

Project Metadata

Item	Value
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1. Project Overview

The **Medical Inventory Management System** is a Salesforce-based application designed to streamline the tracking and management of medical inventory.

The system provides:

- Supplier management
- Product catalog with expiry monitoring
- Purchase order tracking
- Real-time dashboards and reports
- Role-based user access and security
- Compliance tracking for regulatory requirements

2. Goals & Objectives

Goal	Details
Inventory Visibility	Track stock levels, expiry dates, and supplier performance in real-time.
Regulatory Compliance	Prevent distribution of expired products and maintain audit trails.
Operational Efficiency	Automate routine processes and minimize manual errors.
Data Integrity	Enforce strict validation and maintain accurate records.
Role-Based Security	Restrict sensitive data access to authorized users only.
Business Intelligence	Provide insightful reports and dashboards for decision-making.

3. Scope

In Scope

- ☒ Salesforce application with:
- Custom objects
 - Lightning app UI
 - Security configuration (roles, profiles, permissions)
 - Reports and dashboards
 - Basic automations and triggers

Out of Scope

- ✗ Integration with external ERP/EHR systems (planned for Phase 2)
- ✗ Mobile App (planned for Phase 2)
- ✗ eCommerce integration

4. Architecture

- **Platform:** Salesforce Lightning
 - **Data Model:** Custom Salesforce objects with relationships
 - **Automation:** Flows, Process Builder, Apex Triggers
 - **User Interface:** Lightning Pages, Tabs, Compact Layouts
 - **Reports & Analytics:** Standard Salesforce reporting tools
 - **Security:** Profiles, Roles, Permission Sets
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5. User Personas

Persona	Description
System Admin	Configures Salesforce, manages users, security, and integrations.
Inventory Manager	Manages stock levels, products, purchase orders, and transactions.
Compliance Officer	Audits records, ensures regulatory compliance, and reviews reports.
Executive/Viewer	Views dashboards and reports for high-level insights.

6. User Stories & Acceptance Criteria

Admin User Stories

- **Story:** As a System Admin, I want to create custom objects for suppliers, products, and orders.
Acceptance: Custom objects exist and are accessible.
 - **Story:** As a System Admin, I want to set up roles and profiles for secure data access.
Acceptance: Users only access data relevant to their role.
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Inventory Manager User Stories

- **Story:** As an Inventory Manager, I want to track expiry dates to prevent expired products being used.
Acceptance: System highlights expired products and prevents saving expired items as Active.
 - **Story:** As an Inventory Manager, I want to receive low-stock alerts.
Acceptance: System triggers notifications when stock falls below thresholds.
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Compliance Officer User Stories

- **Story:** As a Compliance Officer, I want reports of products expiring in 30/60/90 days.
Acceptance: Reports show correct expiry data.
 - **Story:** As a Compliance Officer, I want to audit changes to critical records.
Acceptance: Field history tracking is enabled for key objects.
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7. Functional Requirements

Milestone Breakdown

Milestone Description

- | | |
|----|--------------------------------------------|
| 1 | Salesforce Developer Account creation |
| 2 | Creation of custom objects |
| 3 | Tabs for objects |
| 4 | Lightning App creation |
| 5 | Custom fields for objects |
| 6 | Page layout customization |
| 7 | Compact layouts for key objects |
| 8 | Validation rules to enforce business logic |
| 9 | Profiles for role-based access |
| 10 | Roles for hierarchy and data visibility |
| 11 | User creation and assignment |
| 12 | Permission Sets for fine-grained access |
| 13 | Flows for automations |
| 14 | Apex triggers for business logic |
| 15 | Reports for operational insights |
| 16 | Dashboards for visual analytics |
| 17 | Conclusion and handover |
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8. Data Model

Custom Objects

Supplier

- Name
- Contact Person
- Phone
- Email
- Address
- Supplier Rating
- License Expiry Date

Product

- Product Name
- SKU
- Description
- Quantity
- Expiry Date
- Supplier (Lookup)
- Regulatory Classification
- Status (Active, Expired)

Purchase Order

- Order Number
- Supplier (Lookup)
- Date
- Total Amount
- Status (Pending, Approved, Completed)

Transaction

- Product (Lookup)
- Quantity
- Transaction Date
- Transaction Type (Inbound, Outbound)

9. Security Model

- **Profiles:**
 - System Administrator

- Inventory Manager
 - Compliance Officer
 - Viewer
 - **Roles:**
 - CEO
 - Compliance Officer
 - Inventory Manager
 - Technician
 - **Permission Sets:**
 - Reporting Access
 - Dashboard Creation
 - Record Export
 - **Field-Level Security:**
 - Sensitive fields like Supplier Ratings or License Expiry restricted to Compliance or Admin.
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10. Automation & Business Logic

Flows

- **Low Stock Alert**
 - Sends notifications when product quantity < threshold.
 - **Expiry Update Flow**
 - Marks product as “Expired” if expiry date has passed.
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Apex Triggers

- On Product Update:
 - If expiry date is updated, automatically adjust the status field.
 - On Transaction:
 - Subtract quantity from inventory for outbound transactions.
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Validation Rules

- Prevent negative inventory levels.

- Disallow saving expired products as Active.
 - Ensure purchase orders have valid supplier references.
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11. Reporting & Analytics

Reports

- Products expiring in 30/60/90 days.
- Supplier performance (e.g. average rating, delivery times).
- Current stock levels by product category.

Dashboards

- Expiring Products Pie Chart
 - Inventory Value Over Time
 - Supplier Performance Metrics
 - Transaction trends
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12. User Interface

- Lightning App: Medical Inventory App
 - Custom Tabs:
 - Supplier
 - Product
 - Purchase Order
 - Transaction
 - Page Layouts:
 - Grouped logically (e.g. supplier info, regulatory info).
 - Compact Layouts:
 - Product: Name, Expiry Date, Quantity, Status
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13. Non-Functional Requirements

Requirement Detail

Performance Dashboard load times under 3 seconds.

Security Role-based and field-level security.

Requirement Detail

Compliance Data retention meets HIPAA/local regulations.

Scalability Designed to handle over 1M records.

Usability Clean UI, mobile-friendly.

14. Advanced Features & Future Roadmap

- ERP/EHR integrations for purchase orders and supplier data.
 - Einstein Analytics for predictive inventory trends.
 - Mobile app for warehouse technicians.
 - Supplier self-service portal.
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15. Deployment & Setup Guide

Prerequisites

- Salesforce Developer Org
- Admin access

Deployment Steps

1. Create custom objects in Salesforce.
 2. Build fields, relationships, and page layouts.
 3. Configure tabs and Lightning App.
 4. Implement validation rules.
 5. Create roles, profiles, and users.
 6. Develop flows and triggers.
 7. Build reports and dashboards.
 8. Test functionality with sample data.
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16. Project Timeline

Milestone	Duration
Developer Account	1 day
Custom Objects	2 days

Milestone	Duration
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Tabs & Lightning App	1 day
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Fields & Layouts	2 days
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Security & Users	2 days
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Flows & Triggers	3 days
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Reports & Dashboards	2 days
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Testing & Handover	2 days
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17. Success Criteria

- ✓ App deployed without errors
 - ✓ User roles and security working as designed
 - ✓ Accurate and meaningful reports generated
 - ✓ Good performance under high data volume
 - ✓ User training successfully completed
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18. Risks & Mitigation

Risk	Mitigation
Large data volumes slow performance	Optimize indexes and queries.
Users accidentally delete data	Enable recycle bin and profile restrictions.
Regulatory updates change requirements	Maintain flexible architecture for future updates.

19. License

MIT License.

20. Contact

For questions or contributions, please open an issue or contact:

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