefront with an admin panel successfully integrates modern web technologies to deliver a scalable and efficient online shopping solution. By combining Next.js, MongoDB, and Stripe, the system provides a reliable solution for both customers and administrators. The project demonstrates practical knowledge in full-stack development, authentication, database management, and payment integration. Future improvements could include email notifications, AI-based product recommendations, and enhanced security features.