IT214 – Database Management System

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Project Title – Inventory Management System(IMS)

Objective:

> What is Inventory Management System?

The simple answer to this question is Inventory management is an approach for keeping track of the flow of inventory.

The aim of this inventory management system (IMS) database project is to create a user-friendly and efficient system for tracking and managing inventory across various locations or warehouses. It starts right from the procurement of goods and its warehousing and continues to the outflow of the raw material or stock to reach the manufacturing units (Customer)or to the market. This system will include standard features found in modern inventory management solutions, enabling smooth control over procurement, sales, and accounting and finance.This database will store all the necessary data of the supplier, consumer, product, sales, and many more.

Scope:

The following are some scopes of inventory management:
➢ Inventory forecasting
➢ Inventory valuation
➢ Price forecasting
➢ Physical inventory
➢ Available space
➢ Quality management
➢ Returns and defective goods
➢ Demand forecasting

Application Users:

1. Administrator
2. Manager
3. Supplier
4. End Consumer

Use Cases:

1) Administrator

- In charge of overseeing all aspects of system administration, such as configuration and user management.
- Configures and updates system parameters, including stock classifications, pricing policies, and warehouse locations.
- Assures the integrity and security of data inside the system.

2) Inventory Manager

- Maintains accurate stock levels and supervises inventory activities
- Oversees product listings, which includes establishing prices, adding new products, and updating descriptions.
- Works with suppliers to arrange for the purchase and restocking of inventories.

3) Supplier

- Manages their inventory and product listings within the marketplace.
- Adds new products, updates product details, and sets prices and quantities.
- Handles order fulfillment, including packaging, shipping, and updating order statuses.

4) End Customers

- Enables users to browse products, place orders, and check order statuses via the system's frontend or online store.
- Engages with the system to examine product specifications, verify availability, and complete transactions.
- Comments on the quality of the entire service, the delivery experience, and the happiness with the product.
- Their tastes and buying habits may have an impact on inventory management techniques like stock replenishment and demand forecasting.

⬇ <u>Description:</u>

Effective inventory management is essential for organizations to meet client needs and remain competitive in the fast-paced commercial world of today. The core of this procedure is an Inventory Management System (IMS) database, which gives companies the resources they need to monitor, manage, and maximize their inventory. IMS databases are utilized in real-world applications by companies in a variety of industries, such as manufacturing, logistics, and retail, to monitor inventory levels, expedite procurement procedures, and guarantee prompt delivery of items to clients. Every inventory item has a unique code that makes it simple to identify and track it within the system.

Inventory managers watch inventory movements, keep an eye on stock levels, and produce performance reports using the IMS database. The database contains supplier data, including contact information and pricing agreements, to support smooth procurement procedures and preserve supplier relationships. All inventory transactions, including stock receipts, shipments, transfers, and changes, are captured in real-time by the IMS database. This guarantees precise and current inventory records, empowering companies to decide on inventory levels and replenishment plans with knowledge and for future demand forecasting.

Tentative Query list:

For general use:

1)Search for products based on one or more parameters such as product name, category, supplier, manufacturer.
2)Sort products based on various criteria such as price, popularity, ID.
3)Filter products by attributes such as price range, quantity in stock, or location.

For Admin:

1)Daily/Weekly/Month/Annual Inventory and financial sales summaries.
2)List of refunds (with refund details) to be made.
3)Ranking reports of Sellers and Products.
4)Monitor customer feedback for sellers or products, including ratings, reviews, and comments.
5)Role-Base Access Control
6) User Management

For Customer:

1)My Orders
2)View Order History
3)My Refund Status
4)Track Order Status
5)Product Search

For Supplier:

1)List of Orders to be dispatched.
2)Customers who have bought from them.
3)Summary of all the order which have been cancelled.
4)Access a sales register to track sales transactions by date, including order details and customer information.
5)View customer information, including buyers' purchase history, ratings, and Feedback.

For Manager:

1)Quality Control
2)Stock Allocation
3)Replenishment Planning