MEMBERS:

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PROJECT TOPIC:

Ecommerce Management System

PROBLEM STATEMENT:

With the ever-increasing Ecommerce market space, the number of Ecommerce platforms are proliferating and the competition between the Ecommerce service providers has gotten tedious and tightened than ever before because of the increase in customer requirements. Henceforth, the system needs to track inventory (products, price, quantity, description etc.) to increase delivery efficiency, to cut overstocking and understocking costs. This has led to an increase in requirement to monitor sales and profits across various locations and product attributes and this monitoring requires the necessity for the business to view specific niches that they can target for increasing sales significantly in these locations. This increases the emphasis on the importance of a powerful and comprehensible database system for business.
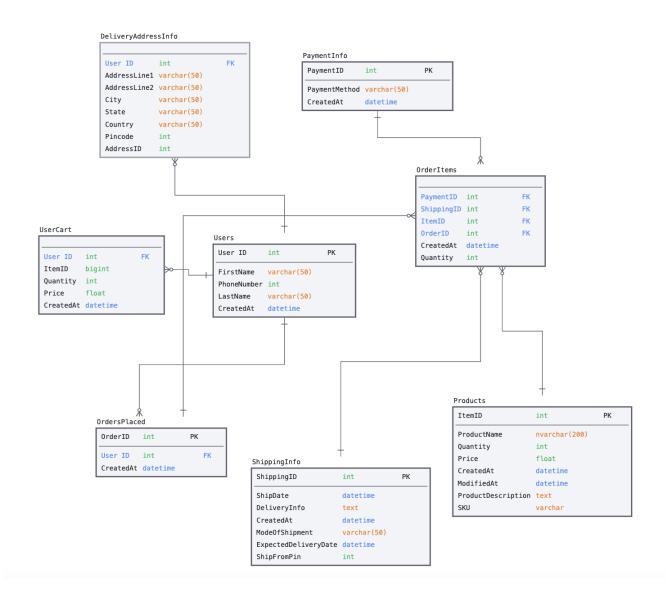
OBJECTIVE:

- Avoid product duplication
- Real time stock information (product quantities)
- Build customer retention by providing discounts/coupons to loyal customers
- To extract data and suggest similar, best, and cheaper alternative products (Upselling and Cross selling)
- To find niches by tracking the products and locations available.
- Track sales and profit
- Monitor on-time delivery performance.

PROPOSED SOLUTION:

Our project involves 5 major components:

1.User- The goal of e-commerce is to facilitate both users – customers and sellers. Our database collects and saves data for both the users. Also, we maintain the product reviews and Wishlist from the customers and use that data to suggest products in their next purchase. Also, data from the seller will help in keeping track of their improvement in sales and profits and thus help to increase their reputation in the retail market.

2.Inventory (Products)- Our Database will contain name, ID, offers applicable, quantity, price, product description and product release date thus making it accessible to track the sold-out stock and the remaining stock. This will give a better insight into facts about which product is on trend and is getting sold out faster and ways to increase productivity and reputation in updating the stock depending on customer's requirement. Also, we are planning to implement suggestions based on purchase history and for that we will be getting reviews from the customers using the product.

3.Order and order history – The OrderItems table will contain all the products and their quantity that was purchased for each order. We plan to track the order history and generate discounts or coupons for the customer.

4.Payment- Database will have payment information of users for present as well for past orders. It stores the payment method so it is easy for customers to understand how they have made payment for the relevant orders and depending upon the payment card information they can see which coupon they can apply to their purchase.

5.Delivery- Our system also makes sure that the placed order is delivered successfully by tracking the shipment status of the product purchased. This delivery data is accessible by both the users and the sellers – for the users this will be helpful to request for a replacement if not delivered and for the user to ensure that the products are reaching the customers safe and to maintain good customer loyalty.

ER DIAGRAM:

DeliveryAddressInfo

User ID	int	FK
AddressLine1	varchar(50)	
AddressLine2	varchar(50)	
City	varchar(50)	
State	varchar(50)	
Country	varchar(50)	
Pincode	int	
AddressID	int	

PaymentInfo

PaymentID	int	PK
PaymentMethod	varchar(50)	
CreatedAt	datetime	

OrderItems

PaymentID	int	FK
ShippingID	int	FK
ItemID	int	FK
OrderID	int	FK
CreatedAt	datetime	
Quantity	int	

UserCart

User ID	int	FK
ItemID	bigint	
Quantity	int	
Price	float	
CreatedAt	datetime	

Users

User ID	int	PK
FirstName	varchar(50)	
PhoneNumber	int	
LastName	varchar(50)	
CreatedAt	datetime	

Products

ItemID	int	PK
ProductName	nvarchar(200)	
Quantity	int	
Price	float	
CreatedAt	datetime	
ModifiedAt	datetime	
ProductDescription	text	
SKU	varchar	

OrdersPlaced

OrderID	int	PK
User ID	int	FK
CreatedAt	datetime	

ShippingInfo

ShippingID	int	PK
ShipDate	datetime	
DeliveryInfo	text	
CreatedAt	datetime	
ModeOfShipment	varchar(50)	
ExpectedDeliveryDate	datetime	
ShipFromPin	int	

ENTITY:

Users

ATTRIBUTES	DATATYPE	COMMENTS
UserID	int	Primary Key NOT NULL
FirstName	varchar(50)	NOT NULL
PhoneNumber	int	NOT NULL
LastName	varchar(50)	NOTNULL
CreatedAt	datetime	NOT NULL

DeliveryAddressInfo

ATTRIBUTES	DATATYPE	COMMENTS
UserID	int	Foreign Key NOT NULL
AddressLine1	varchar(50)	NOT NULL
AddressLine2	varchar(50)	NOT NULL
City	varchar(50)	NOT NULL
State	varchar(50)	NOT NULL
Country	varchar(50)	NOT NULL
Pincode	int	NOT NULL
AddressId	int	NOT NULL

PaymentInfo

ATTRIBUTES	DATATYPE	COMMENTS
PaymentID	int	Primary Key NOT NULL
PaymentMethod	varchar(50)	NOT NULL
CreatedAt	datetime	NOT NULL

OrderItems

ATTRIBUTES	DATATYPE	COMMENTS
PaymentID	int	Foreign Key NOT NULL
ShippingID	int	Foreign Key NOT NULL
OrderID	int	Foreign Key NOT NULL
ItemID	int	Foreign Key NOT NULL
CreatedAt	datetime	NOT NULL
Quantity	int	NOT NULL

Products

ATTRIBUTES	DATATYPE	COMMENTS
ItemID	int	Primary Key NOT NULL
ProductName	varchar(50)	NOT NULL
Quantity	int	NOT NULL
Price	float	NOT NULL
CreatedAt	datetime	NOT NULL
ModifiedAt	datetime	NOT NULL
ProductDescription	text	NOT NULL
SKU	varchar(50)	NOT NULL

ShippingInfo

ATTRIBUTES	DATATYPE	COMMENTS
ShippingID	int	Primary Key NOT NUL
ShipDate	datetime	NOT NULL
DeliveryInfo	text	NOT NULL
CreatedAt	datetime	NOT NULL
ModeOfShipment	Varchar(50)	NOT NULL
ShipFromPin	int	NOT NULL
ExpectedDeliveryDate	datetime	NOT NULL

OrdersPlaced

ATTRIBUTES	DATATYPE	COMMENTS
OrderID	int	Primary Key NOT NULL
UserID	int	Foreign Key NOT NULL
CreatedAt	datetime	NOT NULL

UserCart

ATTRIBUTES	DATATYPE	COMMENTS
UserID	int	Foreign Key NOT NULL
ItemID	int	NOT NULL
Quantity	int	NOT NULL
CreatedAt	datetime	NOT NULL
Price	float	NOT NULL