5. REQUIREMENT ANALYSIS

1. Objective

The Requirement Analysis Phase identifies, defines, and validates the specific requirements needed to develop the CRM-based Jewel Management System on the Salesforce platform.

This phase ensures that both functional and technical requirements align with the project's business goals — improving jewelry sales, customer relationships, billing, and stock management.

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2. Scope of the System

The JewelCRM system aims to automate jewelry business processes including customer management, order processing, billing, and inventory control.

The scope includes:

- End-to-end jewelry sales tracking and billing automation.
- Centralized customer and order data management.
- Role-based data access for staff and managers.
- Dashboard-based analytics for sales and inventory reports.

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3. Functional Requirements

Functional requirements define what the CRM system must accomplish using Salesforce tools and feature

3.1 Core Functional Modules

Module	Functionality	Salesforce Feature Used
Customer Management	Register and update customer profiles and purchase history.	Custom Object + Flow
Jewelry Inventory Management	Manage available jewelry stock, weight, price, and item details.	Custom Object

Module	Functionality	Salesforce Feature Used
Sales Order Management.	Record jewelry sales transactions and link with customers	Flow + Trigger
Billing and Invoice Generation	Generate automated invoices and payment receipts.	Custom Object + Flow
Reporting & Dashboard	Visualize total revenue, best-selling items, and stock levels	Reports + Dashboard Builder

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3.2 System Workflow

1. A customer record is created or selected.
2. A new Sales Order is generated through the Sales Flow.
3. The system automatically creates an Invoice and reduces the item quantity in Inventory.
4. Sales Managers can monitor performance through dashboards and reports.

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4. Technical Requirements

Technical requirements define the tools, configurations, and system specifications used for implementation.

Category	Requirement	Description
Platform	Salesforce Developer Edition	Cloud-based CRM for automation and data management
Programming	Apex (Trigger)	Automates stock updates and billing generation
Automation Tool	Salesforce Flow	Automates customer and order creation
Database	Salesforce Objects	Stores data for customers, jewelry items, and invoices
Visualization	Salesforce Dashboard	Displays real-time sales and stock analytics
Security	Profiles, Public Groups, and Sharing Rules	Controls data access among users

4.1 Software Tools

- Salesforce Lightning Experience
- Flow Builder
- Schema Builder
- Developer Console
- Report & Dashboard Builder

4.2 Hardware Requirements

Component	Minimum Specification
Processor	Intel i3 or higher
RAM	4 GB minimum
Storage	512 MB for Salesforce Cache
Internet	Stable 2 Mbps connection
Browser	Chrome / Edge (latest)

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5. Non-Functional Requirements

These requirements define **system performance, usability, reliability, and security** characteristics.

Category	Requirement	Description
Performance	Must handle up to 100 concurrent users	Supported by Salesforce multi-tenant architecture
Scalability	Must support multiple branches	Dynamic object relationships for scalability
Security	Role-based data access	Controlled via Profiles and Sharing Rules
Usability	Simple navigation and intuitive layout	Enabled by Lightning App Interface
Reliability	99.9% uptime	Ensured by Salesforce Cloud infrastructure
Maintainability	Easy updates and enhancements	Supported by low-code Flow Builder tools

6. Data Model Design

The **Data Model** defines how different objects interact and store essential data.

Object	Key Fields	Relationship Type
Customer	Name, Phone, Email, Address	Lookup to Sales Order
Jewelry Item	Item Name, Type, Price, Stock Quantity	Linked to Inventory
Sales Order	Order ID, Customer Name, Item, Quantity	Master-Detail with Invoice
Invoice	Invoice No., Amount, Date	Child of Sales Order
Inventory	Item ID, Quantity, Restock Date	Lookup to Jewelry Item

Formula Example (for total amount):

Total_Amount_c = Quantityc * Item_Price_c

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7. User Interface (UI) Requirements

- The UI is designed in Salesforce Lightning App with easy navigation for jewelry business staff.

Main Tabs:

- Customers
- Jewelry Items
- Sales Orders
- Invoices
- Inventory
- Reports & Dashboards

7.1 UI Expectations

- Professional, elegant layout suitable for jewelry retail.

- Fast record creation through guided flows.
- Mobile responsive design for use in showrooms.
- Embedded dashboards for quick analytics.

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8. System Validation Requirements

Test Area	Description	Expected Output
Flow Execution	Sales Flow creates customer and order records	Record created successfully
Trigger Validation	Automatic stock deduction after sale	Stock updated instantly
Dashboard Display	Live reports on sales and revenue	Real-time visual updates
Profile Access	Limited access for sales staff	Restricted data confirmed

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9. Risk Identification and Mitigation

Risk	Description	Mitigation Strategy
Data Loss Enable	Accidental deletion by user	Enable Recycle Bin & Backup
Access Conflicts	Incorrect profile permission	Conduct periodic audits of roles and permissions
System Downtime	Cloud dependency	Prepare offline report exports
Trigger/Flow Failure	Trigger or Flow error	Enable debug logs and test classes for validation

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10. Summary

The Requirement Analysis Phase of the CRM Application for Jewel Management establishes the complete functional, technical, and non-functional framework for the system.

It ensures clarity in workflows, security, and automation — supporting efficient jewelry sales, billing, and customer engagement.Key achievements of this phase:

Key Achievements:

- Complete mapping of entities and business processes
- Defined UI and data flow requirements
- Established risk control and validation measures
- Ensured scalability for multi-branch jewelry businesses

This phase provides a strong foundation for the upcoming Design and Implementation Phase.