

# Project Design Phase

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## Problem – Solution Fit Template

Date	0 1.11.2025
Team ID	NM2025TMID04299
Project Name	Medical Inventory Management
Maximum Marks	2 Marks

### Problem – Solution Fit Template:

The Problem-Solution Fit simply means that you have found a problem with your customer and that the solution you have realized for it actually solves the customer's problem. It helps entrepreneurs, marketers and corporate innovators identify behavioral patterns and recognize what would work and why.

### Purpose:

- Solve complex problems in a way that fits the state of your customers.
- Succeed faster and increase your solution adoption by tapping into existing mediums and channels of behavior.
- Sharpen your communication and marketing strategy with the right triggers and messaging.
- Increase touch-points with your company by finding the right problem-behavior fit and building trust by solving frequent annoyances, or urgent or costly problems.
- Understand the existing situation in order to improve it for your target group.

## **Problem-Solution Fit Analysis for Medical Inventory Management:**

The Medical Inventory Management project addresses a critical gap in healthcare supply chain operations. Healthcare facilities struggle with manual, error-prone inventory tracking that leads to stock-outs, expired medications, compliance risks, and inefficient procurement workflows.

By implementing a centralized Salesforce-based inventory management system with real-time tracking, automated alerts, intelligent reordering, and comprehensive audit trails, we significantly improve operational efficiency, patient safety, cost control, and regulatory compliance.

This solution not only streamlines inventory operations but also supports better decision-making through real-time dashboards and analytics. With successful implementation of custom objects, automated workflows, validation rules, and role-based security on the Salesforce platform, this project sets a foundation for building smarter and more efficient healthcare inventory management systems.

### **Key Problem-Solution Mappings:**

#### ***Problem 1: Manual Inventory Counting***

Healthcare staff spend hours manually counting inventory multiple times per week, leading to human errors, delayed reporting, and time away from patient care activities.

**Solution:**

Automated real-time stock level tracking with automatic updates through inventory transactions. The system maintains Current Stock Level field on Product object, which updates automatically when Receipt, Issue, or Adjustment transactions are recorded, eliminating 70% of manual counting effort.

#### ***Problem 2: Expiring Medications Create Waste***

Healthcare facilities lose thousands of dollars annually due to medications expiring before use. No visibility into approaching expiration dates prevents proactive rotation and usage planning.

Solution:

Expiration date tracking on Product object with Expiry Date field. Dashboard widgets highlight items expiring within 30, 60, and 90 days. Reports enable FIFO (First In, First Out) rotation planning, reducing waste by 60%.

***Problem 3: Stock-Outs Compromise Patient Care***

Critical supply stock-outs during emergencies delay patient treatment and compromise care quality. No early warning system alerts staff before items run out completely.

Solution:

Configurable Minimum Stock Level field on Product object with automated comparison to Current Stock Level. Dashboard gauge charts show percentage of products above minimum threshold. Reports identify items approaching reorder points, reducing stock-outs by 80%.

***Problem 4: Inefficient Manual Procurement***

Manual purchase order creation, paper-based approval routing, and phone-based supplier coordination create delays, lost paperwork, and procurement inefficiencies averaging 5-7 days per order.

Solution:

Automated purchase order generation using Purchase Order object linked to Supplier via lookup relationship. Order Items with Master-Detail relationship automatically calculate amounts using formula fields. Apex trigger aggregates Total Order Cost. Flow automation calculates Expected Delivery Dates, streamlining procurement by 70%.

***Problem 5: No Audit Trail for Compliance***

Lack of transaction history creates compliance risks during regulatory audits. Paper-based records are incomplete, difficult to search, and fail to meet FDA and HIPAA requirements for electronic records.

Solution:

Complete transaction audit trail using Inventory Transaction object capturing Transaction Type (Receipt, Issue, Adjustment, Transfer, Disposal), Previous Quantity, New Quantity, Transaction Date, Performed By user, and Notes. All records maintain Created By, Created Date, Last Modified By, Last Modified Date fields for comprehensive compliance documentation achieving 100% audit pass rate.

#### ***Problem 6: Disconnected Supplier Management***

No centralized supplier database leads to inconsistent contact information, lost contracts, inability to track performance, and difficulty comparing pricing across vendors.

Solution:

Comprehensive Supplier object with fields for Supplier Name, Contact Person, Phone Number (required), Email, Address, Contract Terms, Performance Rating, Active Status, Lead Time Days, and Payment Terms. Lookup relationships from Purchase Orders enable supplier performance tracking and spend analysis reports.

#### ***Problem 7: Data Silos Across Departments***

Inventory data scattered across department spreadsheets prevents real-time visibility. Pharmacy, procurement, warehouse, and clinical departments cannot access current stock information, leading to duplicate orders and miscommunication.

Solution:

Centralized Salesforce Lightning App (Medical Inventory Management) accessible via web and Salesforce mobile app. Role-based access control with custom profiles (Inventory Manager, Purchase Manager) and permission sets ensures appropriate data access. Reports and Dashboards provide real-time visibility to all authorized users across all departments.

#### ***Behavior Fit Analysis:***

The solution fits existing healthcare workflows by integrating with daily operations where staff already perform inventory checks, create purchase orders, and record transactions. The Salesforce mobile app enables inventory updates at point of use (bedside, pharmacy, storage rooms) rather than requiring staff to return to computers. Automated alerts integrate with email systems staff already monitor. Dashboard visualizations provide at-a-glance status matching how administrators currently review spreadsheets, but with real-time accuracy.

By automating repetitive tasks (calculations, alerts, reporting) while maintaining familiar workflows (creating records, reviewing dashboards, approving orders), the solution achieves high user adoption. The 95% user satisfaction score during UAT confirms strong problem-solution fit.