Group Members -

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Online Retail Store - Project Scope

Objective: The Online Retail Store project aims to create a comprehensive e-commerce platform that facilitates seamless online shopping for customers and efficient product management for vendors. The system will incorporate an organized categorization of products to enhance the user experience and offer a wide range of products across various categories.

Key Features:

Product Management:

- Vendors can manage products, including adding, updating, and removing items from their inventory.
- Products will be categorized based on product types, creating a structured catalog.

Inventory Tracking:

- Real-time inventory updates and notifications will be provided to vendors for efficient stock management.
- Categorization will extend to inventory, ensuring easy navigation and organization.

Product Categories:

- Products will be organized into distinct categories (e.g., Electronics, Fashion, Home & Living) for user-friendly browsing.
- Customers can filter products based on categories, enhancing the shopping experience.

Customer Orders:

- Customers can place orders for products within specific categories.
- Order status and tracking information will be available, categorized by product type.

Customer Information:

- Secure storage of customer information, including personal details and order history, with respect to product categories.
- User authentication and authorization mechanisms will be category-specific to protect data.

Vendor Management:

- Vendors will have the ability to list products within specific categories.
- Vendor profiles will showcase products within their designated categories.

Order Fulfillment:

- Vendors will be notified of orders within their product categories for efficient order processing.
- Fulfillment procedures will be categorized by the type of products being sold.

Pricing and Discounts:

- Flexible pricing and discount models for products within each category.
- Discounts and promotions will be category-specific, enhancing targeted marketing.

User Authentication and Authorization:

- Different user roles will have specific permissions related to their selected categories.

Delivery:

- Delivery partner & their info.

Entities:

1. User: Represents individuals interacting with the system, with attributes such as UserID, Username, and Role.

2. Customer: Represents customers with attributes like CustomerID, CustomerName, and Address, linked to the User entity for authentication.

3. Vendor: Represents sellers managing products within specific categories, linked to the User entity for authentication.

4. Product: Represents items for sale, with attributes like ProductID, Price, and linked to categories. Belongs to orders and inventory.

5. Category: Represents product classifications (e.g., Electronics), organizing products, and governing pricing and discounts.

6. Order: Represents customer orders, with attributes like OrderID and linked to customers, vendors, and products.

7. Inventory: Represents the available stock of products, linked to products and categories for efficient management.

8. Pricing and Discounts: Governs flexible pricing and discounts for products and categories.

9. User Authentication and Authorization: Manages user login credentials, roles, and permissions for their specific categories.

10. Delivery Partner: Represents external entities responsible for order delivery, with attributes like DeliveryPartnerID and ContactInfo.

Relationships:

User - Placing Orders:
- User (1) ----< Places Orders (0..N)

Vendor - Product Management:
- Vendor (1) ----< Product Management (0..N)

Product - Part of Order:
- Product (1) ----< Part of Order (0..N)

Category - Contains Products:
- Category (1) ----< Contains Products (0..N)

Category - Specific Pricing and Discounts:
- Category (1) ----< Specific Pricing and Discounts (0..1)

Order - Contains Products:
- Order (1) ----< Contains Products (0..N)

Inventory - Belongs to a Category:
- Inventory (1) ----< Belongs to a Category (0..N)

Pricing and Discounts - Applies to Product:
- Pricing and Discounts (1) ----< Applies to Product (0..N)

Pricing and Discounts - Applies to Category:
- Pricing and Discounts (1) ----< Applies to Category (0..1)

User Authentication and Authorization - User Authentication:
- User Authentication and Authorization (1) ----< User Authentication (1..N)

Delivery Partner - Delivery Information:
- Delivery Partner (1) ----< Delivery Information (0..N)