

Project Design Phase

Proposed Solution

Date	28 October 2025
Team ID	NM2025TMID04224
Project Name	Medical Inventory Management System
Maximum Marks	2 Marks

Proposed Solution Template:

S.No	Parameter	Description
1.	Problem Statement (Problem to be solved)	Hospitals and medical stores often face issues managing medicines, surgical equipment, and consumables efficiently.
2.	Idea / Solution Description	The proposed system is a web-based Medical Inventory Management System that automates the tracking of medicines and equipment.
3.	Novelty / Uniqueness	The system integrates barcode scanning, automated expiry alerts, and predictive restocking using data analytics.
4.	Social Impact / Customer Satisfaction	Ensures availability of essential medicines, minimizes waste, and improves patient safety by preventing the use of expired drugs.
5.	Business Model (Revenue Model)	Hospitals, pharmacies, and clinics can subscribe to the system on a Software-as-a-Service (SaaS) basis.

Conclusion

The project “Medical Inventory Management System” addresses a critical challenge in hospitals and health-care centers – the inefficient tracking and management of medical supplies. By ensuring accurate stock-monitoring, automated expiry alerts, and efficient re-stocking, the system significantly enhances accountability, reduces human error, and improves operational transparency. This solution not only safeguards the availability of essential medicines but also supports better auditing, budgeting, and compliance with health-care standards. With the successful implementation of automated tracking, data analytics, and real-time inventory updates, the system lays the foundation for smarter, safer, and more efficient healthcare operations.

Reference: Infographic created using *Canva* and *Figma*.

Solution Description:

The Medical Inventory Management System provides a centralized platform to track, manage, and automate the flow of medical supplies in hospitals and pharmacies. The system records all inventory details — including stock quantity, supplier information, purchase and expiry dates, and usage history. It generates automatic alerts when stock is low or nearing expiry, ensuring proactive restocking and reducing waste.

By integrating barcode technology and data analytics, it simplifies stock verification and helps forecast demand accurately.

The system improves hospital operations, reduces manual workload, and ensures that patients receive timely care without medicine shortages.