TERM PROJECT DESIGN PHASE

AGRICULTRE PRODUCT MANAGEMENT DATABASE SYSTEM

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Agriculture Product Management Database System

1. The purpose and extent of the Database System

Purpose

The main goal of this database system is to assist the farmers of the area to organise their farming business better. This involves helping farmers to buy seeds, fertilizers and pesticides and also informing farmers of market prices for products. The system could be used as the source of the farmers' information about the agrochemicals and crop recommendations depending on the specific region and type of the crop.

Type of Organization

This system will be operational for the organizations in the agriculture and agro chemical industries. It links farmers, producers of agrochemical, retailers, and distributors of the products. Farmers can get very important information about crops and agro chemicals and producers can promote their products. Both retailers and distributors play a broker's role as they play a middleman that brings buyers and sellers; in this case farmers/ producers and companies.

Scope

This system will be useful in the enterprise level of retail and information management in agricultural sector. The target users are farmers, agronomists, crop advisors, agricultural suppliers and all the stakeholders within the agricultural value chain. The broad categories of functions are list products, conduct market research, and support customer relations. Pest management: It also assist the farmer in pest control, availability of products and performance of products in different regions.

2. User Requirements

The system addresses the following user requirements:

1. Farmers can get important information on products that are related to their produce.
2. Farmers may be able to associate with dealers in agrochemicals.
3. The system offers the information about product availability in real time according to the location.
4. There is also advice on weather conditions for a specific crop in a farmer's region.
5. There is an option of entering the details of the products offered, and stock status that vendors can upload.
6. The agronomists feed into the system crop recommendations and pest management advice.
7. It is administered under full authority by the admins who have all the access and control of the whole system.
8. Restrictions were applied to farmers, vendors, and agronomists depending on their roles in the network prototyp.
9. One notable feature of the provided system is availability for concurrent use by different users without data interferences.
10. This means that the system can monitor the performance of the products as well as make analyses based on zones.

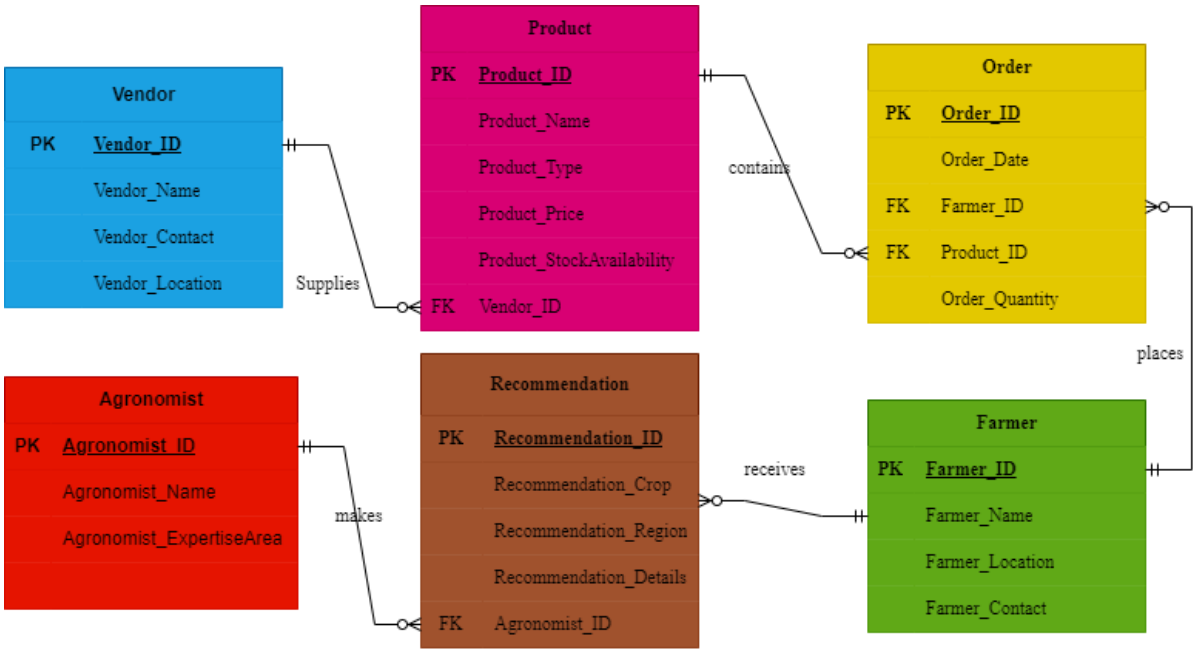
3. Business Rules

The following business rules guide the functionality of the database:

1. It means farmers get to see products that are in relation to their crops only.
2. Vendors can input product information and their available stock but they cannot view farmers personal information.
3. Currently some crop advisors(former agronomists)can only provide suggestion on specific crops or areas of interest, but are not allowed to place the order.
4. Administrators have a complete authority and control over the entry of the data, the users of the system and the general configuration of the system.
5. Availability of products is presented with reference to region and supply from the concerned vendors.
6. The vendors must have the records of the various stock numbers on their sites so that they can make current records.
7. Expert advice to embrace is as particular to consider regions involved in order to make it relevant.
8. The relation of farmers with the vendors is also monitored for the market intelligence purpose.
9. This means that the system must be able to create reports regarding the continued performance of products as well as their relative performance in various geographic locations.
10. Database back up is done on a daily basis should there be a loss of data.

4.ERD Diagram

- The major elements that are contained on the Entity-Relationship Diagram (ERD) are explained inside this part of the document.
- The Crow's Foot Model of the ERD is shown below as a means of explaining both the function of a specific entity and relationships between the primary entities in the database system.
- Tables of Agricultre Management Database System are as follows:
    - Farmer: Can orders places and get suggestions.
    - Vendor: Supplies products.
    - Product: Ready for purchase and linked to suppliers.
    - Order: Is used for monitoring the purchase or acquisition of products by farmers.
    - Agronomist: Offers advisory information about the crops.
    - Recommendation: Offers recommendations for crop care in specific geographical areas.



5. Data Dictionary

Data Dictionary for Agricultre Management Database System							
Table_Name	**Attribute Name**	**Description**	**Data type**	**Data Format**	**Required**	**PK/FK**	**Example**
Farmer	Farmer_ID	Unique Identifier for each farmer	CHAR(5)	99999	Y	PK	F1234
	Farmer_Name	Name of the farmer	VARCHAR(50)	XXXXXXX	Y		Gadhiraju Poojitha
	Farmer_Location	Geographical Location of the farmer	VARCHAR(50)	XXXXXXXX	Y		Sangareddy,Telangana
	Farmer_Contact	Contact of the farmer	CHAR(5)	9999999999	Y		9502608266
Vendor	Vendor_ID	Unique Identifier for each vendor	CHAR(5)	99999	Y	PK	V12345
	Vendor_Name	Name of the Vendor	VARCHAR(50)	XXXXXXX	Y		SWAD
	Vendor_Contact	Contact of the vendor	CHAR(5)	9999999999	Y		9876543210
	Vendor_Location	Geographical Location of the vendor	VARCHAR(50)	XXXXXXXXX	Y		Delhi,India
Product	Product_ID	Unique Idenitifer for each product	CHAR(5)	9999999	Y	PK	P123456
	Product_Name	Name of the product	VARCHAR(50)	xxxxxxxxxxx	Y		Basmati Rice
	Product_Type	Type of the product	VARCHAR(50)	xxxxxxx	Y		Rice
	Product_Price	Price of the product	CHAR(5)	999	Y		80
	Vendor_ID	Idenitifer of vendor who supplies that product	CHAR(5)	9999999	Y	FK	V12345
	Product_StockAvailability	Available Quantity of the product	CHAR(5)	99999	Y		70900
Order	Order_ID	Unique Identifier of each order	CHAR(5)	99999999	Y	PK	O1234567
	Order_Date	Date of the order placed	Date	MM-DD-YY	Y		10/15/2024
	Farmer_ID	Identifer of the farmer who placed the order	CHAR(5)	99999	Y	FK	F1234
	Product_ID	Idenitifer of the product which was placed in the order	CHAR(5)	9999999	Y	FK	V12345
	Order_Quantity	Quantity of the product ordered	CHAR(5)	999999	Y		5/14/1901
Agronomist	Agronomist_ID	Unique Identifer of Agronomist	CHAR(5)	9999999999	Y	PK	A12345678
	Agronomist_Name	Name of the Agronomist	VARCHAR(50)	400+D25:F25	Y		Dr.Ali Sahara
	Agronomist_ExpertiseArea	Area of Expertsie of Agronommist	VARCHAR(50)	XXXXXXXX	Y		Crop Rotation
Recommendation	Recommendation_ID	Unique Idenitfier of the recommendation	CHAR(5)	999999999	Y	PK	R123456789
	Recommendation_Crop	Name of the crop for which the recommendation is given	VARCHAR(50)	xxxxx	Y		Wheat
	Recommendation_Region	Region for recommendation	VARCHAR(50)	xxxxx	Y		Andhra Pradesh
	Recommendation_Details	Detailed Recommendation provided by Agronomist	VARCHAR(50)	xxxxxxx	Y		Adopt Mixed Cropping techniques
	Agronomist_ID	Idenitifer of Agronomist who gives the recommendation	CHAR(5)	9999999999	Y	FK	A12345678