

Project Design Phase

Technology Stack

Date	06 NOV 2025
Team ID	NM2025TMID07115
Title	CRM Application For Jewel Management –(Developer)
Maximum Marks	4 Marks

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1. Overview

The **CRM Application for Jewel Customer** will be developed using a modern and reliable technology stack to ensure **performance, security, scalability, and ease of maintenance**. The stack combines both **frontend and backend technologies**, as well as **database, integration, and deployment tools**.

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2. Technology Stack Summary

Layer	Technology / Tool
Frontend (User Interface)	HTML5, CSS3, JavaScript  React.js / Salesforce Lightning Components
Backend (Server-Side)	Node.js with Express / Apex (if on Salesforce platform)
Database	MySQL / PostgreSQL / Salesforce Object Database
API Layer	RESTful APIs
Authentication & Security	JWT / OAuth 2.0 / Salesforce Authentication
Hosting / Deployment	Salesforce Cloud / AWS / Heroku
Version Control	Git, GitHub

Purpose

Structure, style, and interactivity for the CRM web interface.

For creating responsive, dynamic, and reusable UI components.

Server logic, API handling, and business process automation.

To store customer, order, billing, and inventory data securely.

To integrate modules like billing, payment, and SMS/email gateways.

User login, session management, and secure access control.

For reliable cloud-based hosting and deployment.

For source code management and team collaboration.

Layer	Technology / Tool	Purpose
Communication Services	Twilio / SendGrid / Salesforce	For sending SMS, email notifications, and alerts.
	Email Service	
Payment Integration	Razorpay / Stripe / PayPal APIs	To manage online payments and transaction tracking.
Testing Frameworks	Jest / Mocha / Salesforce Test Unit	Test Unit and integration testing to ensure
	Classes	system reliability.
Analytics & Reporting	Power BI / Tableau / Salesforce Reports	For generating dashboards, visual analytics, and performance reports.
Containerization (Optional)	Docker	To containerize and deploy the CRM for consistent environments.

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### 3. Technology Stack Architecture

The system follows a **3-Tier Architecture**:

1. **Presentation Layer (Frontend/UI)** ○ Developed using **React.js** or **Salesforce Lightning**.
  - Provides intuitive interfaces for admins, sales teams, and customers.

- 2. **Application Layer (Backend/Logic)** ○ Implements all **business logic**, workflow automation, and validations.
  - Uses **Node.js/Express** or **Salesforce Apex** for processing requests and managing APIs.
- 3. **Data Layer (Database/Storage)**
  - Uses **MySQL/PostgreSQL** or **Salesforce Database Objects** to store and retrieve all system data.
  - Includes **data backup and encryption** for reliability and security.

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#### 4. Integration Components

- **SMS & Email Services:** Twilio / SendGrid APIs for communication.
- **Payment Gateways:** Integration with Razorpay or Stripe for transactions.
- **External APIs:** Support for future integrations like accounting or loyalty programs.
- **Data Analytics:** Integration with Power BI or Salesforce Dashboard for insights.

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#### 5. Development Tools

Category	Tools / Software
IDE / Code Editor	Visual Studio Code / Salesforce Developer Console
Version Control	GitHub / GitLab
Project Management	Jira / Trello
Testing & QA	Postman (API testing), Jest, Selenium
CI/CD	GitHub Actions / Jenkins
Documentation	Confluence / Notion / Salesforce Documentation Tools

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#### 6. Security Technologies

- SSL/TLS Encryption for all data transmission.

- Role-Based Access Control (Admin, Manager, Sales Executive).
- Data encryption at rest using AES standards.
- Regular security audits and backup mechanisms.

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## 7. Deployment & Maintenance

- Hosted on **Salesforce Cloud** or **AWS Cloud Infrastructure**.
- Continuous Integration and Continuous Deployment (CI/CD) pipelines for regular updates.
- Automated monitoring using tools like **CloudWatch** or **Salesforce Monitoring Tools**.