3.Project Design

1. Objective

he objective of this design phase is to create the visual, technical, and logical structure of the CRM-based Jewel Management System.
This design converts user and business requirements into a complete Salesforce architecture that ensures smooth operations for customer management, sales tracking, inventory control, and billing automation.

This design focuses on:

- Interface Design (UI/UX)
- Automation Design (Workflows and Triggers)
- Security Model Integration
- Dashboard and Report Visualization

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2. Design Overview

The design phase leverages Salesforce's declarative and programmatic tools to create a robust, secure, and user-friendly CRM solution for jewelry management.

System Highlights:

- Core Custom Objects: Customer, Jewelry Item, Sales Order, Invoice, and Inventory
- Automated Flows for sales and billing
- Apex Triggers for stock updates and notifications
- Dashboards for tracking total sales, revenue, and stock status
- Role-based access using Profiles and Sharing Rules

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3. User Interface (UI) Design

3.1 Lightning App Design

A custom Lightning App named "JewelCRM" was designed to help managers and sales representatives operate easily.

Steps:

1. Navigate to Setup → App Manager → New Lightning App.

2. Add App Name, Description, and logo.

3. Configure Navigation Tabs:

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

Design Principles Used:

- Minimal and elegant interface matching jewelry brand aesthetics
- Role-based navigation for managers, staff, and admin users

3.2 Home Page Design

The Home Page functions as a sales and monitoring dashboard.

Components Added:

- Screen Flow: For quick sales order creation
- Embedded Dashboard: Displays total sales, active customers, and stock alerts
- Motivational Card: Shows jewelry business highlights and daily sales summary

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4. Automation Design

Automation reduces manual effort and ensures data accuracy for all business activities.

4.1 Screen Flow: Sales Form Flow

The "Venue Form Flow" simplifies data entry for NGO admins.

Flow Steps:

1. Add Screen Elements → Customer Name, Jewelry Item, Quantity, and Price.

2. Use Create Record → Store data in Sales Order object.

3. Add Confirmation → "Sales Order Created Successfully.

4.2 Apex Trigger Design

A custom Apex Trigger was designed on the Inventory object to automatically reduce stock after each sale.

Trigger Formula:

$$Inventory\_Quantity\_c = Inventory\_Quantityc - Quantity\_Sold\_c$$

Trigger Steps:

1. Event: Before Insert on Sales Order

2. Function: Fetch corresponding jewelry item record

3. Deduct quantity sold from available stock

4. Save updated stock count

Rationale:

This ensures real-time inventory tracking and avoids overselling.

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5. Security Design

Security configuration ensures controlled access for Admin, Sales Staff, and Managers.

5.1 Profile-Based Access
- Sales Staff: Create and View access to Customers, Sales Orders
- Manager: Full CRUD access on all objects
- Admin: Full configuration and customization access.

5.2 Criteria-Based Sharing Rules
- Sales records shared only within assigned branch or region
- Inventory data visible only to managers

Benefit:
Provides data confidentiality and operational efficiency**.**

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6. Reporting and Dashboard Design

6.1 Reports

- Custom report types link:
- Customer → Sales Order → Invoice
- Jewelry Item → Inventory → Sales

6.2 Dashboard Components

- Bar Chart: Monthly revenue
- Pie Chart: Top-selling jewelry categories
- Line Chart: Sales trends over time
- Table View: Pending invoice.

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7. System Architecture Design

layer	Component	Function
Presentation Layer	Lightning App UI	Provides user interaction
Logic Layer	Apex Triggers, Flows	Automates workflows
Data Layer	Custom Objects, Fields	Handles records and relations
Analytics Layer	Dashboards, Reports	Shows key business insights

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8. Design Constraints

Constraint	Impact	Solution
large data sets in reports	Slower dashboard refresh	Use data filters and summarized report

Constraint	Impact	Solution
Incorrect data entries	Invalid records	Apply validation rules
Dashboard refresh delay	Slight lag in visuals	Schedule refresh every 15 mins

9. Future Design Considerations

1. Integration with Payment Gateway for online transactions

2. Mobile App version for jewelry sales executives

3. AI-based customer recommendation system (suggesting products based on past purchases).

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10. Summary

The Project Design Phase of the CRM Jewel Management System converts business needs into a functional and visual Salesforce architecture.

By using Lightning Apps, Flows, Triggers, and Dashboards, the design ensures a balance between automation, performance, and usability.

Key Achievements:

- Modern CRM interface tailored for jewelry businesses.
- Automated billing and inventory update flows.
- Secure, role-based data access.
- Real-time analytics through dashboards.