

Project Design Phase

Problem – Solution Fit Template

Date	03 November 2025
Team ID	NM2025TMID01909
Project Name	Medical Inventory Management
Maximum Marks	2 Marks

Problem Statement

Hospitals, clinics, and pharmacies struggle with **inefficient manual inventory management**, leading to:

- Overstocking or shortages of medicines and medical supplies
- Expiry-related wastage and financial losses
- Delays in patient care due to unavailable items
- Time-consuming record-keeping and audits
- Lack of real-time visibility across departments

These challenges cause **operational inefficiency, non-compliance with medical standards, and increased costs**.

Proposed Solution

Develop a **digital Medical Inventory Management System** that automates and optimizes the entire supply chain process — from stock tracking to supplier management.

Value Proposition

Stakeholder	Benefit
Hospital Management	Cost savings, transparency, and better decision-making
Pharmacists / Inventory Staff	Simplified tracking, fewer manual errors
Doctors / Nurses	Quick access to required medicines and supplies
Patients	Timely treatment and improved care quality

Core Solution Features

Solution Element	Description / Function	Problem Solved
Real-Time Inventory Tracking	Automatically updates stock levels as items are issued or received	Eliminates manual errors and delays
Expiry & Low Stock Alerts	Notifies users before stock expires or runs low	Prevents wastage and ensures continuous availability
Auto Reorder System	Generates purchase orders when stock hits reorder level	Avoids shortages and maintains supply flow
Barcode / RFID Integration	Enables fast and accurate scanning of items	Reduces manual entry errors
Analytics Dashboard	Displays stock usage, wastage, and cost trends	Supports data-driven decisions
Supplier Management	Tracks supplier details, order history, and delivery performance	Improves procurement reliability
Audit Trail	Logs all stock movements and actions	Ensures accountability and compliance

Expected Impact

- **30–40% reduction** in expired stock wastage
- **50% improvement** in inventory accuracy
- **Faster audits** and compliance reporting
- **Improved patient safety** through timely medication availability

Problem–Solution Fit Summary

The proposed **Medical Inventory Management System** directly addresses the critical inefficiencies in hospital inventory workflows. By digitizing and automating key processes, it creates a balance between **supply accuracy**, **cost efficiency**, and **patient care quality** — achieving a strong *problem–solution fit*.

