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Outline

- Introduction
- Motivation & Importance
- Features
- Methodology
- Challenges & Achievements
- Future Work

Introduction

The **E-Store Project** is a comprehensive e-commerce platform designed to provide a modern, cost-effective, and scalable solution for small businesses. Motivated by the high rental costs of traditional shops in Qabatiya and the growing demand for online shopping, this system enables store owners to showcase and manage their products digitally while reaching customers across the West Bank and beyond.

What is E-store?

E-Store is a web and mobile application that:

- Offers a dynamic product catalog with advanced search and filtering.
- Provides an integrated admin panel for managing products, orders, customers, and reviews.
- Enhances user experience through shopping cart, location-based services, push notifications, and AI-powered recommendations.
- Reduces operational costs while expanding the customer base beyond geographical limitations.
- Ensures scalability and flexibility, supporting future integration with online payments, automated shipping, and intelligent analytics.

In short, **E-Store bridges the gap between traditional markets and digital commerce, offering a practical, secure, and adaptable platform for the Palestinian market.**

Motivation and Importance

The motivation behind the **E-Store Project** stems from the increasing costs of establishing and maintaining traditional shops, especially in Qabatiya, and the need for more practical and modern solutions for small businesses. Many customers also face difficulties such as comparing prices across markets, forgetting their shopping lists, or being limited by geographical distance from stores.

The importance of this project lies in its ability to:

- Provide a cost-effective digital alternative to physical shops.
- Expand the customer base beyond local markets, covering the entire West Bank.
- **Simplified Customer Experience:** The customer deals with a single entity throughout the purchasing and delivery process, as the same company handles the entire operation.
- **Future Expansion:** There is an intention to expand beyond the local market in the future stages.

Methodology

1. Technologies & Tools

- **Frontend:** React.js for dynamic web interfaces, and React Native for mobile applications.
- **Backend:** Node.js with Express.js to build robust and flexible APIs.
- **Database:** MySQL with Sequelize ORM for secure and flexible data management.
- **Security:** JWT (JSON Web Tokens) for user authentication and secure access control.
- **Integrations:** AI-powered recommendations, SMTP (emails & notifications)
- **Additional Tools:** Git/GitHub (version control), Postman (API testing), Expo Go (mobile testing), XAMPP (local server), VS Code
- **System Architecture:** frontend, backend, and database. The system architecture was designed to illustrate
- **Database Design:** ER Diagrams were utilized to create an efficient and well-structured database supporting all system functionalities

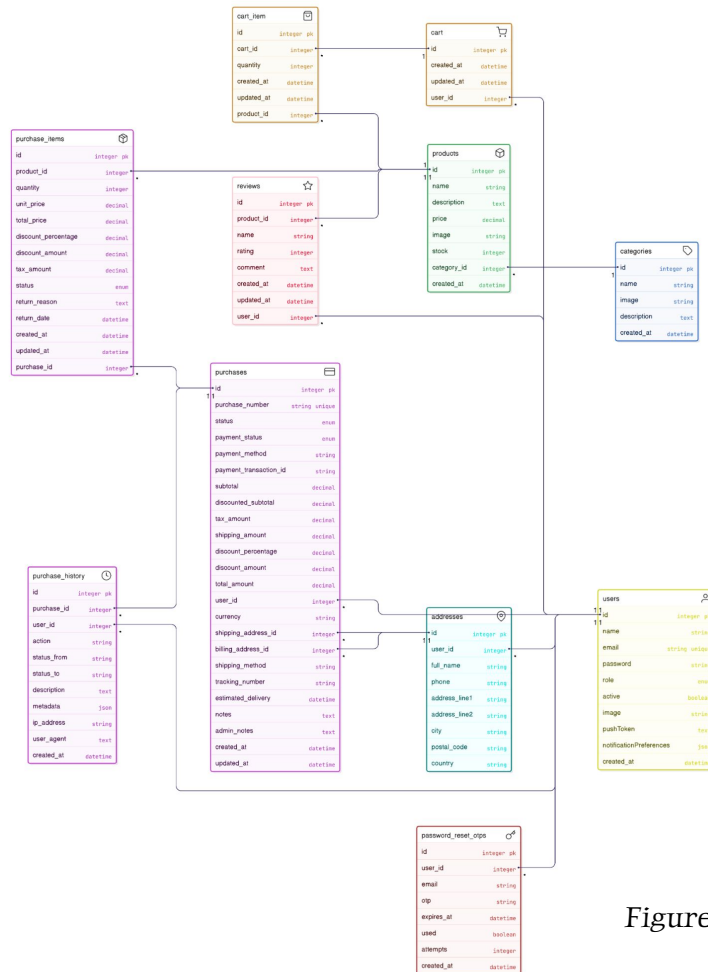


Figure 16:ER Diagram for my database.

2. Implementation Steps

1. **Requirement Analysis:** Gathering and analyzing user and system requirements.
2. **System Design:** Creating diagrams, designing the database, and developing user interfaces.
3. **Development:** Implementing frontend and backend code and integrating the database.
4. **Testing:** Performing functional and performance testing to ensure quality and reliability.
5. **Deployment:** Deploying the system to a production environment and preparing it for real-world use.

Features

1. Admin Features

- **Dashboard:** A comprehensive control panel displaying key statistics and system data.

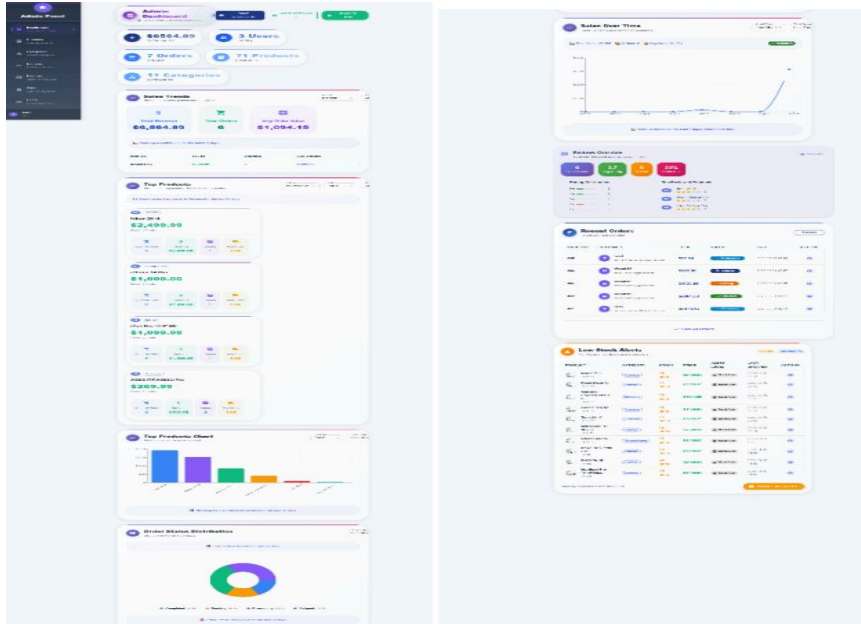


Figure 1:Dashboard Page.

- **Products Management:** Add, update, delete, and view product details efficiently.

Products Management

EXPORT EXCEL ADD PRODUCT BACK TO HOME

Search Products
Search by name or descript Category Filter Oldest First CLEAR FILTERS 20 of 71 (Page 1 of 4)

ID	Image	Name	Description	Price	Stock	Category	Added At	Actions
82		iPhone 15 Pro Max	Latest Apple iPhone with A17 Pro chip, 48MP camera, titanium design	\$1199.99	22	Smartphones	2024-01-10 11:00	
84		Google Pixel 8 Pro	Best camera phone with AI features, Google Tensor G3	\$999.99	20	Smartphones	2024-01-10 11:00	
85		OnePlus 12	Fast performance, Hasselblad camera, 100W charging	\$799.99	34	Smartphones	2024-01-10 11:00	
86		MacBook Pro 16" M3 Max	Professional laptop with M3 Max chip, 32GB RAM, 1TB SSD	\$3499.99	15	Laptops	2024-01-10 11:00	
87		Dell XPS 15	Premium Windows laptop, Intel i9, RTX 4070, 32GB RAM	\$2499.99	20	Laptops	2024-01-10 11:00	

Figure 2 : Products page For Admin.

- **Categories Management:** Organize and manage different categories.

The screenshot displays the 'Categories Management' interface. On the left is a dark sidebar with the 'Admin Panel' header and navigation links: Dashboard (Overview & Analytics), Products (Manage Inventory), Categories (Product Categories), Banners (Marketing Banners), Reviews (Customer Feedback), Orders (Order Management), and Users (User Management). The 'Categories' link is highlighted. The main content area has a light blue header with the title 'Categories Management', an 'EXPORT EXCEL' button, an 'ADD CATEGORY' button, and a 'BACK TO HOME' button. Below the header is a search bar with the placeholder 'Search by name or description...' and a result count of '11 of 11 categories'. The main area contains a table with the following data:

ID	Image	Name	Description	Created At	Actions
1		Smartphones	Latest smartphones and mobile devices	2024-01-10 11:00	
2		Laptops	Professional and gaming laptops	2024-01-10 11:00	
3		Tablets	iPads and Android tablets	2024-01-10 11:00	
4		Accessories	Phone cases, chargers, cables	2024-01-10 11:00	
5		Audio	Headphones, speakers, earbuds	2024-01-10 11:00	
6		Gaming	Gaming consoles and accessories	2024-01-10 11:00	

Figure 3 :Categories page For Admin.

- **Orders Management:** Track and process orders, monitor order statuses.

Orders Management

PRINT REPORT REFRESH DATA BACK TO HOME

Advanced Filters
Filter purchases by status, payment, and date range

Purchase Status Payment Status Start Date mm/dd/yyyy End Date mm/dd/yyyy

ORDER #	CUSTOMER	STATUS	PAYMENT	ORIGINAL PRICE	DISCOUNT	SHIPPING METHOD	FINAL TOTAL	ITEMS	DATE	ACTIONS
PUR-20250831-1164	test9	Processing	Pending	\$69.99	\$3.50 (5.00% off)	Express +\$15.00	\$87.14	1 items	2025-08-31 12:58	[Icons]
PUR-20250831-8585	Mosab12	Shipped	Pending	\$129.99	\$6.50 (5.00% off)	Standard +\$0.00	\$133.99	1 items	2025-08-31 12:57	[Icons]
PUR-20250831-9537	Mosab12	Pending	Paid	\$1099.99	\$55.00 (5.00% off)	Standard +\$0.00	\$1133.81	1 items	2025-08-31 12:55	[Icons]
PUR-20250831-6827	Mosab12	Delivered	Paid	\$2000.00	\$100.00 (5.00% off)	Standard +\$0.00	\$2061.50	1 items	2025-08-31 12:55	[Icons]
PUR-20250831-2018	test9	Processing	Paid	\$2769.98	\$138.50 (5.00% off)	Express +\$15.00	\$2870.16	2 items	2025-08-31 12:53	[Icons]

Figure 4 :Orders Management.

- **Users Management:** Manage user accounts and assign appropriate permissions.

The screenshot displays the 'Users Management' interface. On the left is a dark sidebar with an 'Admin Panel' header and a menu including Dashboard, Products, Categories, Banners, Reviews, and Orders. The 'Users' menu item is highlighted. The main content area has a light blue header with the title 'Users Management' and buttons for 'EXPORT EXCEL', 'ADD USER', and 'BACK TO HOME'. Below the header is a search and filter section with a search bar, 'Rv.' and 'Sc.' buttons, 'From Date' and 'To Date' date pickers, a 'CLEAR' button, and a summary '3 of 3 users (Page 1 of 1)'. The main area contains a table with the following data:

Image	ID	Name	Email	Role	Status	Created At	Actions
	19	test9	ahmadwnabhan2023@gmail.com	user	active	8/21/2025	
	18	Mosab12	mos3b h2017@gmail.com	user	active	8/18/2025	
	13	Rami	om.mos3b99@gmail.com	admin	Always Active	8/3/2025	

Figure 5:Users page.

- **Reviews Management:** Monitor, approve, or remove customer reviews and ratings.

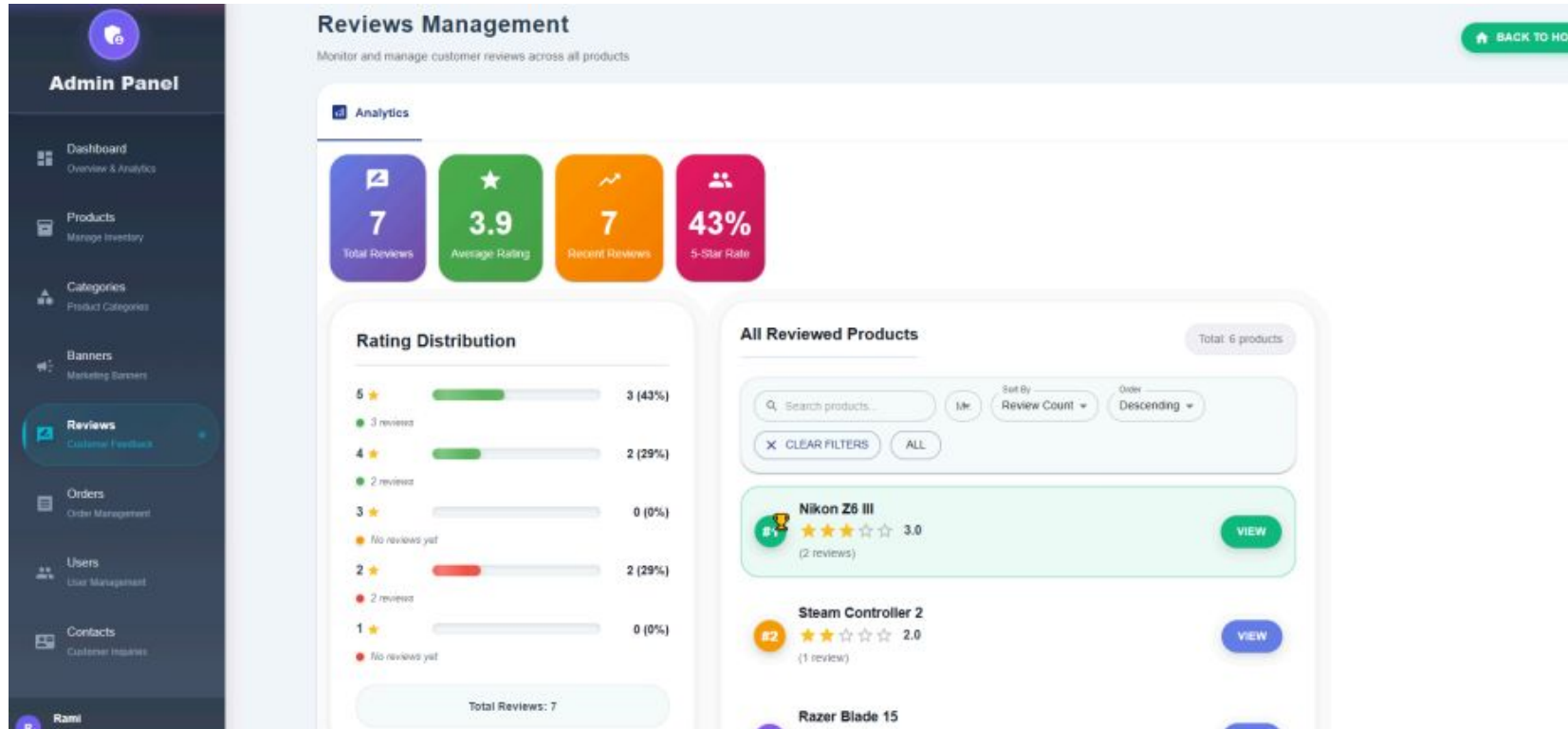


Figure 6 :Reviews page.

- **Banners Management:** Add, edit, and manage promotional banners within the system.

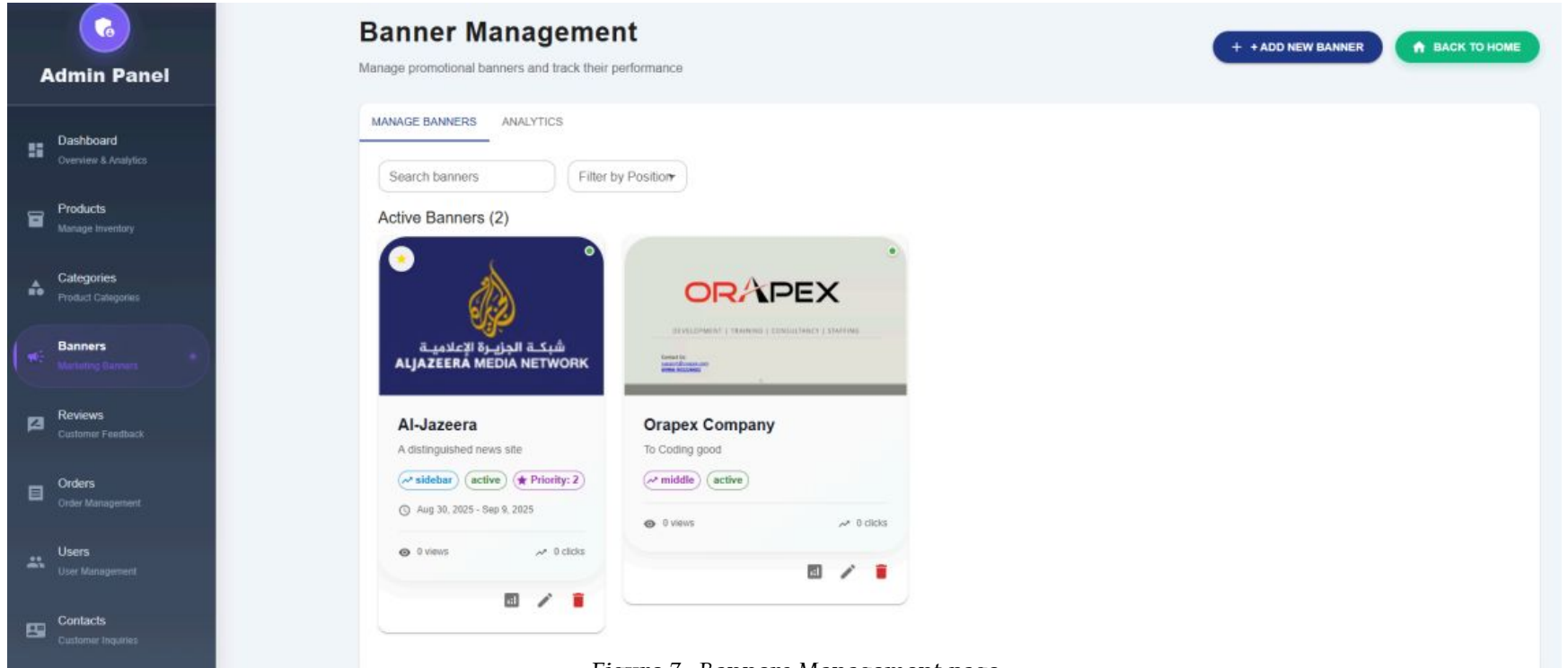


Figure 7 : Banners Management page.

2. User Features

- **Authentication:** Secure login and registration system for users.

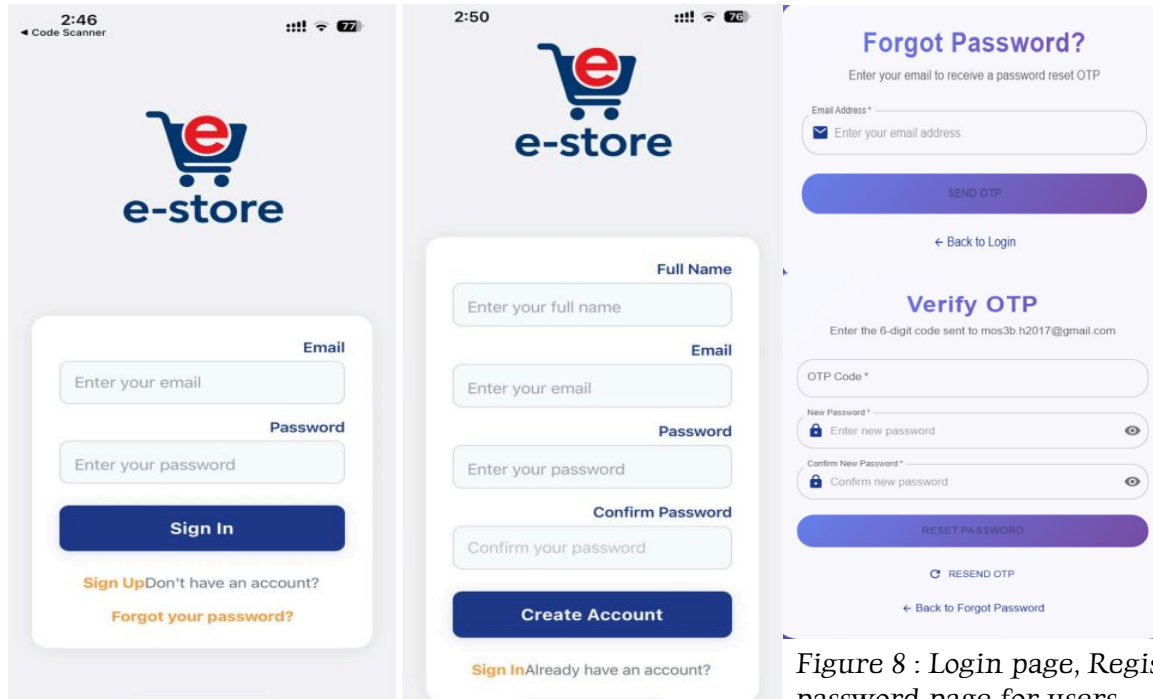


Figure 8 : Login page, Registration page and forgot password page for users.

- **Browse Products:** Explore products with detailed information and search functionality.

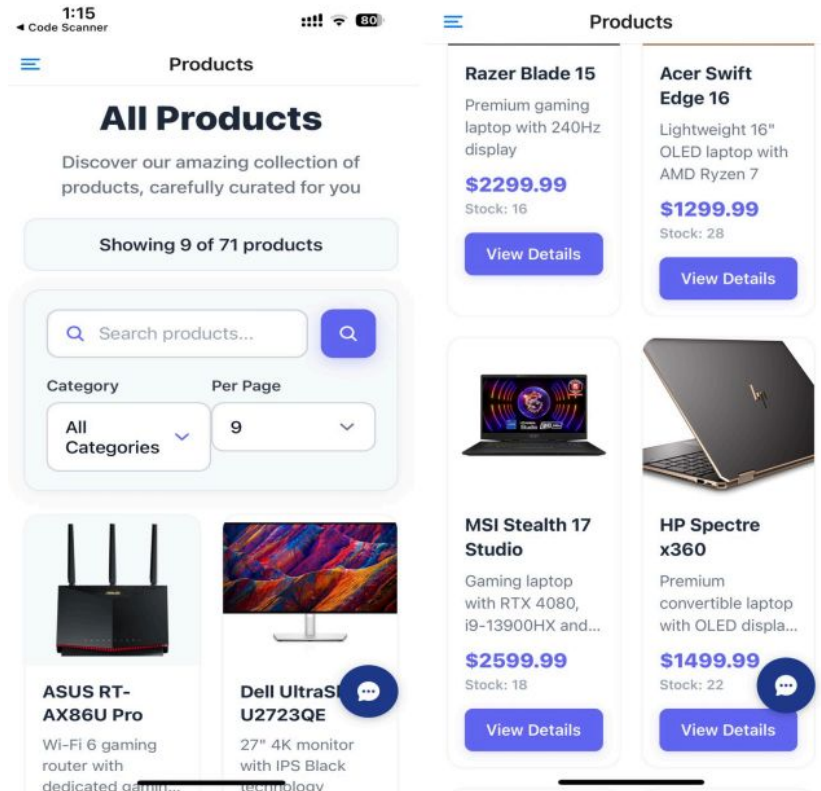


Figure 9 :Products page For Users (from mobile app).

- **Orders** : Track Orders

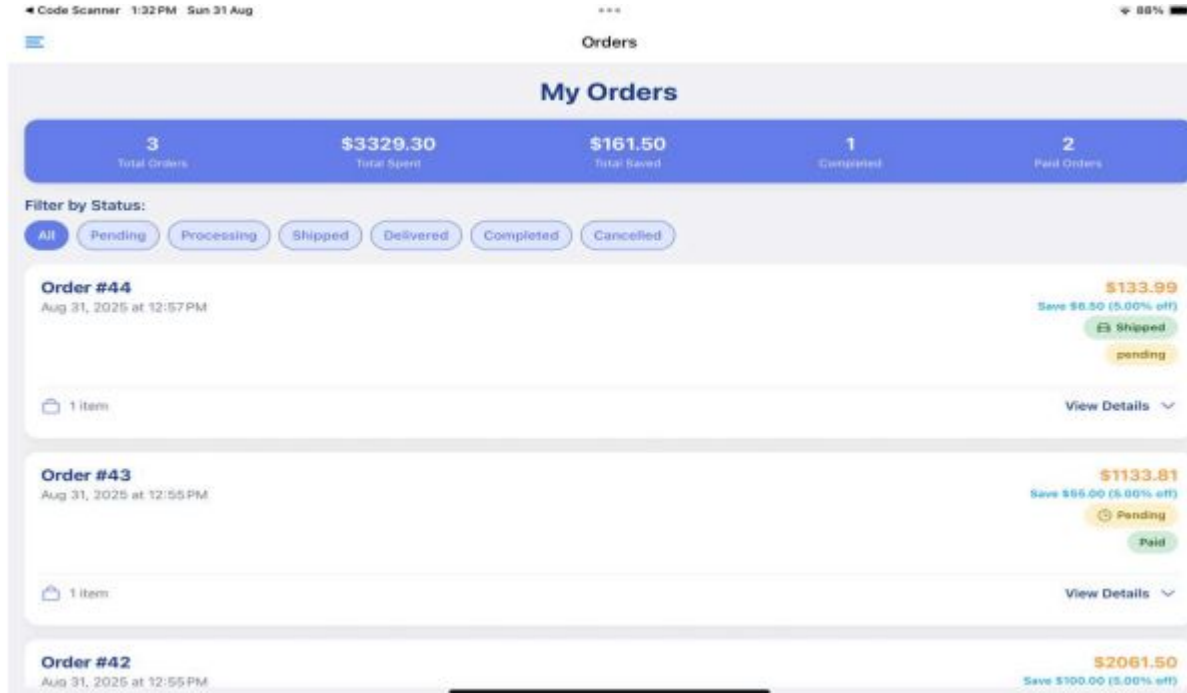


Figure 10: Order page for Users (from mobile app).

- **Cart:** Add items to the cart and complete orders smoothly

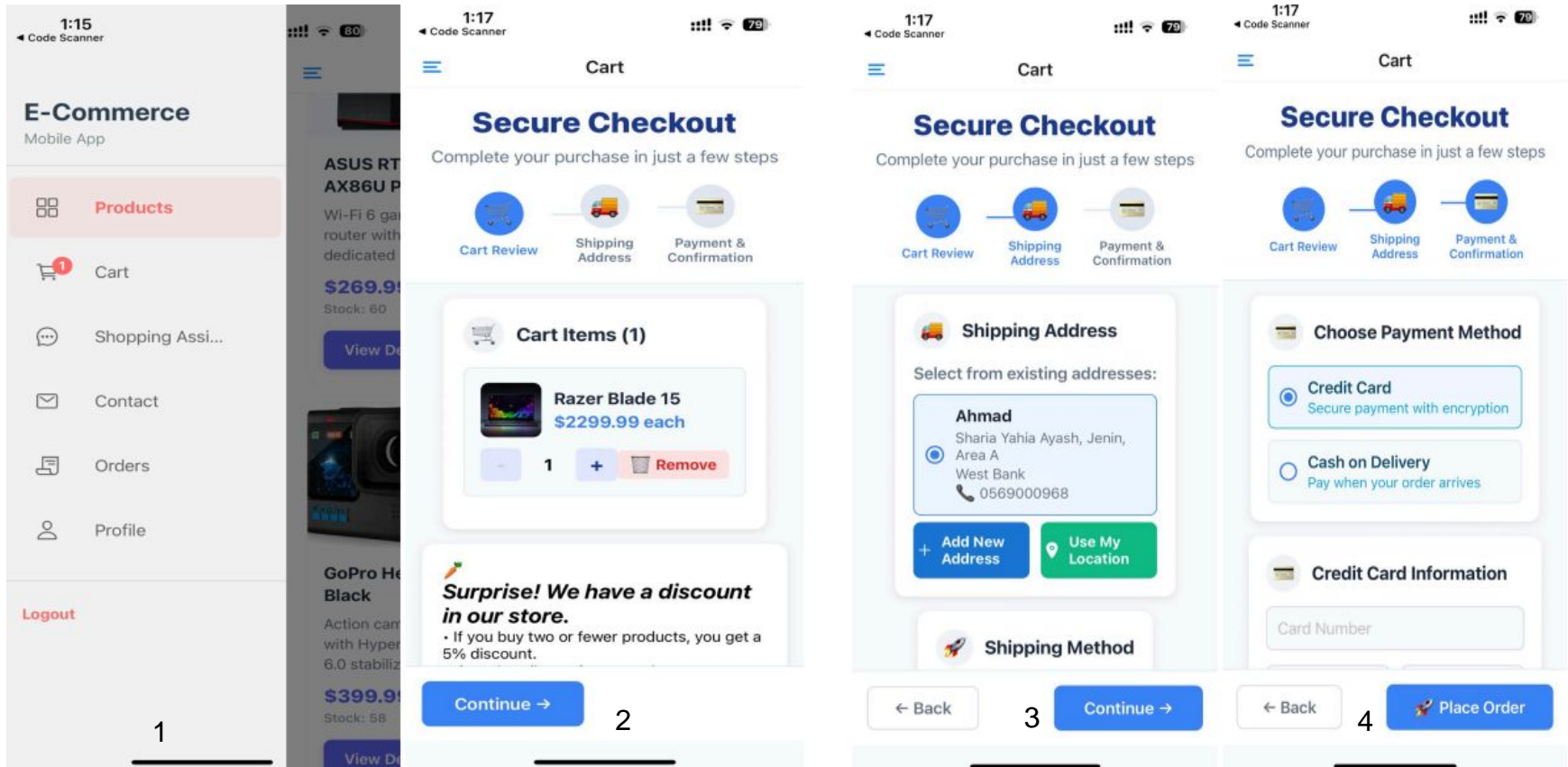


Figure 11: Cart page for Users (from mobile app).



- **Map Integration:** Display store locations or delivery status on an interactive map.
leaf let



Figure 12: Select Your Location page for Users (from mobile app.).

- **Notifications:** Receive real-time notifications about orders, offers, and updates.

3:10 PM Sun 31 Aug 87%

 **Order Status Updated!**  now

Your order #PUR-20250831-9537 status has changed from pending to processing

My Orders

3
Total Orders

\$3329.30
Total Spent

\$161.50
Total Saved


2
Completed



2
Paid Orders

Filter by Status:

All Pending Processing Shipped Delivered Completed Cancelled

Order #44
Aug 31, 2025 at 12:57 PM

\$133.99
Save \$6.50 (5.00% off)
 Delivered
pending

 1 item[View Details](#) 

Order #43
Aug 31, 2025 at 12:55 PM


\$1133.81
Save \$55.00 (5.00% off)
 Pending
Paid

Figure 13: Push Notifications.

- **AI Assistant:** An intelligent assistant to support shopping and user inquiries.

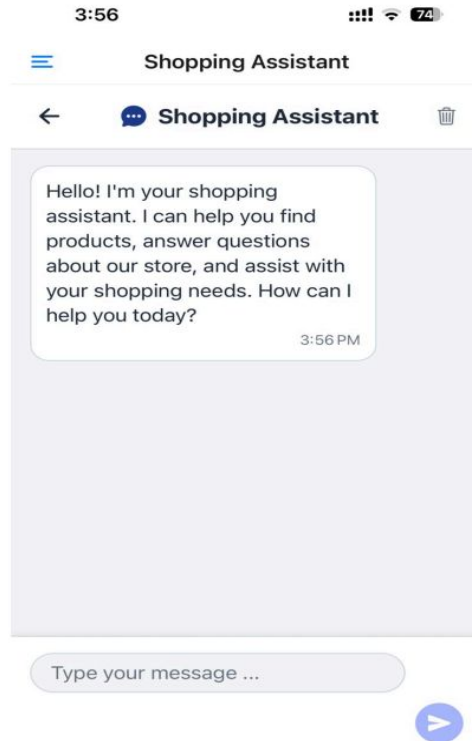


Figure 14: Shopping Assistant page for Users (from mobile app).

- **Profile Management:** Update and manage personal account information.

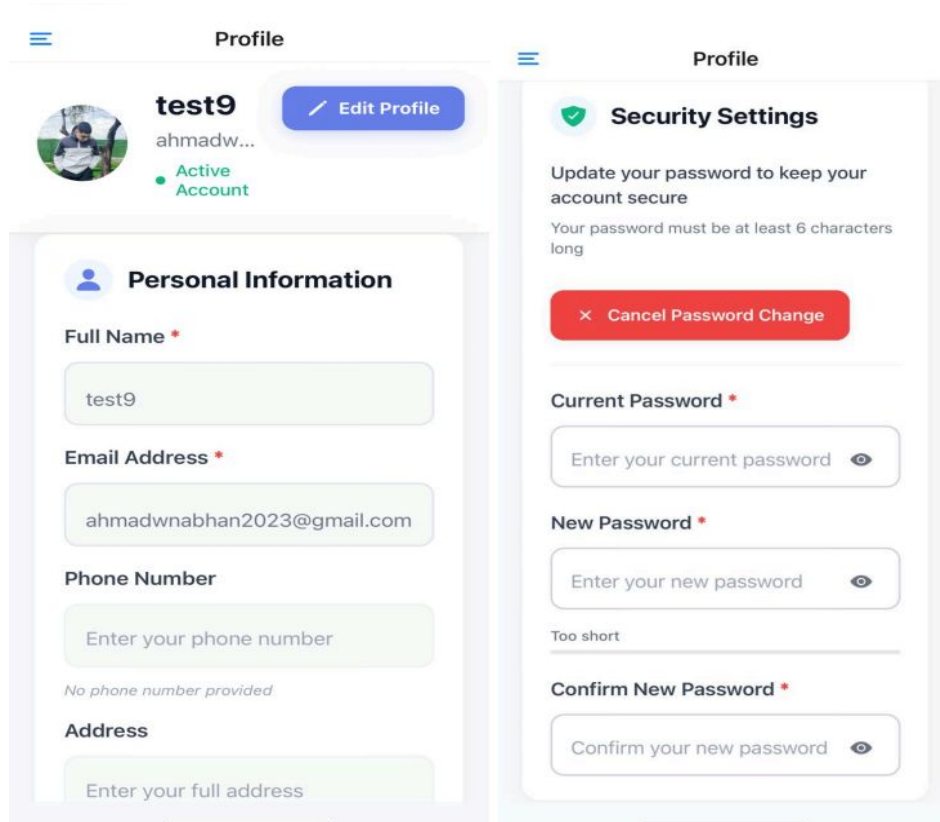


Figure 15: Profile page for Users (from mobile app).

Challenges & Achievements

1. Challenges

- Time Constraints: The available time was not sufficient to build a fully integrated commercial system for the job market, as such systems usually require a long period of testing and development.
- Clean Code Principles: Adhering to clean code principles was challenging at the beginning due to limited programming experience, which led to developing some features without fully following those principles.
- Integration with External Systems: There were difficulties in integrating with other systems, particularly regarding electronic payment methods.
- Quality of Libraries: Some lower-quality libraries were used, as high-quality libraries (such as those related to Google Maps) are paid.
- **Security Concerns:** *Protecting user data and ensuring secure authentication using JWT.*
- **Cross-Platform Compatibility:** *Ensuring the application works seamlessly on both web and mobile platforms.*

2. Achievements

- **Functional Admin Panel:** Developed a comprehensive admin panel for managing products, users, orders, and categories.
- **User-Friendly Interface:** Created an intuitive and responsive UI that enhances the user experience.
- **AI Assistant Integration:** Integrated an intelligent assistant to support users and improve the shopping experience.
- **Real-Time Notifications:** Implemented real-time notifications for orders, promotions, and updates.
- **Secure & Efficient System:** Built a secure and efficient system using modern technologies such as JWT and Sequelize ORM.

Future Work

- **AI Enhancements:** *Develop advanced AI capabilities to provide more accurate product recommendations and improve the overall user experience.*
- **User Experience (UX) Improvements:** *Enhance the user interface to make interactions smoother, more intuitive, and visually appealing.*
- **Advanced Shipping Integration:** *Implement support for multiple shipping systems and advanced order tracking features.*
- **Personalization Features:** *Customize content and product suggestions based on user behavior and preferences.*
- **Mobile App Optimization:** *Improve mobile application performance and stability across all devices.*
- **Analytics & Reporting:** *Add advanced reporting and analytics tools to support management in strategic decision-making.*