Requirement Analysis Phase

Solution Requirement

Date	31-10-2025
Team ID	NM2025TMID06793
Project Name	Medical Inventory Management

1. Introduction

The Solution Requirement outlines the functional and non-functional requirements for the Medical Inventory Management System (MIMS). Requirements serve as the foundation for system design and ensure that the application meets user needs, regulatory standards, and business objectives.

Objectives:

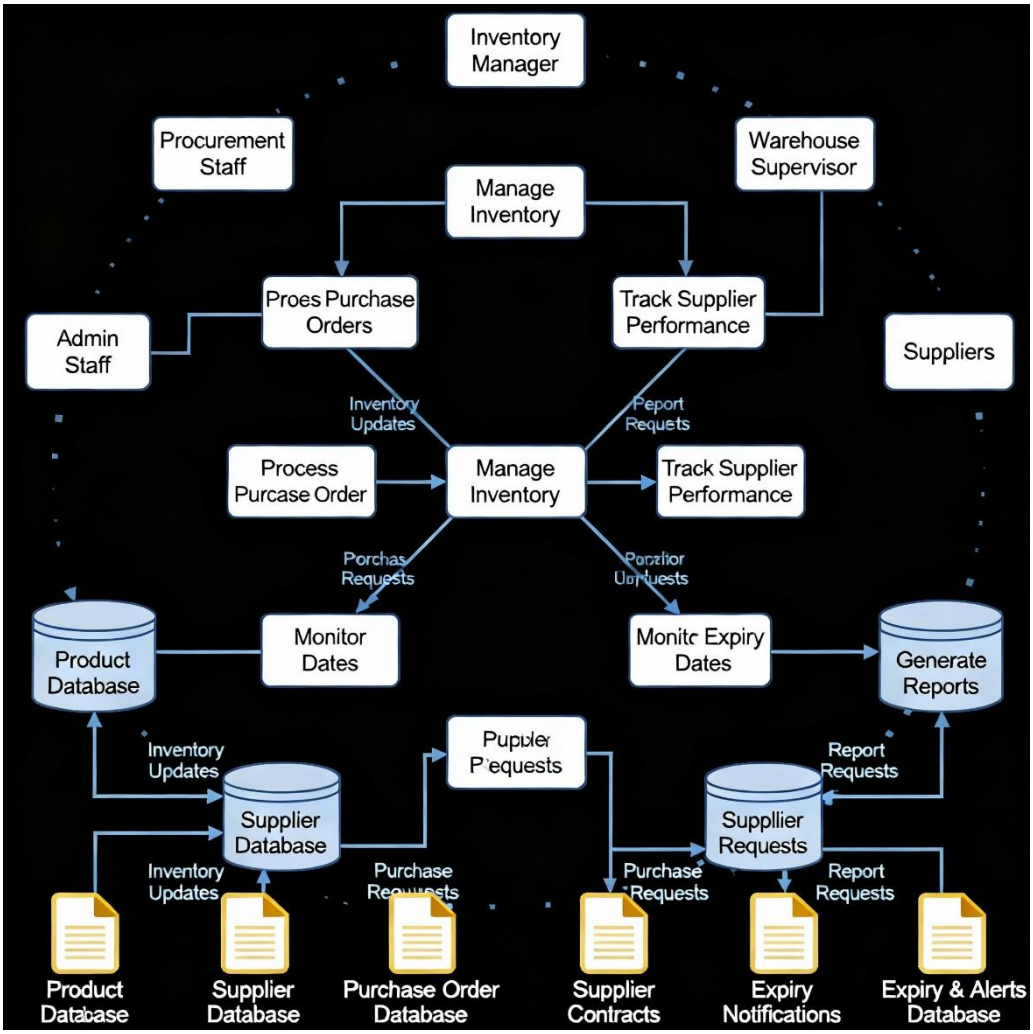
Define what the system must do (functional requirements).

Specify performance, security, and compliance standards (non-functional requirements).

Provide clear guidance for development, testing, and deployment.

2. Functional Requirements

Feature	Description	User Impact
Inventory Tracking	Maintain real-time stock levels of medical products	Reduces errors, ensures availability
Supplier Management	Store supplier contact info, ratings, and delivery history	Faster procurement, informed supplier selection
Purchase Order Management	Automated PO creation, approval, and tracking	Reduces delays and duplication
Expiry Monitoring	Automatic alerts for near-expiry items	Prevents wastage, ensures compliance



Example User Scenario:

Inventory Manager logs in to view a dashboard showing stock levels.

System highlights medicines with low stock or nearing expiry.

Procurement Staff receives automated PO suggestions for replenishment.

3. Non-Functional Requirements

Category	Requirement	Rationale
Performance	System should handle 100 concurrent users with <2s response time	Ensures reliability during peak hours
Scalability	Must accommodate increasing product and supplier data	Future-proof system growth
Availability	99.9% uptime for critical modules	Continuous operation for healthcare facilities
Security	Data encryption, role-based access control	Protects sensitive medical and supplier data
Compliance	Supports regulatory reporting and audit requirements	Meets healthcare standards
Usability	Intuitive interface with dashboards and reports	Reduces training time, increases efficiency
Maintainability	Modular design, easy updates	Facilitates ongoing improvements

Data Stores:

Product Database

Supplier Database

Purchase Order Database

Expiry & Alerts Database

Data Flow Example:

Inventory Manager → Stock update → Inventory database

Warehouse Supervisor → Expiry check → Expiry & Alerts database

Procurement Staff → PO creation → PO database → Supplier

Database Technologies for Medical Inventory Management System