PROJECT DESIGN PHASE

Problem Solution Fit

| **Date** | **25-06-2025** |
| --- | --- |
| **Team Id** | LTVIP2025TMID31256 |
| **Project Name** | **CRM Application for Jewel Management - (Developer)** |
| **College Name** | **Ideal Institute Of Technology** |

### 🔍 Problem-Solution Fit

#### Problem Statement:

Jewel businesses face several inefficiencies and operational challenges due to:

Manual tracking of customer purchases, leading to loss of data and poor customer experience.

No centralized system for managing customer preferences, purchase history, and service records.

Difficulty in following up with potential buyers and managing leads.

No automation for promotions, loyalty programs, or personalized offers.

Inventory mismanagement due to lack of integration with CRM.

Inadequate analytics on sales trends, customer lifetime value, and staff performance.

**❖**  SOLUTION REQUIRED

| **Problem** | **Proposed Solution** |
| --- | --- |
| **No central customer database** | **Implement a centralized CRM with purchase history, preferences, and contact details** |
| **Inconsistent follow-ups with clients and leads** | **Automated reminders, lead nurturing workflows, and salesperson assignment** |
| **No loyalty or offer tracking** | **Loyalty program engine, personalized promotional SMS/email campaigns** |
| **Inventory not synced with sales or CRM** | **Integrate CRM with inventory system for live stock updates and recommendations** |
| **No customer segmentation** | **Implement AI-based customer segmentation based on buying behavior and preferences** |
| **Manual billing and poor data entry** | **Digital invoicing system with barcode scanning and auto-entry** |
| **Limited analytics and forecasting** | **Dashboards for sales trends, top buyers, customer lifetime value, and purchase cycles** |

🎯 Goal:

To provide an intelligent CRM solution that enables jewel businesses to track customer relationships, personalize experiences, manage inventory links, and analyze business insights for sales growth and customer loyalty.

🧩 Solution Components

Customer Relationship Management Core

Centralized customer database

Lifetime purchase history, preferences, and birthday/anniversary alerts

Lead Management & Automation

Capture walk-in leads, website inquiries, social leads

Assign sales reps automatically

Follow-up workflows and task management

Promotions & Loyalty Program

Automated discounts for returning customers

Tiered loyalty program with rewards tracking

Personalized offers through SMS/WhatsApp/email

Sales & Billing Integration

Invoice generation with barcode/item tagging

Tax calculations and receipts

Link sales to inventory and customer records

Inventory Sync & Recommendations

Real-time stock view within CRM

Alerts on fast-selling/high-margin items

Personalized upsell suggestions based on customer history

Reporting & Business Insights

Dashboards: daily sales, product trends, customer segments

Predictive analytics: next likely purchase, churn prediction

Staff performance and conversion rates

System Integrations

POS systems, accounting tools, SMS/WhatsApp APIs

Cloud backup and sync with mobile CRM apps

🛠️ Technology Stack

| Layer | Technology |
| --- | --- |
| Frontend | React.js (Web), Flutter (Mobile App) |
| Backend | Node.js, Spring Boot |
| Database | MySQL, MongoDB |
| Integration | REST APIs, Twilio (SMS), WhatsApp Cloud API |
| Cloud/DevOps | AWS, Firebase, Docker, GitHub Actions |

🚀 Deployment Plan (Phased)

Phase 1 – Core CRM Deployment

Launch customer database, billing module, and lead management

Phase 2 – Loyalty & Integration

Add promotional engine, loyalty system, and POS/Inventory integration

Phase 3 – Advanced Insights

Enable AI-based insights, segmentation, and predictive analytics

🏗️ Solution Architecture: JewelCRM

JewelCRM is a modular, cloud-based CRM tailored for jewel businesses to manage the full customer lifecycle. It centralizes customer data, automates communication, tracks loyalty, and connects seamlessly with sales and inventory systems.

Key components include:

A mobile-friendly CRM portal for staff

A loyalty engine and promotional manager

Real-time sync with stock data

Sales forecasting and churn prediction

Secure access with audit logs and backup

🥇 Project Objectives:

🔍 Organize Customer Data  
 Digitize and centralize all customer interactions, preferences, and sales for better personalization and service.

💬 Engage Customers Smartly  
 Automated personalized messages and offers to improve engagement, conversion, and repeat sales.

📈 Boost Revenue and Loyalty  
 Enable data-driven upselling, loyalty incentives, and personalized recommendations.

🔄 Synchronize with Inventory & Billing  
 Reduce manual errors and mismatches by linking CRM to stock and billing in real-time.

📊 Drive Data-Driven Decisions  
 Leverage analytics for customer segmentation, high-value buyer identification, and trend tracking.

✅ Ensure Seamless Operations  
 Automate everyday tasks, ensure timely follow-ups, and streamline the customer journey from first contact to repeat purchase.