REQUIREMENT ANALYSIS PHASE

Team ID	NM2025TMID01548
Project Name	Medical Inventory Management System
Team Members	Arun Mozhi (Reg.No:912422104005) Abul Harish J (Reg.No:912422104001) Balamurugan P (Reg.No: 912422104006) Balamurugan P (Reg.No:912422104007)

Folder Reference:
Document/Requirement Analysis/

Includes:

- Data Flow Diagrams and User Stories
- Solution Requirements
- Technology Stack Template
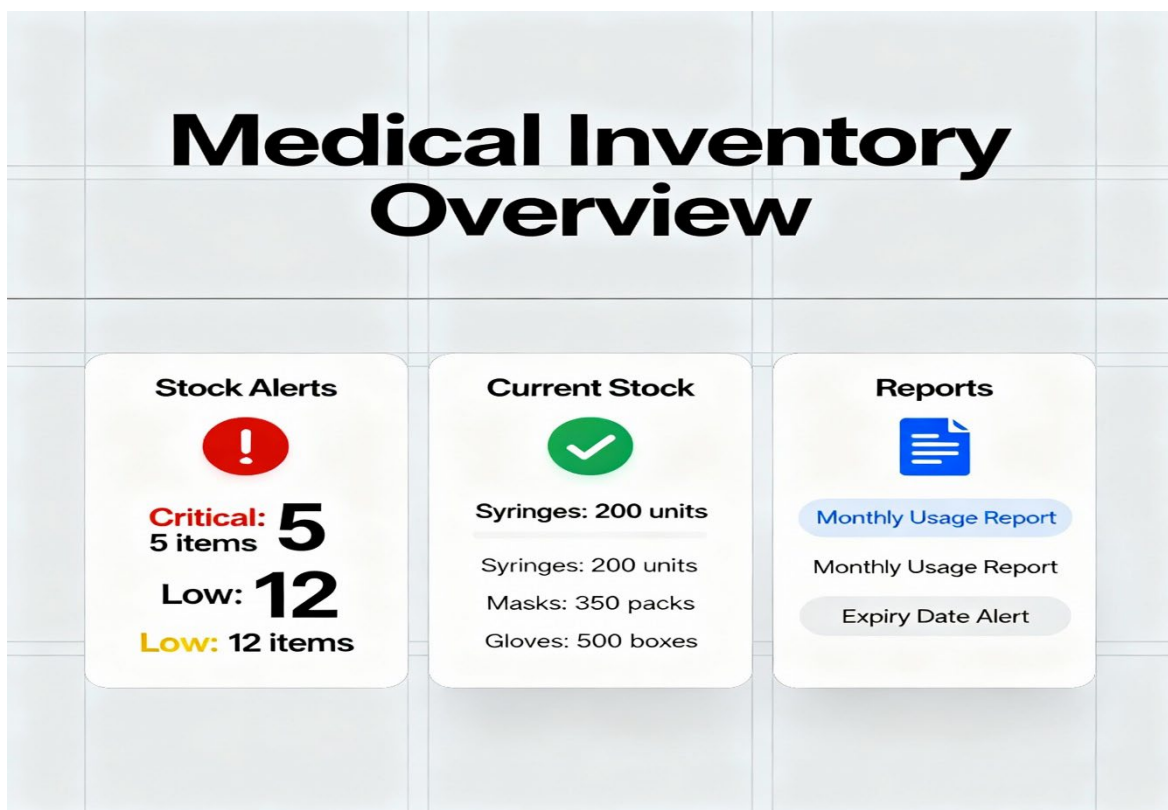- Readme.md

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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.

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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.

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3. Technology Stack

Layer	Tools & Frameworks
Frontend	HTML5, CSS3, JavaScript, ReactJS
Backend	Node.js, Express.js
Database	MongoDB
Authentication	JWT (JSON Web Token)
Version Control	GitHub
Deployment	AWS / Heroku

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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.

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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.

5. **Reports Module** → Aggregates and visualizes stock data.