

Project Design Phase

Project Title: Medical Inventory Management System

Team ID: NM2025TMID0325

3.1 Objective

The design phase focuses on translating the project requirements into a structured system model that defines the logical and user interface architecture.

3.2 System Architecture

The system architecture follows a layered design:

- **Presentation Layer:** Salesforce Lightning UI for users.
- **Logic Layer:** Apex Triggers, Validation Rules, and Flows.
- **Data Layer:** Custom Objects for Supplier, Product, and Orders.
- **Analytics Layer:** Reports and Dashboards.

3.3 Data Model

Key objects include:

- **Supplier:** Stores supplier details and contact information.
- **Product:** Includes product name, expiry date, and stock count.
- **Purchase Order:** Tracks supplier-related orders and total cost.
- **Transaction:** Manages inflow and outflow of items.

3.4 Validation Rules

Ensures reliable data input:

- Expiry date > Current date.
- Quantity \geq 0.
- Cost field must be filled.

3.5 Interface Design

Tabs and page layouts are designed for ease of use. Compact layouts highlight key information such as product name, expiry date, and supplier.

3.6 Automation Design

Automation via **Flows** and **Apex Triggers** ensures instant updates on order and stock status.

3.7 Expected Outcome

A scalable and user-friendly system design ready for development implementation.

3.8 Conclusion

The design phase successfully transformed abstract requirements into a tangible system structure. The object model, interface layout, and automation logic were clearly established, paving the way for efficient implementation during the development phase.