Project Design Phase-II
Data Flow Diagrams and User Story

1. Introduction:

The **Medical Inventory Management System** (MIMS) is built on Salesforce to automate and streamline inventory operations in hospitals and pharmacies. It efficiently tracks medical supplies, purchase orders, supplier records, and expiry dates. To visualize how data moves through the system, this section presents the **Data Flow Diagrams (DFDs)** and **User Stories** that define how users interact with the system.

2. Data Flow Diagram (DFD)

2.1 Level 0 – Context Diagram

At the top level, the Medical Inventory Management System interacts with three main entities:

External Entity	Interaction
Admin/Inventory Manager	Adds and manages products, updates stock, monitors expiry alerts, and generates reports.
Supplier	Provides stock based on purchase orders and updates delivery details.
System Database (Salesforce)	Stores all product, supplier, purchase, and transaction information.

Data Flow:

- Admin sends *Product Details, Purchase Orders, and Inventory Requests* → Salesforce Database
- Supplier sends *Delivery Details and Invoices* → Salesforce Database
- System provides *Reports, Alerts, and Dashboard Data* → Admin

2.2 Level 1 – System Process Diagram:

Process ID	Process Name	Input	Output

1.0	Manage Products	Product details, stock levels	Updated product catalog
2.0	Manage Suppliers	Supplier details	Supplier database
3.0	Create Purchase Orders	Product requests, supplier info	Generated purchase order
4.0	Manage Inventory Transactions	Purchase order, delivery details	Updated stock and transaction history
5.0	Monitor Expiry & Alerts	Expiry dates	Notification or alert messages
6.0	Generate Reports & Dashboards	Inventory and transaction data	Visualized reports for analysis

Explanation:

Each process uses Salesforce objects (Product, Supplier, Purchase Order, Order Item, Inventory Transaction) as data repositories, maintaining seamless integration and real-time updates.

2.3 Level 2 – Detailed DFD (Example: Purchase Order Module):

Sub-process	Input	Output
2.1 Create Purchase Order	Product details and supplier ID	New Purchase Order record
2.2 Validate Delivery Dates	Order date and expected delivery date	Validation success or error alert
2.3 Update Order Status	Received quantity and delivery confirmation	Updated inventory and cost summary
2.4 Generate Supplier Report	Purchase order history	Supplier performance report

3. User Story:

User Role	User Story Description
Inventory Manager	As an inventory manager, I want to add, update, and monitor medical products so that I can maintain accurate stock and prevent shortages.
Purchase Manager	As a purchase manager, I want to create purchase orders, track deliveries, and manage suppliers to ensure timely replenishment of medical stock.

Admin	As an admin, I want to control access through profiles and roles so that only authorized users can modify sensitive inventory data.
Supplier	As a supplier, I want to receive purchase orders and update delivery details so that my client hospitals are informed about stock status.
System (Automation)	As the system, I want to trigger automatic alerts for low stock and expired items to support proactive inventory management.

4. System Workflow Summary:

1. Admin/Manager logs into Salesforce.
2. Creates or updates Product and Supplier data.
3. Generates Purchase Orders and links them to suppliers.
4. On receiving delivery, the Inventory Transaction updates automatically.
5. Flows update the delivery date, and Triggers recalculate the total cost.
6. Validation Rules ensure data accuracy (e.g., delivery date not exceeding 7 days).
7. Reports & Dashboards display supplier performance and stock insights.

5. Benefits of the DFD and User Story Model:

- Provides a clear visualization of how information moves through the system.
- Helps developers and testers understand data dependencies.

- Supports incremental development and agile planning.
- Aligns user expectations with system behavior.

6. Conclusion:

The Data Flow Diagram and User Stories together create a solid foundation for understanding how MIMS functions from both a technical and user-centered perspective.

By mapping each process and user goal, the team ensures a well-organized, automated, and efficient Salesforce-based inventory management experience.

“Every story flows with data — and every data point tells a story.”