

Ideation Phase

Empathize & Discover

Date	01 NOV 2025
Team ID	NM2025TMID02942
Title	Medical Inventory System
Maximum Marks	4 Marks

1. Empathize Stage

Goal:

Understand the needs, pain points, motivations, and daily challenges of people involved in managing medical inventory — from hospital staff to suppliers.

a. Key Stakeholders (Users to Empathize With)

Stakeholder	Role in Inventory	Needs / Goals	Pain Points
Pharmacist / Store Manager	Manages inventory, stock records, and orders	Maintain adequate stock levels; avoid expiry losses	Manual stock tracking, errors in records, difficult to predict demand
Procurement Officer	Orders supplies from vendors	Timely purchase and delivery; cost efficiency	No visibility into current stock, difficulty in planning reorders
Doctors / Nurses	Consume medical items during care	Quick access to required medicines or equipment	Stockouts or delays affect patient care
Hospital Administrator	Oversees operations and compliance	Ensure smooth supply chain, minimize costs	Lack of real-time data, poor reporting for audits

Stakeholder	Role in Inventory	Needs / Goals	Pain Points
Suppliers / Vendors	Deliver medical supplies	Accurate and timely orders from clients	Unclear demand, inconsistent communication

b. Empathy Methods

Method	Purpose	Insights to Gather
Interviews / Surveys	Talk to pharmacists, nurses, and administrators	What are the biggest frustrations in managing inventory?
Observation (Shadowing)	Observe how staff manage stockrooms or issue supplies	Identify workflow inefficiencies, manual steps, bottlenecks
Journey Mapping	Track how an item moves from supplier → storage → usage	Where are the delays, errors, or miscommunications?
Pain Point Mapping	Identify emotional and operational pain points	Stress from stockouts, fear of expired items, reporting workload

c. Sample Empathy Insights

- Pharmacists spend excessive time on manual inventory counting.
 - Nurses often find essential items out of stock during emergencies.
 - Procurement teams rely on outdated Excel sheets for ordering.
 - Administrators lack a unified dashboard for monitoring.
 - Expired medicines often go unnoticed until audits.
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2. Discover Stage

Goal:

Use the insights from the Empathize stage to discover patterns, define needs, and highlight innovation opportunities.

a. Key Findings

- Process Fragmentation: No integration between departments or systems.
 - Data Gaps: Inventory data isn't updated in real time.
 - Forecasting Limitations: No demand prediction for fast-moving or critical items.
 - Compliance Challenges: Difficulty maintaining audit-ready records.
 - Waste Management: Expired or unused items are not tracked effectively.
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b. User Needs Identified

- A centralized system to view and update inventory levels in real time.
 - Automated alerts for low stock, near-expiry, and replenishment.
 - Data analytics for consumption trends and demand forecasting.
 - Easy reporting tools for regulatory and audit purposes.
 - Mobile or tablet access for on-floor staff to update stock usage quickly.
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c. Opportunity Areas

- Introduce barcode or RFID tracking for accurate item monitoring.
- Implement AI-based demand forecasting to predict stock needs.
- Enable role-based dashboards for pharmacists, nurses, and administrators.
- Automate purchase order generation and vendor communication.
- Integrate with hospital management systems (HMS) for end-to-end visibility.

