**ABSTRACT**

**TOPIC :** Embroidery Industry Management System

**TEAM MEMBERS**

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The **Embroidery Management System** is a database-driven application designed to **streamline order processing, inventory management, employee tracking, and supplier interactions** in an embroidery business. This system ensures efficient handling of **customer orders, machine maintenance, raw material procurement, and production reports**, improving overall operational workflow.

Using a **relational database model**, the system **manages real-time transactions**, optimizes resource allocation, and tracks embroidery production from order placement to final delivery. The **Entity-Relationship (ER) diagram** defines key entities such as **Customer, Order, Supplier, Employee, Machine, Inventory, and Production Report**, along with their interconnections.

The system incorporates **data integrity constraints, normalization techniques, and optimized indexing** for better performance. Role-based access control ensures **data security**, allowing only authorized personnel to access specific modules. The system also supports **automated reports**, providing business insights for better decision-making.

**Key Points**

* **Efficient Order Management**: Tracks customer orders, production status, and delivery timelines.
* **Inventory Control**: Manages fabric, threads, and other raw materials,paper.
* **Supplier Management**: Keeps records of suppliers, purchase history, and material availability.
* **Employee & Machine Tracking**: Monitors work assignments, machine usage, and maintenance schedules.
* **Production Reporting**: Generates real-time reports on completed and pending embroidery tasks.
* **Secure Data Handling**: Implements access control and data validation to prevent unauthorized modifications.

**Data Requirements**

The database system will store and manage the following data:

* **Customer Information**: Name, contact details, order history.
* **Orders**: Order ID, customer ID (FK), order date, status, total price.
* **Suppliers**: Supplier ID, name, contact details, supplied materials.
* **Inventory**: Stock levels, material types, restocking dates.
* **Employees**: Employee ID, role, assigned tasks.
* **Machines**: Machine ID, type, maintenance history.
* **Production Reports**: Order ID, machine used, employee involved, production status.

**Functional Requirements**

1. **User Management**
   * Role-based access for admins, employees.
   * Login and authentication system.
2. **Order Processing**
   * New order creation, tracking, and updates.
   * Automated invoice generation.
3. **Inventory Management**
   * Real-time stock updates.
   * Notifications for low inventory levels.
4. **Machine & Employee Tracking**
   * Assigning machines and employees to specific orders.
   * Logging maintenance and repairs.
5. **Supplier Integration**
   * Managing supplier information and procurement records.
   * Tracking pending and completed supplies.
6. **Reports & Analytics**
   * Real-time production progress reports.
   * Financial and material usage insights.

This **Embroidery Management System** provides an **integrated, automated, and efficient solution** to streamline embroidery operations. By digitizing order management, inventory tracking, supplier coordination, and employee allocation, it minimizes manual effort and improves productivity. The system ensures **real-time data processing**, allowing businesses to track orders, monitor inventory levels, and maintain machines efficiently. With role-based access, data security is enhanced, preventing unauthorized modifications. Automated reports provide **valuable insights** into production status, financial records, and resource utilization. By reducing delays, optimizing resource allocation, and improving workflow transparency, the system enhances overall operational efficiency, enabling businesses to scale seamlessly.