Project Design Phase
CRM Solution Architecture

Date	26/06/2025
Team ID	LTVIP2025TMID31187
Project Name	Crm Application For Jewel Management -(Developer)
Maximum Marks	4 Marks

rCRM Solution Architecture:

Solution Architecture for CRM

Application Jewelry Management

Objective of Architecture

Bridge the gap between jewelry retail business problems and scalable, technology-driven CRM solutions.

Enable inventory, customer, and sales process automation for jewelers via a centralized cloud-based CRM.

Ensure secure, real-time access to data and analytics across devices and store branches.

Key Components of the Architecture

Component Description

Frontend (Web & Mobile) User interfaces for sales staff, store managers, and admins - built using React (Web) and Flutter (Mobile) for responsiveness. Backend Services (API Layer) Node.js or Python-based REST APIs to handle logic, customer interactions, product queries,Python-based REST APIs to handle logic, customer interactions, product queries, etc.

Database Layer Cloud-native database like AWS RDS or MongoDB for storing customer profiles, inventory data, orders, and logs.

Authentication & Access Control AWS Cognito, Firebase Auth, or OAuth for secure role-based access (admin, sales rep, manager).

Inventory Management Module Tracks each jewelry item by attributes: metal, gemstone, weight, size, design, and batch. Customer Management Module Manages contact info, preferences, purchase history, important dates (anniversaries, birthdays).

Communication Module Integrated with SMS/Email APIs (e.g., Twilio, SendGrid) for automated client messaging.

Analytics & Reports Uses tools like Amazon QuickSight or Power BI for sales trends, customer behavior, inventory turnover.

Repair & Warranty Tracker Logs product repairs, warranty period, and customer communication around servicing. Cloud Infrastructure Hosted on AWS, Azure, or GCP for high availability, auto-scaling, and backups.

Integration Layer API connectors to POS systems, eCommerce platforms (Shopify,