

1. Project Overview

Project Name: InventoMart

Description: InventoMart is a role-based web application designed for multiple stakeholders (Customers, Retailers, and Wholesalers). The platform offers e-commerce functionalities and inventory management, allowing stakeholders to interact seamlessly.

2. Key Roles and Functionalities

1. Customer:

- Browse and purchase products from retailers.

2. Retailer:

- Manage their inventory (add/update/remove products).
- Purchase stock from wholesalers.
- Handle customer orders.

3. Wholesaler:

- Manage inventory for bulk orders.
 - Accept and process orders from retailers.
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3. Goals and Objectives

1. E-commerce Platform:

- Enable customers to shop from retailers.
- Facilitate retailers to restock inventory from wholesalers.

2. Inventory Management:

- Role-based inventory management for retailers and wholesalers.

3. Scalable System:

- A system that can adapt to additional roles and functionalities.
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4. System Architecture

Architecture: MERN (MongoDB, Express, React, Node.js)

- **Frontend:** React.js with Tailwind CSS for dynamic and responsive user interfaces.
 - **Backend:** Node.js and Express.js for handling APIs and role-based access control.
 - **Database:** MongoDB for flexible and scalable data storage.
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5. Role-Specific Features

1 Customer

- Browse retailers and their products.
- Add products to cart and checkout.

2 Retailer

- Manage inventory: Add, update, and remove products.
- Place orders with wholesalers to restock inventory.
- Fulfill customer orders.

3 Wholesaler

- Manage inventory for bulk orders.
 - Accept and process orders from retailers.
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6 API Endpoints

Authentication

- POST /api/v1/auth/register: Register a user with a specific role.
- POST /api/v1/auth/login: Login and generate a JWT token.

Products

- GET /api/v1/supplier: Fetch products suppliers based on user role and filters.
- PATCH /api/v1/supplier/updateinventory/:id : Update product details (Retailer/Wholesaler).
- GET /api/v1/supplier/showinventory/:id : show stocks and inventory (Retailer/Wholesaler).

Orders

- POST /api/orders/orderplaced: Place an order (Customer or Retailer).
 - GET /api/v1/orders/orderreceived: Fetch Received orders based on user role.
 - GET /api/v1/orders/orderhistory : Fetch order history based on user role(Customer / Retailer).
 - PUT /api/v1/orders/ updateOrderStatus :Update order status (Retailer/Wholesaler).
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8. UI Wireframes

Customer Interface

- **Home Page:** List of retailers and their products.
- **Product Page:** Product details with Add-to-Cart option.
- **Cart Page:** Items with checkout functionality.
- **Order Page:** View order history and current orders.

Retailer Dashboard

- **Order Management:** View and process customer orders.
- **Wholesale Orders:** Browse wholesalers and place orders for stock.

Wholesaler Dashboard

- **Inventory Management:** CRUD operations for products.
- **Retailer Orders:** Manage orders placed by retailers.

8. Deployment

Frontend: Netlify / Vercel

Backend: Render / Heroku

Database: MongoDB Atlas

9. Conclusion

InventoMart facilitates efficient interactions between customers, retailers, and wholesalers, ensuring real-time inventory management and a smooth e-commerce experience. Its scalable architecture supports future growth and additional features.