**IDEATION PHASE**

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| Date | 29-05-2025 |
| Team ID | LTVIP2025TMID28829 |
| Project Name | Medical Inventory Management |
| Maximum Marks | 2Marks |

**2.1 Problem Statement**

In the rapidly evolving landscape of healthcare, the timely availability of medical supplies is a critical component for effective patient care. Hospitals, clinics, and diagnostic centers depend on well-managed inventories to ensure they have the necessary equipment, medicines, and consumables at the right time. Despite the importance of this process, many healthcare institutions still rely on outdated inventory systems or manual record-keeping, leading to frequent stockouts, wastage due to expired products, and inefficient procurement cycles.

The COVID-19 pandemic further exposed these vulnerabilities. Hospitals worldwide struggled with inadequate inventory tracking systems that failed to predict surges in demand or maintain real-time visibility over stock levels. These issues not only strained healthcare workers but also put patients' lives at risk. The crisis underscored the urgent need for healthcare systems to modernize their inventory management practices using digital platforms that can offer automation, analytics, and real-time tracking.

**Problem Identification**

Traditional inventory systems used in many hospitals face the following key issues:

* **Lack of Real-Time Data**: Many systems do not offer real-time inventory visibility, leading to inaccurate reporting and misinformed purchasing decisions.
* **Manual Dependency**: Processes are often paper-based or dependent on spreadsheet tracking, which is prone to human error and inefficiency.
* **Poor Expiry Management**: Expired drugs or medical products can remain in inventory due to inadequate alerts and shelf-life tracking mechanisms.
* **Overstocking & Understocking**: Without predictive analytics or automated reordering logic, medical institutions either overstock expensive items or face critical shortages.
* **Fragmented Vendor Management**: Procurement teams deal with multiple vendors without centralized data, which affects pricing negotiation and supplier evaluation.
* **Audit & Compliance Challenges**: Manual tracking makes it difficult to produce quick audit trails or comply with health sector regulations.
* **Limited Integration**: Existing inventory systems often function in silos, without integration with billing, patient care, or supplier systems, creating operational disconnects.

**Current System Workflow (Pain Points)**

Hospitals typically operate with siloed departments. Inventory is managed independently across different units (e.g., pharmacy, emergency, ICU), with limited coordination. The current workflow involves:

1. Manual requisition of stock from departments.
2. Paper-based or Excel-driven record keeping.
3. Delay in procurement approvals and supplier follow-ups.
4. No alerting system for nearing expiry or low stock levels.
5. Reactive inventory decisions rather than proactive planning.

These inefficiencies directly affect treatment cycles, patient satisfaction, and hospital financial performance. The lack of a unified view across departments causes duplications, increased administrative burden, and underutilization of existing stock.

**Need for a Digital, Scalable Solution**

There is a critical demand for a centralized, cloud-based, intelligent inventory management system that:

* Offers **real-time tracking** of stock levels across departments and facilities.
* Uses **automation and workflows** to streamline ordering, approval, and restocking processes.
* Provides **alerts and reporting** for expiry, low inventory, and pending procurement actions.
* Incorporates **vendor management** modules with supplier rating, pricing history, and integration to purchase orders.
* Enables **data-driven insights** via dashboards and predictive analytics to optimize stock levels.
* Ensures **compliance** with medical regulations by maintaining audit trails and documentation.

**Salesforce as the Solution Platform**

Salesforce, with its scalable architecture, built-in automation tools (Flow, Apex, Process Builder), customizable data model (objects, fields, relationships), and extensive reporting/dashboard capabilities, is an ideal platform to implement such a system.

By leveraging Salesforce:

* We can **customize objects** to reflect inventory items, vendors, transactions, and departments.
* Implement **automated flows** for restocking, approvals, and notifications.
* Design **role-based access** for security and compliance.
* Enable **integration with third-party platforms** (e.g., procurement APIs, barcode scanners).
* Provide **cloud accessibility** for staff at different locations or on different shifts.

**Stakeholders Affected**

1. **Hospital Inventory Manager**: Needs real-time visibility, expiry alerts, and efficient reorder capabilities.
2. **Procurement Officer**: Requires streamlined vendor communication, order status tracking, and budget monitoring.
3. **Doctors & Nurses**: Depend on timely availability of supplies for uninterrupted patient care.
4. **Hospital Management**: Needs audit-ready reports, compliance tracking, and cost control.
5. **IT Administrator**: Responsible for implementing and maintaining system accessibility and security.

**Conclusion of Problem Statement**

In conclusion, the existing medical inventory management systems are no longer sufficient for the demands of modern healthcare delivery. The combination of manual processes, lack of integration, and poor data visibility results in operational inefficiencies and risks to patient safety.

Our project aims to eliminate these bottlenecks by implementing a **Salesforce-powered Medical Inventory Management System** that provides intelligent, automated, and centralized control over medical supplies. This transformation will lead to improved patient care, reduced wastage, optimized procurement, and enhanced data-driven decision-making across the healthcare organization.