

# Medical Inventory Management

## Project Design Phase-II

### Data Flow Diagram & User Stories

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Project Name	Medical Inventory Management System

### Data Flow Diagrams

A Data Flow Diagram (DFD) visually represents the flow of information within a system. It explains how data moves between users, processes, and storage points, highlighting how input is transformed into meaningful output. The DFD helps in understanding the system architecture, process interconnections, and data dependencies in a simplified and graphical manner.

In the Medical Inventory Management System, the DFD illustrates how various stakeholders such as Suppliers, Purchase Managers, Pharmacists, and Inventory Managers interact with the system. The diagram shows the complete workflow of medical inventory — from supplier registration and product entry to purchase order creation, stock updates, and report generation.

The Level 0 DFD provides a high-level view of the entire system where data flows between the user (administrator) and the inventory database through multiple modules. The Level 1 DFD elaborates on each process, such as product management, purchase order tracking, and supplier updates, to depict how the data is processed at each stage.

This diagram helps developers and analysts clearly understand the logical flow of inventory data, ensuring accuracy and integrity across all operations.

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## Example Flow:

1. The Supplier provides details like supplier name, company, and contact information, which are stored in the system database.
2. The Purchase Manager creates a Purchase Order, linking it to the relevant supplier and adding product details such as quantity and price.
3. The Inventory Manager receives the products and updates the stock information in the Inventory Database.
4. The system automatically validates product expiry dates and stock levels using built-in automation rules.
5. Finally, reports and dashboards are generated to provide real-time insights into purchase and stock status.

This structured data flow ensures real-time tracking, reduced errors, and improved transparency across the medical inventory management process.

## User Stories

User stories describe the specific needs and expectations of users interacting with the system. They provide a user-centric view of the functionalities to be implemented. Each story defines who the user is, what they want to achieve, and what conditions must be met for success.

In the Medical Inventory Management System, user stories focus on automating supplier management, product tracking, purchase order creation, and inventory updates to simplify operations for healthcare organizations.

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User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance Criteria	Priority	Release
Administrator	Supplier Management	USN-1	As an admin, I want to create and manage supplier records so that supplier details are available for purchase orders.	The system must allow adding, editing, and viewing supplier details accurately.	High	Sprint-1
Pharmacist	Product Management	USN-2	As a pharmacist, I want to add and update product information including expiry dates to ensure	The system must validate expiry dates and prevent invalid entries.	High	Sprint-1

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User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance Criteria	Priority	Release
			data accuracy.			
Purchase Manager	Purchase Order Creation	USN-3	As a purchase manager, I want to generate purchase orders linked with suppliers and products to streamline procurement.	The system must calculate total order cost and link suppliers and products correctly.	High	Sprint-2
Inventory Manager	Stock Management	USN-4	As an inventory manager, I want to update stock levels automatically when	The system should update product quantity in real time after transactions.	Medium	Sprint-2

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User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance Criteria	Priority	Release
			products are received or issued.			
Administrator	Reporting and Dashboard	USN-5	As an admin, I want to view dashboards and reports to monitor stock levels and supplier performance.	The system must generate accurate reports and display key metrics visually.	Medium	Sprint-3

## Outcome

The **Data Flow Diagram** and **User Stories** together provide a clear understanding of the system's operational flow and user expectations. The DFD ensures that every data movement and process dependency is properly defined, while the user stories translate functional goals into actionable development tasks.

For the **Medical Inventory Management System**, this combination guarantees smooth data handling, improved efficiency, and precise automation across all medical inventory operations. It also ensures that all

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stakeholders — from pharmacists to administrators — can effectively interact with the system to achieve real-time accuracy and reliability.