Farmer’s Portal

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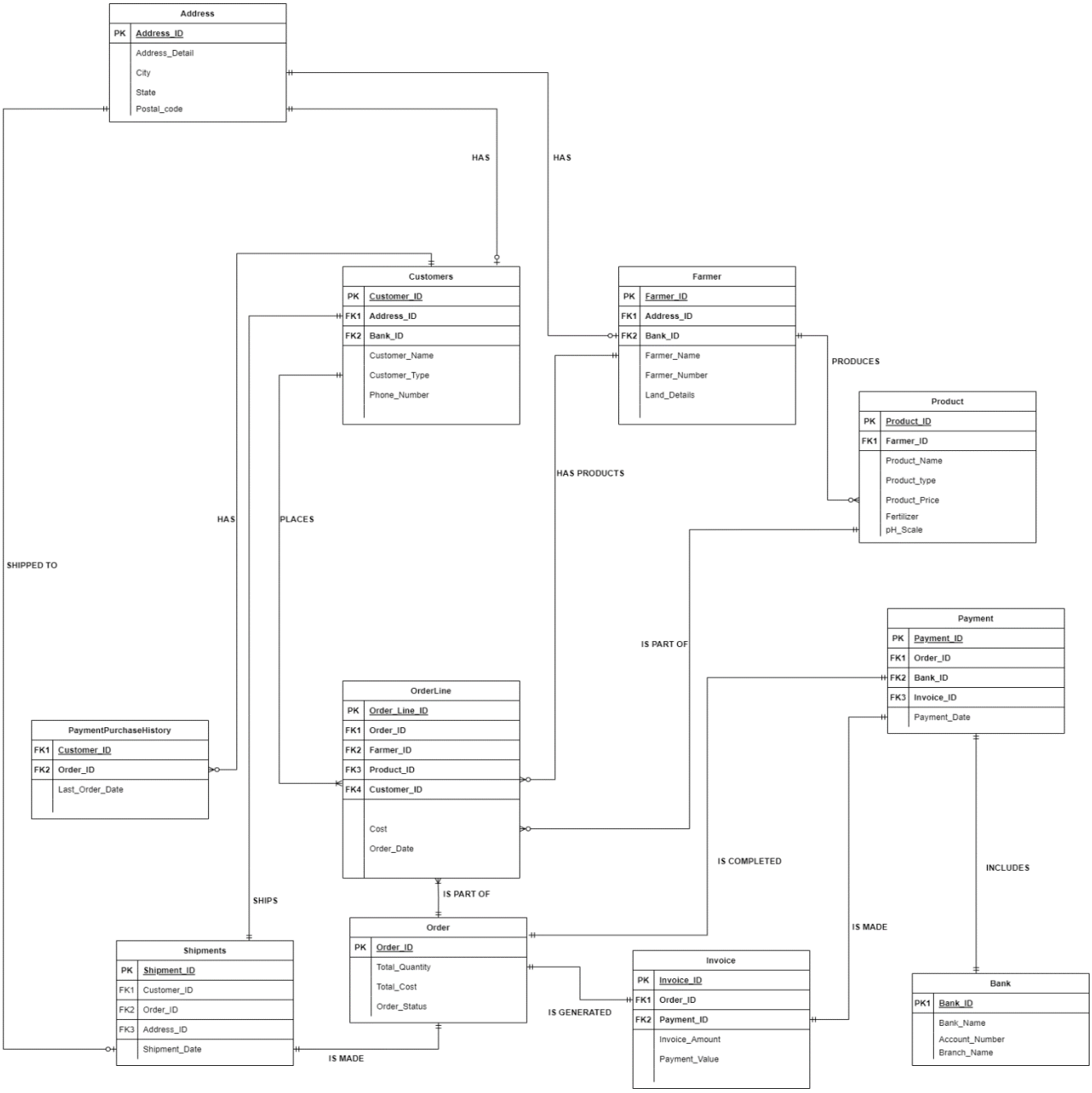
GitHubLink:
https://github.com/sharmasumit1996/DMDD_Farmer_Portal/blob/a58ee9188ef955e61a0d954eb86bb3f0d74702ee/P2_ERD.png

ER Diagram



Entities

Order

The entity contains details about Orders placed by all customers. Each order is uniquely identified using Order_ID as the foreign key. A customer may have placed one or moreorders. Each order is linked to the Invoice table using the Order_ID as a (Foreign Key) FK in the Invoice table. Each order can have only one payment method.
Attributes: Order_ID(PK), Total_Quantity, Total_Cost,Order_Status

Farmer

The Farmer table is used to store details about the farmers on the platform and the products that are being sold by them. The Farmer is directory selling his products to the customers. Each Farmer is uniquely identified using the Farmer_ID as the primary key.

Attributes: Farmer_ID (PK : Primary Key),Address_ID(FK), Bank_ID(FK), Farmer_Name, Farmer_Number and Land_Deatils

Payment

Payment details for a given order is stored in the Payment table. Each record is uniquelyidentified using the Payment_ID primary key. Each order has one payment method.
Attributes: Payment_ID (PK), Order_ID (FK), Bank_ID(FK), Invoice_ID(FK), Payment_Date.

Customer

The customer table is used to details of all customers like the customer's name, shipping addressetc. Each customer may place one or more orders. The customer entity is related to other entitieslike Bank, Address and PaymentPurchaseHistory.
Attributes: Customer_ID(PK), Address_ID(FK), Bank_ID(FK), Customer_Name, Customer_Type, Phone_Number

Invoice

After each order is placed an invoice is generated to provide a statement of the amount due by the customer. Each record is uniquely identified using Invoice_ID.
Attributes: Invoice_ID(PK), Order_ID(FK), Payment_ID(FK), Invoice_Amount, Payment_Value

Products

Details of all products available for Sale on the platform are stored in the Product Table. Eachrecord is uniquely identified using the Product_ID primary key. Product_ID is used as a FK in entities such as OrdersLine.

Attributes: Product_ID(PK), Farmer_ID(FK), Product_Name, Product_Type, Product_Price, Fertilizer, pH_Scale

PaymentPurchaseHistory

Changes in orders are stored in PaymentPurchaseHistory. Using this history, it is possible to track changes in price trends for a given Order_ID

Attributes: Customer_ID (FK), Order_ID(FK), Last_Order_Date

Bank

Used to store metadata about the payments to the farmers via the customers. Each record is uniquely identified using Bank_ID.

Attributes: Bank_ID(PK), Bank_Name, Account_Number, Branch_Name

OrderLine

Each order may contain one or more products. The OrderLine is used to track and store allproducts that are part of a given order. Each record in the OrderLine table is uniquely identified by Order_Line_ID as the primary key.

Attributes: Order_Line_ID(PK), Order_ID(FK), Farmer_ID(FK), Product_ID, Customer_ID, Cost, Order_Date.

Shipment

Orders are sent via Shipments. Each shipment record is identified using a Shipment_ID. The Shipping address can be determined through the Customer entity which is in turn linked to the Address_ID entity.

Attributes: Shipment_ID(PK), Order_ID(FK), Customer_ID(FK), Address_ID(FK), Shipping_Date

Address

Addresses are stored using the inventory table. Each record is uniquely identified using the Address_ID. The address entity is related to other entitieslike Customers, Farmer and Shipments.

Attributes: Address_ID(PK), Address_Detail, City, State, Postal_Code

Business Problems

1. *Determine the total revenue earned by each farmer for the products sold across the 12 months in the year*. This will help in identifying and improving the revenue of the farmers.This can be accomplished by calculating the total sales for a given product in the Order Line table.

2. *By setting the base and ceiling prices for products the market price hike is regulated. This is done by reviewing the order table and checking the total number of products sold.*

3. *This F2C practice will completely eradicate* the middlemen and commission brokers involved demanding exorbitant commission fees from farmers for getting their produce to the market grounds and artificially increasing the prices.

4. *By reviewing the order and address tables most marketable location can be determined to which the products are doing to the customers.* This will help in the increasing the employment in those specific areas and help in better tackling of the demand.

5. *Identify the most common geographical location to which the orders are sent.*
   The shipment table can be used to identify the most common locations to where products are being shipped.

6. *Assess the sellers with the highest revenue and also determine the best sellers for a given product (when more than one seller(s) sells the product)*
   Since each product is linked to a Farmer_ID, it is possible to determine top performing farmers. Top farmers selling a given product at the lowest price can also be determined.

7. *Analyze the price distribution of all the products available within the portal.*
   The product prices available in the Products and OrderLine tables can be used toanalyze the price distribution for a given product or across product categories.