Medical Inventory Management

Project Design Phase-II

Solution Requirements (Functional & Non-functional)

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Team ID	NM2025TMID04716
Project Name	Medical Inventory Management System

Functional Requirements

The **Medical Inventory Management System** includes various functional modules designed to ensure seamless automation, efficient tracking, and reliable data management within healthcare organizations. Each function contributes to improving the overall accuracy, accessibility, and usability of the system.

The following are the key functional requirements identified for this project:

1. **Supplier Management:**

The system allows the creation, modification, and deletion of supplier records. Each supplier record stores details such as supplier name, company, contact information, and address. This module ensures that supplier data is accurately maintained for future reference and linked with purchase orders.

2.Product Management:
This module enables the addition of new products, including their name, batch number, price, available quantity, and expiry date. It also allows modification or removal of outdated products. Validation rules ensure that incorrect data, such as past expiry dates, cannot be entered.

3.Purchase Order Management:
The system allows the creation and management of purchase orders linked to suppliers and products. It records details such as the order date, total cost, expected delivery date, and status. This feature helps purchase managers track procurement activities efficiently.

4.Order Item Association:
Each purchase order can include multiple products. The system automatically calculates the total cost of the order based on product quantity and price. The order items are directly linked to their respective suppliers and products to ensure traceability.

5.Inventory Transaction Management:
The system automatically updates inventory stock levels when goods are received or dispatched. Salesforce automation ensures that all stock movements are recorded in real time. This functionality prevents overstocking or stockouts by maintaining accurate product counts.

6.Reporting and Dashboard Generation:
The system generates detailed reports summarizing supplier performance, product stock status, and purchase order activities. Dashboards provide visual insights into the inventory data, helping management make informed decisions quickly.

Non-Functional Requirements

In addition to functional aspects, the **Medical Inventory Management System** adheres to several non-functional requirements that enhance system performance, security, and reliability. These requirements ensure that the system operates smoothly under different conditions and scales efficiently as data volume increases.

1. **Usability:**
   The user interface is designed to be simple and intuitive, allowing administrators, pharmacists, and managers to navigate through the system with ease. Minimal training is required to use its core functions.

2. **Security:**
   Data access is restricted through Salesforce's built-in role hierarchies and permission sets. Only authorized users can modify or delete records, ensuring sensitive information such as supplier and order data remains secure.

3. **Reliability:**
   The system guarantees consistent performance through validation rules and error-handling mechanisms. Automation ensures that every process — from product creation to order tracking — works accurately without data loss.

4. **Performance:**
   The application is optimized for fast data processing. Automation and triggers ensure that inventory updates, report generation, and supplier transactions occur instantly, without noticeable delay.

5. **Availability:**
   As a Salesforce-based solution, the system remains operational and accessible 24/7. Users can manage suppliers, products, and purchase orders anytime through a cloud-based platform.

6. **Scalability:**
   The architecture is designed to accommodate future growth. It can handle an increasing number of suppliers, products, and transactions without performance degradation. This makes it suitable for small clinics as well as large hospital networks.

Outcome

The **Solution Requirements** phase defines the foundation for developing a robust and efficient Medical Inventory Management System.
The combination of well-defined **functional** and **non-functional** requirements ensures that the system not only performs all necessary tasks effectively but also maintains reliability, security, and scalability in real-world healthcare environments.
By fulfilling these requirements, the system enhances accuracy, reduces human errors, and provides