E-commerce SystemInventory and Supply Chain Management

Project Report *for Database Management System Lab*

By Md Shifat Bhuiyan

ID:2211602642

Faculty: Dr.Abu Sayed Mohammad Latiful Hoque

INTRODUCTION :

A system to manage inventory and the supply chain for an ecommerce business.oversees a network of interconnected businesses working together to deliver the products and services required by end customers. It encompasses the entire flow of materials and goods, including the movement and storage of raw materials, in-process inventory, and finished products, from their origin to their final destination. Primarily tailored for the production sector, this system provides crucial information about clients and dealers, particularly regarding product launches and related operations.

SYSTEM REQUIREMENTS AND TECHNOLOGY USED :

- Operating System: Any
- Xampp control panel
- HTML / CSS
- JAVASCRIPT
- Mysql
- PHP

SIGNIFICANCE OF TECHNOLOGIES USED :

HTML: Gives the page structure.
CSS: Use styles to enhance the page layout.
JAVASCRIPT: To incorporate code functionality
MySQL: A programming language for adding and updating data in databases.They hold information and offer resources (tools) for looking for certain records inside a dataset.
PHP: is an excellent backend programming language for creating dynamic webpages.

PROJECT SCOPE :

This project aims to develop a web-based application to manage various aspects of a food manufacturing and distribution business. The application will be divided into three primary modules: Admin, Manufacturer, and Retailer, each with specific functionalities.

ADMIN MODULE :

- Manage user accounts for manufacturers and retailers.
- Maintain product information, including categories, units of measure, and pricing.
- Manage retailer and distributor details.
- Process and track orders.
- Generate and print invoices.
- Update personal profile information.

MANUFACTURER MODULE :

- Manage product information.
- View registered retailers and distributors.
- Process and track orders.
- Generate and print invoices.
- Update personal profile information.

RETAILER MODULE :

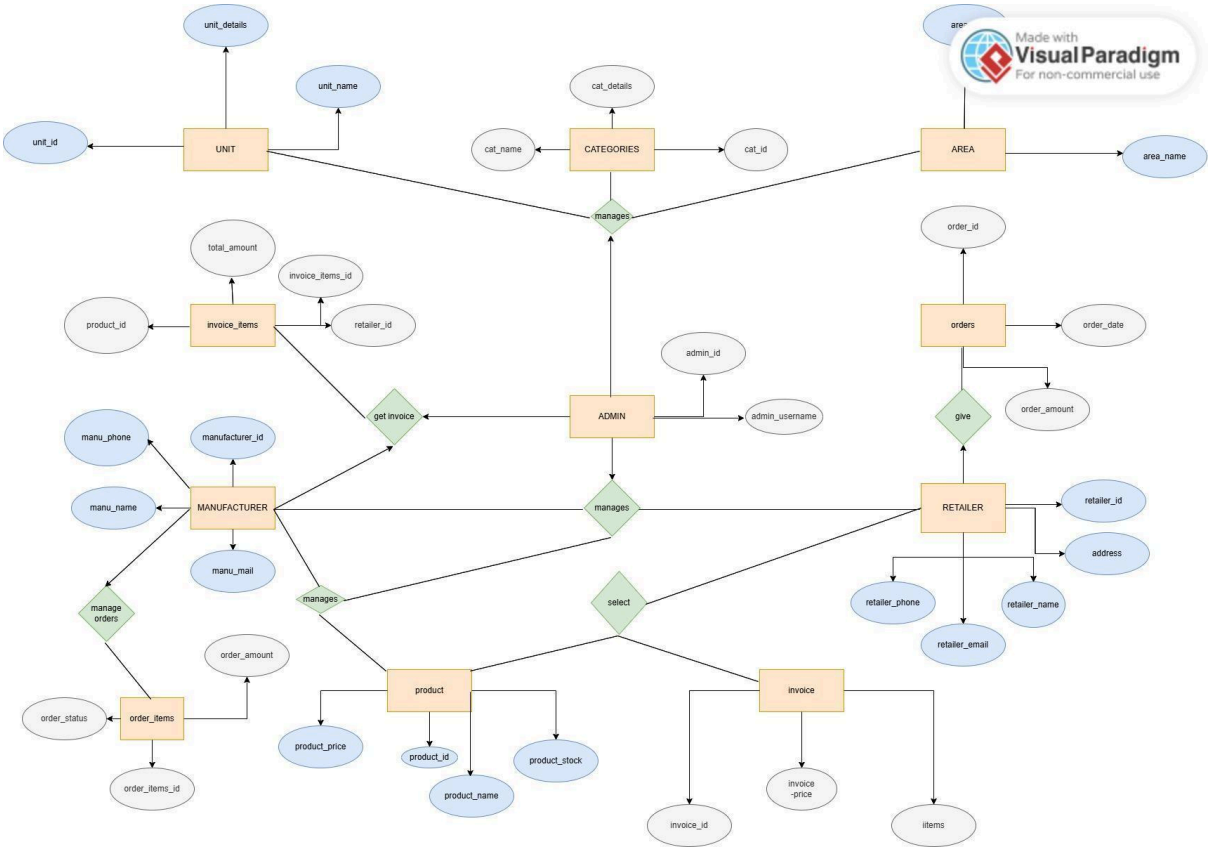
- View available products.
- Place and track orders.
- View and print invoices.
- Update personal profile information.

KEY FUNCTIONALITIES :

- User Registration and Authentication
- User Profile Management
- Product Management
- Order Management
- Invoice Generation and Printing
- Role-Based Access Control

By implementing these functionalities, the application will streamline business operations, improve efficiency, and enhance overall management.

ER DIAGRAM :



RELATIONSHIP SCHEMA

Admin(admin_id, admin_username, password)

Unit(unit_id, unit_name, unit_details)

Categories(cat_id, cat_name, cat_details)

Area(area_id, area_name, area_code)

Retailer(retailer_id, retailer_name, address, area_id, retailer_phone, retailer_email)

- *Foreign Key*:
  - area_id → Area(area_id)

Manufacturer(manufacturer_id, manu_name, manu_phone, manu_mail, username, password)

Products(product_id, product_name, product_stock, product_price, product_category, unit_id)

- *Foreign Keys*:
  - unit_id → Unit(unit_id)
  - product_category → Categories(cat_id)

Orders(order_id, retailer_id, order_date, order_status, order_amount)

- *Foreign Key*:
  - retailer_id → Retailer(retailer_id)

Order_Items(order_items_id, order_id, product_id, quantity)

- *Foreign Keys*:
  - order_id → Orders(order_id)
  - product_id → Products(product_id)

Invoice(invoice_id, retailer_id, order_id, invoice_price)

- *Foreign Keys*:
  - retailer_id → Retailer(retailer_id)
  - order_id → Orders(order_id)

Invoice_Items(invoice_items_id, invoice_id, product_id, quantity)

- *Foreign Keys*:
  - invoice_id → Invoice(invoice_id)
  - product_id → Products(product_id)

Distributor(dist_id, dist_name, dist_email, dist_phone, dist_address)

RELATIONSHIP :

1. **Admin**: Standalone table that manages Categories and related entities.
2. **Unit**: Defines product measurement units, linked with Products.
3. **Categories**: Associated with Products (One-to-Many).
4. **Area ↔ Retailer**: One-to-Many (area_id).
5. **Manufacturer**: Standalone entity for managing suppliers.
6. **Products ↔ Categories**: Many-to-One (cat_id).

7. **Orders ↔ Retailer**: One-to-Many (retailer_id).
8. **Order_Items ↔ Orders**: One-to-Many (order_id).
9. **Order_Items ↔ Products**: Many-to-One (product_id).
10. **Invoice ↔ Retailer**: One-to-Many (retailer_id).
11. **Invoice ↔ Orders**: One-to-One (order_id).
12. **Invoice_Items ↔ Invoice**: One-to-Many (invoice_id).
13. **Invoice_Items ↔ Products**: Many-to-One (product_id).
14. **Distributor**: Links independently with invoices or orders when needed.