Medical Inventory Management System

Team ID	NM2025TMID05596
Project Name	Medical Inventory Management System
Team Members	Palanivelu S (Reg.No:912422104028)
	Muralikrishnan R (Reg.No:912422104025)
	Mohammed Aashik Sh(Reg.No: 912422104024)
	Mohamed Azrath Rahuman S (Reg.No:912422104022)

REQUIREMENT ANALYSIS PHASE

1. Functional Requirements

- **Inventory Management:** Add, edit, delete medical stock.

- **Stock Alerts:** Automated email/SMS alerts for low stock.

- **Expiry Management:** Notify before medicine expiration.

- **Supplier Management:** Maintain supplier details and purchase records.

- **User Roles:** Admin, Pharmacist, Nurse, and Manager access levels.

- **Reporting:** Generate daily/weekly inventory and usage reports.

2. Non-Functional Requirements

- **Performance:** Real-time updates under heavy usage.

- **Scalability:** Support multiple branches or hospitals.

- **Security:** Role-based authentication; encrypted database.

- **Reliability:** 99.9% uptime for hospital-critical operations.

- **Maintainability:** Easy configuration and modular architecture.

3. Technology Stack

Layer	Tools & Frameworks
Frontend	HTML5, CSS3, JavaScript, ReactJS
Backend	Node.js, Express.js
Database	MongoDB

Layer	Tools & Frameworks
Authentication	JWT (JSON Web Token)
Version Control	GitHub
Deployment	AWS / Heroku

4. User Stories

- **As a Pharmacist**, I can update the quantity when stock arrives.

- **As a Nurse**, I can view available medicines and request items.

- **As an Admin**, I can view overall inventory reports.

- **As a Manager**, I can track supplier performance and approve purchases.

5. Data Flow Diagram (Conceptual Description)

1. **User Login** → Validates credentials.

2. **Dashboard** → Displays inventory overview.

3. **Inventory Module** → CRUD operations on items.

4. **Alerts Module** → Generates expiry or low-stock notifications.

   Reports Module → Aggregates and visualizes stock data.