TECHNOLOGY STACK

Date	**23 october 2025**
Team ID	**NM2025TMID02837**
Project Name	**Crm Application for Jewel Management**
Maximum Marks	**5 Marks**

Technical Architecture :

The **CRM Application for Jewel Management** is built on the **Salesforce cloud platform** using a three-tier architecture comprising presentation, application, and data layers. It uses **Lightning Web Components (LWC)** for a responsive user interface and **Apex** for business logic and automation. Customer, product, and sales data are stored in **standard and custom Salesforce objects** with secure access controls. Integration with external systems and real-time analytics is handled through **Salesforce APIs and dashboards**.

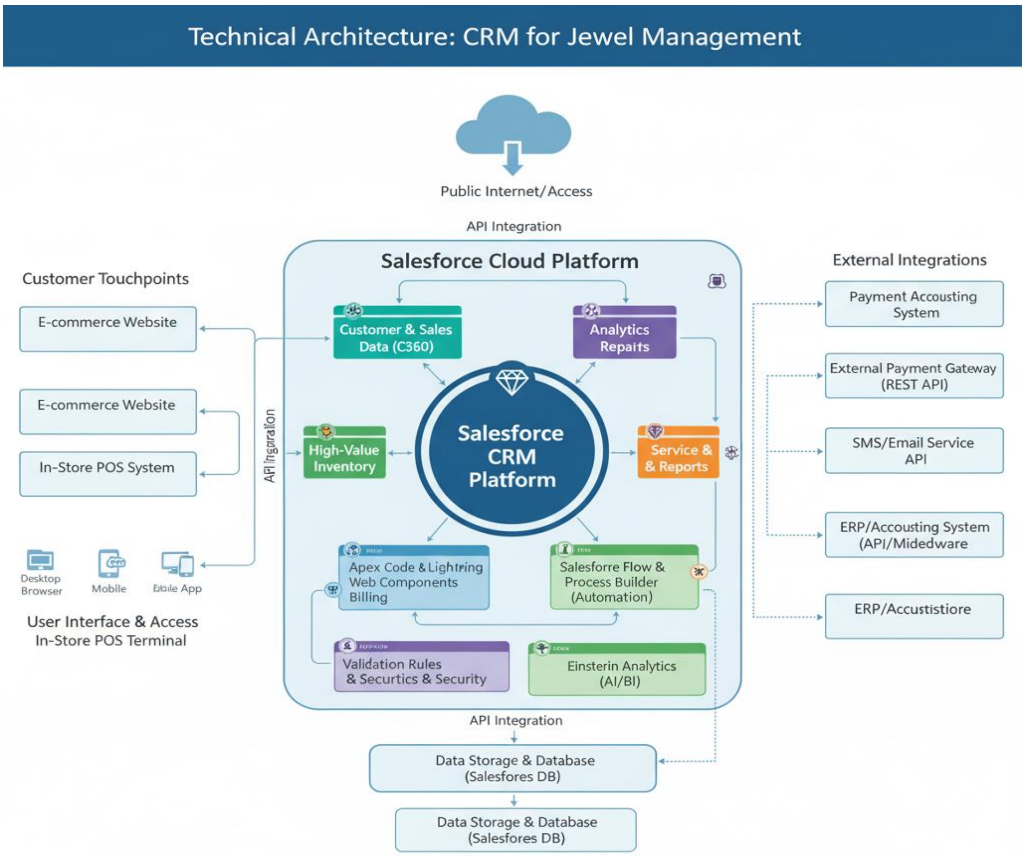

Table-1 : Components & Technologies :

The system will be structured around three primary components to handle the defined functional requirements:

1. **Operational CRM (Front-End/User Interaction):**
    - **Function:** Automates and supports the day-to-day business processes, including sales (Lead-to-Order), customer service (Repair Tracking), and contact management. This is the main interface used by Sales Reps and Workshop Technicians.
    - **Components:** Customer 360 View, Sales Pipeline Management, Quote Generation Interface, Custom Order/Job Card Module (R.1, R.3).
2. **Analytical CRM (Data/Reporting):**
    - **Function:** Analyzes customer data collected by the operational side to drive actionable insights, reporting, and personalized marketing.
    - **Components:** Reporting Engine, Dashboard Module (Performance and Inventory Valuation Reports), Automated Alerting System (C.3).
3. **Integration Layer (Middleware/Back-End):**
    - **Function:** Ensures seamless communication, particularly the critical **real-time bi-directional sync** with the external Inventory/ERP system (FR 2.1, FR 2.3). This layer handles security and data mapping between systems.
    - **Components:** API Gateway, Inventory Sync Service, Authentication Service (NFR 1.1).

Table-2: Application Characteristics:

1. High Security and Compliance

- **Characteristic:** The application manages highly sensitive financial data (precious metal costs, high-value inventory details) and strict client personal information (NFR 1.3, NFR 1.4).
- **Impact:** Requires mandatory **Multi-Factor Authentication (MFA)**, end-to-end data encryption, and an immutable **Audit Log** for all record changes, ensuring accountability and compliance.

2. Deep Integration Capability

- **Characteristic:** The CRM is not standalone; its value depends entirely on a **real-time bi-directional connection** with the core Inventory/ERP system (FR 2.1).

- **Impact:** Requires robust, modern **API technology** to synchronize data like stock levels, pricing, and stone certifications instantly, enabling accurate quoting and reservation (S.3).

3. Workflow Specialization (Customization)

- **Characteristic:** The system must handle non-standard retail processes unique to jewelry, specifically **Custom Orders** and **Repair Services** (R.1, R.3).
- **Impact:** Features dedicated modules for creating and tracking complex **Job Cards** that include fields for CAD files, metal weight, and customer-provided stone specifications, moving beyond typical sales-only CRM capabilities.

4. High Data Granularity and Integrity

- **Characteristic:** Success relies on capturing fine-grained, unique data points about the product and the customer (C.2, S.1).
- **Impact:** The database structure must support specialized customer fields (e.g., Ring Size, Metal Preference) and product attributes (e.g., GIA/IGI Certificate Number) to facilitate high levels of personalization and accurate valuation reporting.

5. Mobile Accessibility

- **Characteristic:** Users, particularly Sales Representatives and Workshop Technicians, need to access and update information while on the sales floor or in the workshop (NFR 3.3).
- **Impact:** The system must be designed with a responsive interface or dedicated mobile applications to allow key actions, like checking inventory or updating a repair status, from a tablet or smartphone.