SHOPEZ – E-Commerce Website Using MERN Stack

PROJECT REPORT

Submitted by

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Technology: MERN Stack

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Abstract

SHOPEZ is a full-stack e-commerce web application developed using the MERN stack (MongoDB, Express.js, React.js, and Node.js). The platform allows users to browse products, add items to the cart, and place orders online. Administrators can manage products, users, and orders through a secure admin dashboard. The goal of SHOPEZ is to provide a scalable, secure, and user-friendly online shopping experience.

Introduction

E-commerce has transformed the way people shop by providing convenience and accessibility. SHOPEZ is designed to overcome the limitations of traditional shopping by offering a digital platform where users can purchase products anytime and from anywhere.

Objectives of the Project

- To develop a full-stack e-commerce application using MERN stack
- To provide secure user authentication
- To enable easy product browsing and ordering
- To allow admins to manage products and orders
- To build a scalable and efficient system

Scope of the Project

The scope includes frontend development using React, backend APIs using Node.js and Express, and database management using MongoDB. Payment is implemented as a dummy module.

Existing System

The existing system involves manual shopping where customers must visit physical stores. Inventory management is manual and time-consuming.

Proposed System

The proposed system is an online e-commerce platform where users can shop digitally. It provides centralized data management and secure authentication.

System Architecture

SHOPEZ follows a three-tier architecture:

- Presentation Layer – React.js
- Application Layer – Node.js & Express.js
- Database Layer – MongoDB

Technology Stack

Frontend: React.js, HTML, CSS, JavaScript
Backend: Node.js, Express.js
Database: MongoDB
Authentication: JWT
Tools: VS Code, Postman, GitHub

Module Description

User Module:

- Registration and Login
- View Products
- Add to Cart
- Place Orders

Admin Module:

- Admin Login
- Add/Edit/Delete Products
- View and Manage Orders

Database Design

Collections used:

- Users
- Products
- Orders
- Cart

Implementation Details

React is used for building UI components. Express.js handles API requests. MongoDB stores application data. JWT is used for authentication.

Testing

Testing is done using Postman for APIs and manual testing for frontend functionality.

Advantages of the System

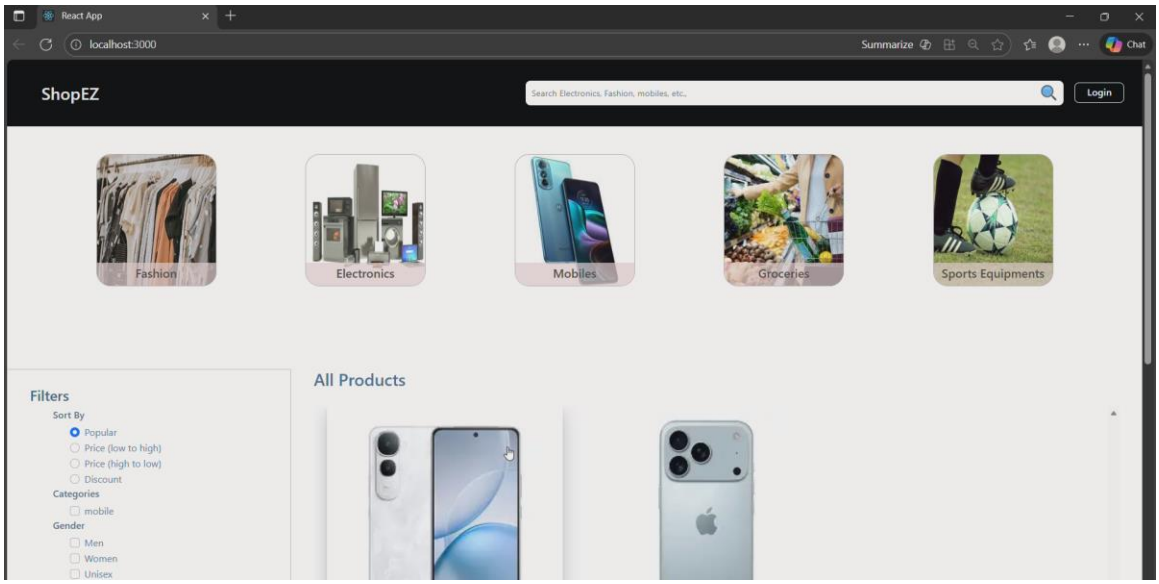
- Easy online shopping
- Time-saving
- Secure login system
- Scalable architecture

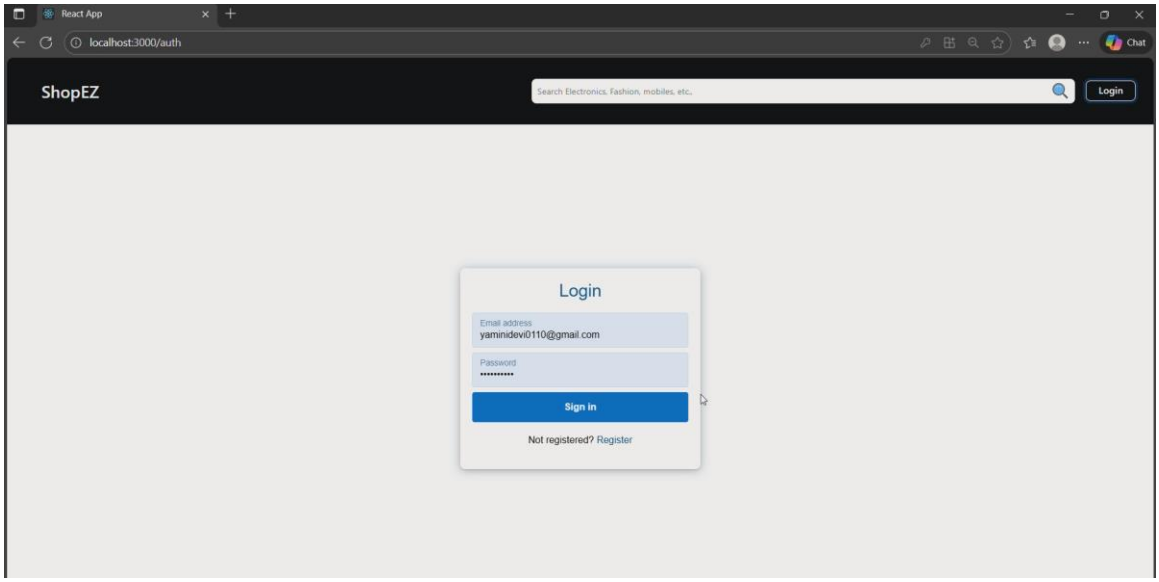
Future Enhancements

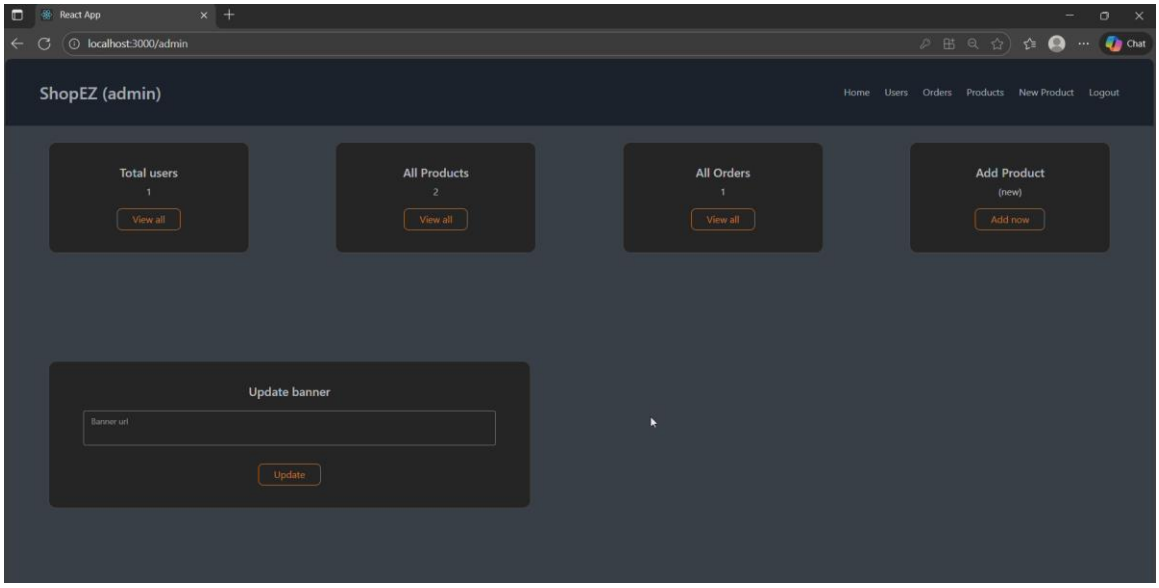
- Payment gateway integration
- Order tracking
- Product reviews and ratings
- Mobile application support

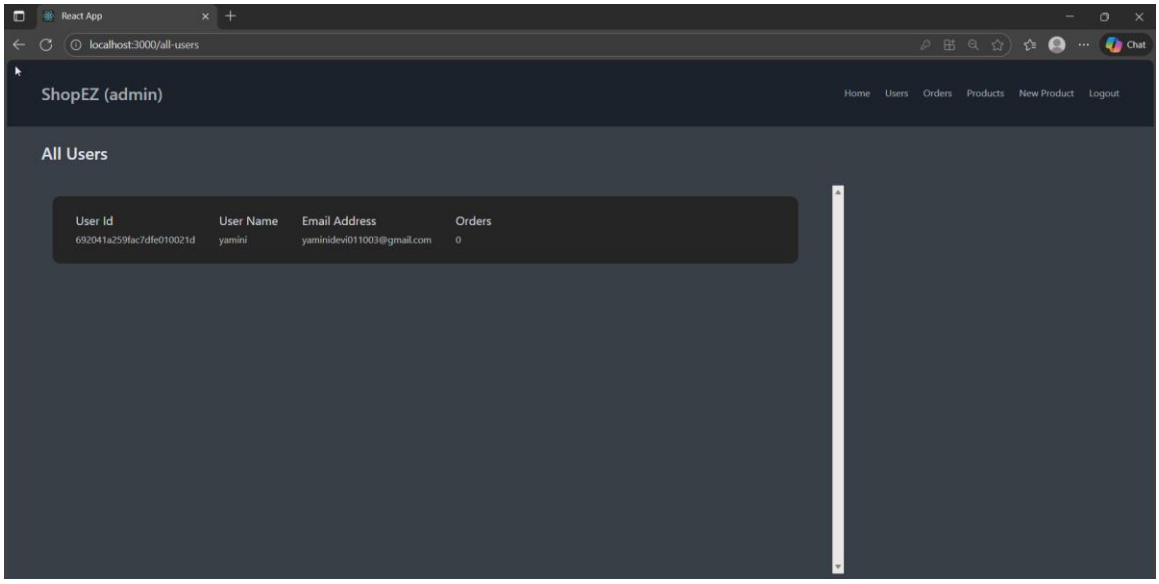
Output

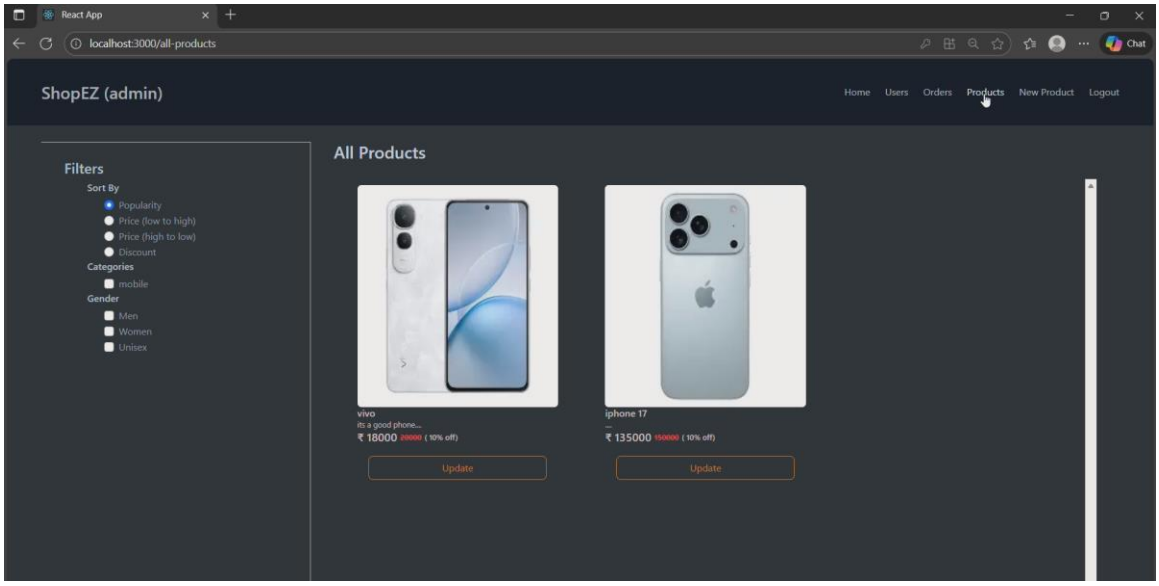
Screenshots of the SHOPEZ application interfaces.

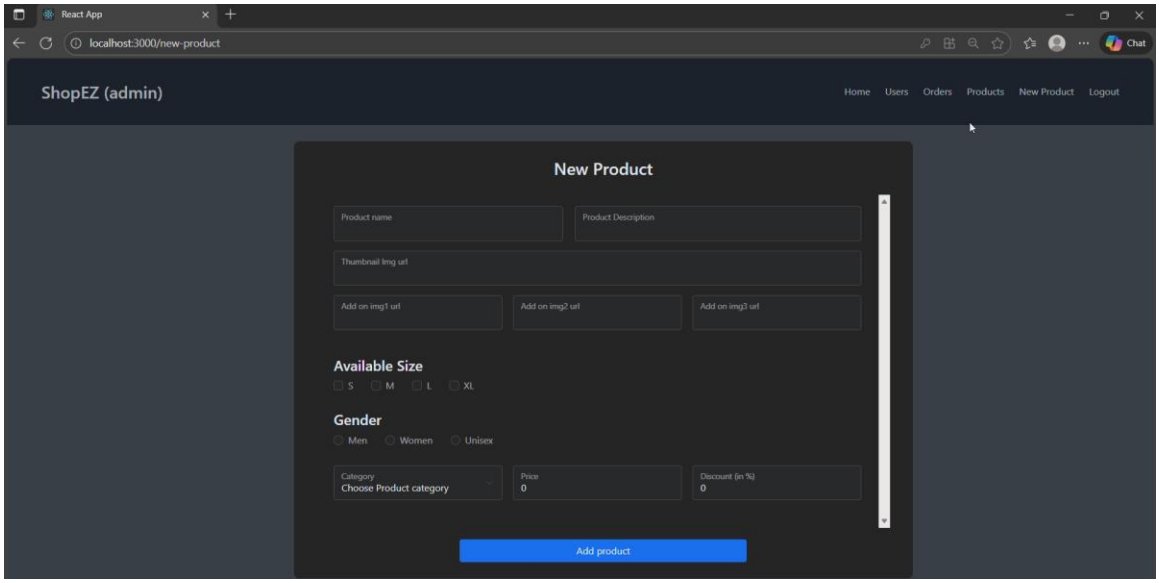

React App
localhost:3000
Summarize
Chat
ShopEZ
Search Electronics, Fashion, mobiles, etc.
Login
Fashion
Electronics
Mobiles
Groceries
Sports Equipments
Filters
Sort By
Popular
Price (low to high)
Price (high to low)
Discount
Categories
mobile
Gender
Men
Women
Unisex
All Products

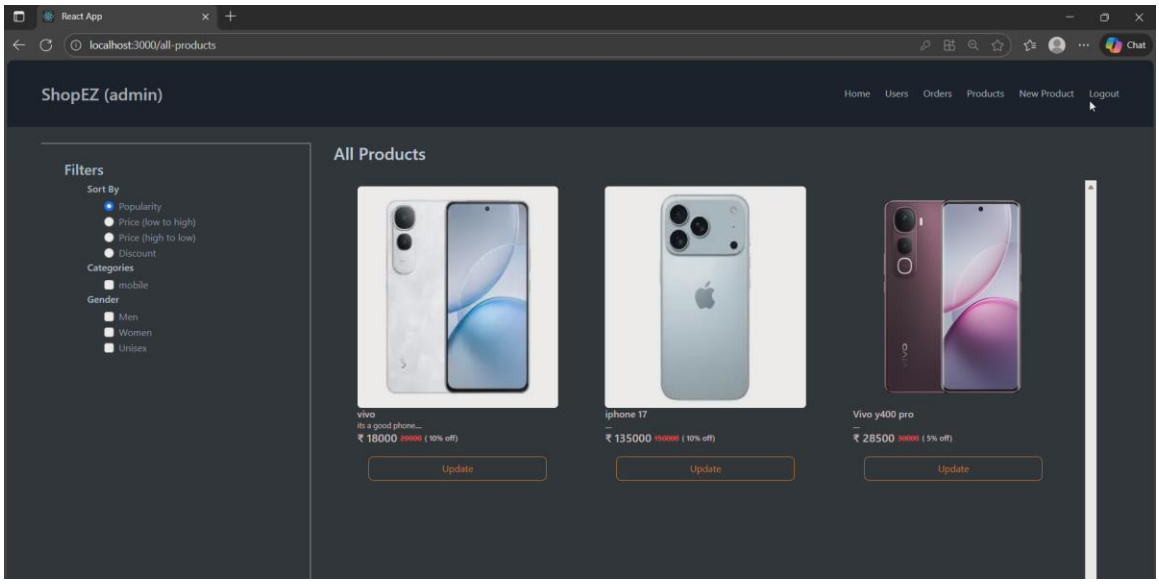

React App
localhost:3000/auth
Chat
ShopEZ
Search Electronics, Fashion, mobiles, etc.
Login
Login
Email address
yaminidevi0110@gmail.com
Password
Sign in
Not registered? Register

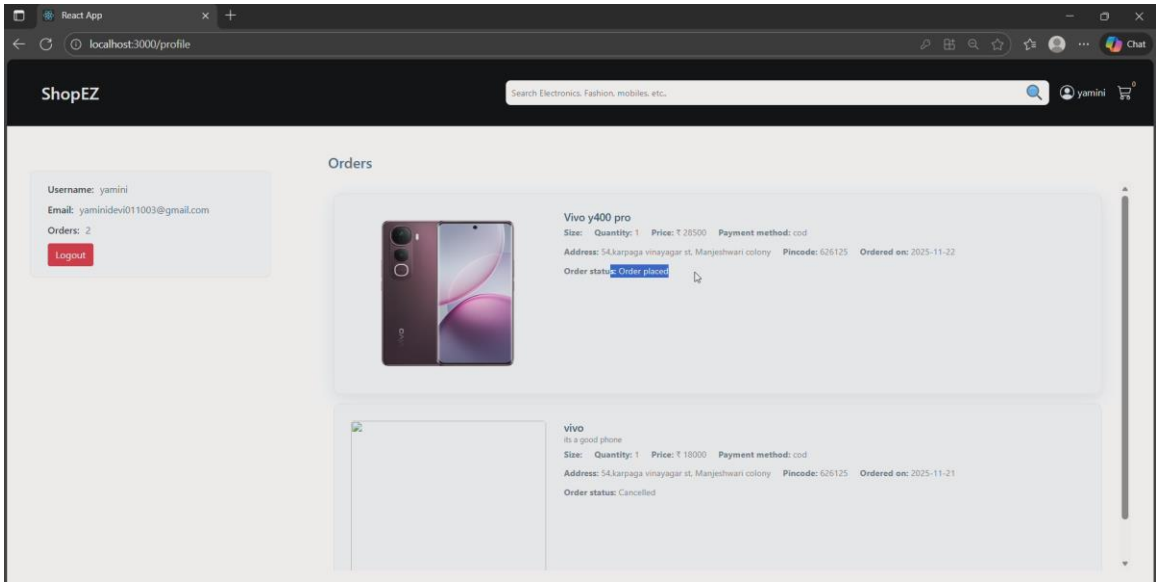

React App
localhost:3000/admin
Chat
ShopEZ (admin)
Home
Users
Orders
Products
New Product
Logout
Total users
1
View all
All Products
2
View all
All Orders
1
View all
Add Product
(new)
Add now
Update banner
Banner url
Update


React App
localhost:3000/all-users
Chat
ShopEZ (admin)
Home
Users
Orders
Products
New Product
Logout
All Users
User Id
User Name
Email Address
Orders
692041a259fac7dfe010021d
yamini
yaminidevi011003@gmail.com
0


React App
localhost:3000/all-products
Chat
ShopEZ (admin)
Home
Users
Orders
Products
New Product
Logout
Filters
Sort By
Popularity
Price (low to high)
Price (high to low)
Discount
Categories
mobile
Gender
Men
Women
Unisex
All Products
vivo
its a good phone...
₹ 18000 20000 (10% off)
Update
iphone 17
...
₹ 135000 150000 (10% off)
Update


React App
localhost:3000/new-product
Chat
ShopEZ (admin)
Home
Users
Orders
Products
New Product
Logout
New Product
Product name
Product Description
Thumbnail Img url
Add on img1 url
Add on img2 url
Add on img3 url
Available Size
S
M
L
XL
Gender
Men
Women
Unisex
Category
Choose Product category
Price
0
Discount (in %)
0
Add product





Conclusion

SHOPEZ is a complete MERN stack e-commerce application that demonstrates full-stack development skills. It provides a strong foundation for real-world e-commerce platforms.