ITC

(Lab)

**Project Proposal Final**

**[Stationary Management System]**

**Last Date of Submission: ---------------------**

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**Stationery Management System**

# ****1. Abstract****

The Stationery Management System is a comprehensive solution designed to automate key operations in a stationery shop. It handles inventory management, sales tracking, supplier information, and order processing. The system helps maintain accurate stock levels, track sales trends, manage supplier details, and streamline the process of order management. Built using Microsoft Access, the project leverages its relational database capabilities to create a seamless workflow. The goal is to minimize manual errors, improve decision-making with generated reports, and enhance operational efficiency by simplifying day-to-day operations.

# ****2. Objective****

The primary objective of this project is to develop an automated Stationery Management System to improve the management of stock, sales, supplier relationships, and order processing in a stationery shop. The system will ensure that:

* Inventory is accurately tracked and updated.
* Sales transactions are recorded and analyzed.
* Orders are processed efficiently.
* Supplier interactions are managed effectively.

The system aims to reduce manual labor, minimize errors, and increase business efficiency. Additionally, it will allow users to generate useful reports to make informed decisions about inventory restocking, supplier contributions, and sales trends.

# ****3. Scope of the Project****

**Functionalities Covered:**

* **Inventory Management**: Adding, editing, and updating stationery items in stock with real-time updates.
* **Sales Tracking**: Recording sales details including quantity sold, total price, and sales date.
* **Supplier Management**: Managing suppliers by storing their contact information and the items they supply.
* **Order Management**: Processing customer orders, tracking order details, and managing order statuses.
* **Report Generation**: Automatically generating reports such as low stock levels, sales reports, and supplier-wise item distribution.

**Operations Handled:**

* **Data Entry**: Entering data into the system using forms for users, items, sales, orders, and suppliers.
* **Stock Tracking**: Automatically updating stock levels after each sale or order processing.
* **Sales Processing**: Recording transactions and calculating total sales price based on quantity sold.
* **Supplier Monitoring**: Tracking items supplied by each vendor and ensuring timely restocking.
* **Order Management**: Recording and managing order information, including order status.

**Limitations/Boundaries:**

* The system does not handle customer payments, nor does it integrate with external accounting or e-commerce systems.
* The scope is focused on small-scale stationery shops and does not support large-scale enterprise operations.

# ****4. Main Features****

**Inventory Management:**

* Allows the user to add new items to the system, update stock quantities, and categorize products based on type or department.

**Sales Tracking:**

* Tracks each sale by date, item sold, and quantity, and automatically calculates the total price based on the price of each item.

**Supplier Management:**

* Stores details about suppliers, including their name, contact information, and the specific items they supply.

**Order Management:**

* Manages orders, including recording order details, tracking order statuses, and managing order processing workflows.

**Reports and Queries:**

* **Sales Reports**: Generate reports on sales by date range, showing total sales and item-wise breakdown.
* **Low Stock Query**: Identifies items with stock levels below a predefined threshold.
* **Supplier Contribution Reports**: Displays which items are being supplied by which vendors and their corresponding quantities.
* **Order Status Reports**: Provides a detailed status of pending, completed, and canceled orders.
* **Inventory Reports**: Summarizes stock levels and highlights items that require restocking.

# ****5. System Design****

**Database Tables and Relationships:**

1. **Users Table**: Stores information about the users of the system.
   * Attributes: UserID (Primary Key), Name, Role, Contact.
2. **Orders Table**: Tracks orders placed in the system.
   * Attributes: OrderID (Primary Key), UserID (Foreign Key), OrderDate, Status.
3. **Order Items Table**: Tracks the details of items in each order.
   * Attributes: OrderItemID (Primary Key), OrderID (Foreign Key), ItemID (Foreign Key), Quantity.
4. **Items Table**: Stores information about each stationery item in stock.
   * Attributes: ItemID (Primary Key), Name, Category, Price, StockQuantity.
5. **Suppliers Table**: Contains information about the suppliers of stationery.
   * Attributes: SupplierID (Primary Key), Name, Contact, SuppliedItems.
6. **Inventory Table**: Tracks inventory levels and supplier contributions.
   * Attributes: InventoryID (Primary Key), ItemID (Foreign Key), SupplierID (Foreign Key), QuantityInStock.

**Relationships:**

* **Users to Orders**: A user can place many orders (One-to-Many Relationship).
* **Orders to Order Items**: An order can contain many items (One-to-Many Relationship).
* **Order Items to Items**: Each order item references one stationery item (Many-to-One Relationship).
* **Items to Inventory**: Each item is linked to inventory records (One-to-Many Relationship).
* **Suppliers to Inventory**: Each supplier provides multiple items (One-to-Many Relationship).

# ****6. ERD of the Project****

The Entity Relationship Diagram (ERD) is a crucial part of the system design as it visually represents the relationships between various entities (tables) within the database.

**Entities Included:**

1. **Users**: UserID, Name, Role, Contact.
2. **Orders**: OrderID, UserID (FK), OrderDate, Status.
3. **Order Items**: OrderItemID, OrderID (FK), ItemID (FK), Quantity.
4. **Items**: ItemID, Name, Category, Price, StockQuantity.
5. **Suppliers**: SupplierID, Name, Contact, SuppliedItems.
6. **Inventory**: InventoryID, ItemID (FK), SupplierID (FK), QuantityInStock.

**Relationships:**

* Users → Orders (One-to-Many)
* Orders → Order Items (One-to-Many)
* Order Items → Items (Many-to-One)
* Items → Inventory (One-to-Many)
* Suppliers → Inventory (One-to-Many)

# ****7. Conclusion****

The Stationery Management System was developed successfully, meeting the goals of improving inventory tracking, simplifying sales management, automating supplier interactions, and processing orders. This project enhanced my understanding of database design and practical application of Microsoft Access. During development, I encountered challenges with setting up proper relationships between tables and ensuring that the system functioned correctly in a real-world setting. However, these challenges were resolved by thorough testing and data validation. The system works as expected, offering users a reliable and efficient solution. Future improvements could include integrating customer management and payment processing for a more complete retail experience.

# ****8. References****

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