Project Design Phase

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Team ID	NM2025TMID00789
Project name	CRM for jewel management
Marks	4 Marks

Goals of the Architecture:

- Integrate customer management and inventory tracking in a single platform.
- Ensure real-time synchronization between sales and stock data.
- Automate customer communication for offers and event reminders.
- Generate analytical reports for business insights and decision-making.
- Provide a scalable, user-friendly interface suitable for jewellery businesses.

Key Components:

- **Customer Module:** Stores customer details, purchase history, and preferences.
- **Inventory Module:** Manages stock details for jewellery items (gold, silver, diamond, etc.) and updates automatically after each sale.
- **Sales & Billing Module:** Handles transactions and invoices while updating CRM and inventory records.
- **Notification System:** Sends SMS/email reminders for offers, birthdays, or anniversaries.
- **Analytics & Reporting Module:** Generates sales trends, customer insights, and inventory performance reports.
- **Database:** Centralized storage to maintain all customer and inventory data securely.

Development Phases:

1. **Customer Data Management** – Create modules to register customers and record their purchase details.
2. **Inventory Management** – Build a product database with live stock updates after each sale.
3. **Integration Phase** – Link customer transactions with inventory updates for real-time synchronization.
4. **Notification & Reminder System** – Implement automatic alerts for offers and events.
5. **Report Generation** – Add dashboards to display sales trends and inventory analytics.
6. **Testing & Validation** – Verify data accuracy, module connectivity, and performance reliability.

■ Solution Architecture Description:

The **solution architecture** for the CRM for Jewellery Inventory System is designed to integrate customer relationship management with inventory control under one unified platform. The system ensures that every transaction updates both customer history and inventory records instantly, maintaining real-time accuracy.

The architecture consists of interconnected modules — Customer, Inventory, Billing, and Notification — all supported by a centralized database. Whenever a purchase occurs, the system updates the stock count, links it to the customer's purchase profile, and triggers event-based notifications. Analytical modules further process this data to produce reports on customer behavior and sales patterns.

This architecture improves operational efficiency, reduces manual work, and enhances customer engagement through

automation. It provides a scalable, secure, and reliable solution suitable for small and medium jewellery businesses aiming to digitize their management processes.

Reference:

https://aws.amazon.com/blogs/industries/voice-applications-in-clinical-research-powered-by-ai-on-a ws-part-1-architecture-and-design-considerations/