Software Requirements Specification (SRS) Template

Project: Customer Relationship Management
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Authors: K S SAGARI
      MAHIMA R SHETTY
      JYOTSANA S
      JAHNAVI SRINATH
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Revision history

Version	Date	Author	Change summary	Approval
1.0	03-09-2025	Instructor	SRS with diagrams embedded	

Approvals

Role	Name	Signature / Email	Date
Course Coordinator			

Table of Contents

1. Introduction

1.1 Purpose

This document is a Software Requirements Specification (SRS) for a Customer Relationship Management (CRM) system that helps organizations manage the customer lifecycle across Reach, Acquire, Convert, Retain, and Loyalty stages

1.2 Scope

This SRS covers user interactions with the CRM system related to reaching, acquiring, converting, and retaining customers, as well as managing loyalty. It includes functionalities for managing leads, tracking sales pipelines, and handling customer support. The document excludes external third-party software beyond APIs and hardware specifications.

1.3 Audience

Developers, QA Engineers, System Integrators, Marketing team and sales staff, maintenance technicians, and project managers

1.4 Definitions

List of acronyms:ATM, PIN, OTP, UI, API, EMV, TLS, RTO, RPO

2. Overall description

2.1 Product perspective

The CRM system is a web-based application that interacts with various user roles to manage customer data and interactions. It includes a user interface, a backend for data processing, and networked services for integration with other platforms.

2.2 Major product functions (detailed)

The CRM will support:
- Marketing campaign management (reach)
- Lead capture & onboarding (acquire)
- Lead scoring & sales conversion (convert)
- Customer support & engagement tracking (retain)
- Rewards, referrals & feedback for loyalty (loyalty)

2.3 User roles and characteristics (expanded)

- Marketing executive (runs campaigns, monitors reach)

- Sales executive (tracks leads, converts customers)
- Customer support (handles retention and complaints)
- Manager/Administrator (monitors analytics, sets KPIs)
- Customer (interacts via portal/email/SMS for loyalty programs

2.4 Operating environment

The CRM system will operate on a secure cloud-based platform accessible via web browsers. It will use standard enterprise databases and will be integrated with other business systems via APIs.

2.5 Constraints

GDPR/Data privacy compliance, must integrate with email/SMS gateways, scalability to thousands of customers.

3. External interface requirements

3.1 User interfaces

The primary UI will be a responsive, web-based dashboard with clear navigation menus. The interface must be optimized for various screen sizes.

3.2 Hardware interfaces

None specific (runs on standard computers/servers).

3.3 Software interfaces

- Email Marketing API: For sending automated emails and tracking campaign performance.
- Payment Gateway API: For processing sales transactions and subscriptions.
- Customer Support API: For integrating with helpdesk software.
- Analytics API: For sending event data to business intelligence tools.

3.4 Communications

Secure HTTPS/TLS for all communication.

<< Make sure overall there are at least 15 FRs for overall project, 5 NFRs, 2 security objectives and 5 Security requirements>>

4. System features (detailed)

Each requirement below includes acceptance criteria and a reference test case. Requirement IDs follow CRM-F-###

4.1 Reach (Marketing)

Description: Attract and capture new leads for the business.

Req ID	Requirement	Type	Priority	Source/Stakeholder	Acceptance criteria / Test case ref	Comments / Dependencies
CRM-F-001	The system shall allow creation and management of marketing campaigns.	Functional	High	Marketing / Sales	C-CRM-F-001: A user can create a campaign with a name, budget, and start/end dates. Test: TC-Mktg-01	Requires Admin permissions
CRM-F-002	The system shall track and report on campaign performance, including key metrics like leads generated.	Functional	High	Marketing / Management	AC-CRM-F-002: A report can be generated showing the number of leads attributed to a specific campaign. Test: TC-Mktg-022	Requires integration with lead capture
CRM-F-003	The system shall integrate with external APIs (e.g., social media) for lead capture.	Functional	Medium	Marketing	AC-CRM-F-003: Leads from a social media form are automatically populated into the CRM. Test: TC-Mktg-03	Requires third-party API keys

4.2 Acquire (Onboarding/Lead Capture)
Description: Convert leads into structured customer data.

Req ID	Requirement (shall...)	Type	Priority	Source/Stakeholder	Acceptance criteria / Test case ref	Comments / Dependencies
CRM-F-004	The system shall automatically capture leads from specified web forms.	Functional	High	Sales / Marketing	AC-CRM-F-004: A form submission on the website creates a new lead record in the CRM. Test: TC-Acq-01	Requires form-to-CRM integration
CRM-F-005	The system shall provide a centralized database to store and manage all customer profiles.	Functional	High	All users	AC-CRM-F-005: A user can view and edit a customer's profile, including contact details and history. Test: TC-Acq-02	Core CRM function
CRM-F-006	The system shall allow manual creation and import of lead records.	Functional	HIgh	Sales	AC-CRM-F-006: A sales representative can manually add a new lead record. Test: TC-Acq-03	Requires manual data entry UI

4.3 Convert (Sales Funnel)
Description: Guide and manage the sales process from lead to closed deal.

Req ID	Requirement	Type	Priority	Source/ Stakeholder	Acceptance criteria / Test case ref	Comments / Dependencies
CRM-F-007	The system shall track opportunities through customizable pipeline stages.	Functional	High	Sales	AC-CRM-F-007: A user can move an opportunity from one stage to the next in the sales pipeline. Test: TC-Conv-01	Requires pipeline configuration
CRM-F-008	The system shall provide a visual dashboard of the sales pipeline.	Functional	High	Sales / Management	AC-CRM-F-008: The dashboard displays opportunities categorized by their current stage. Test: TC-Conv-02	Dashboard view required
CRM-F-009	The system shall provide a lead scoring mechanism to prioritize leads.	Functional	Medium	Sales	AC-CRM-F-009: A lead's score is updated based on their interactions (e.g., email opens, website visits). Test: TC-Conv-03	Requires integration with engagement data

| CRM-F-010 | The system shall generate automated follow-up reminders for sales tasks. | Functional | High | Sales | AC-CRM-F-010: An alert is sent to a salesperson for a task due date. Test: TC-Conv-04 | Requires task management feature |
| CRM-F-011 | The system shall allow users to generate and send proposals or quotes to customers. | Functional | Medium | Sales | AC-CRM-F-011: A user can generate a PDF proposal based on a template with populated data. Test: TC-Conv-05 | Requires template management |

4.4 Retain (Customer Support)

Description: Manage and track customer issues to ensure satisfaction.

Req ID	Requirement	Type	Priority	Source/ Stakeholder	Acceptance criteria / Test case ref	Comments / Dependencies
CRM-F-012	The system shall provide a ticket management module for support cases.	Functional	High	Customer Support	AC-CRM-F-012: A new support ticket can be created, assigned, and tracked to resolution. Test: TC-Retain-01	Core support module function

| CRM-F-013 | The system shall maintain a complete history of all customer interactions. | Functional | High | All users | AC-CRM-F-013: A user can view a log of all emails, calls, and support tickets for a specific customer. Test: TC-Retain-02 | Requires integration with communication tools |

4.5 Loyalty (Rewards & Engagement)

Description: Reward customer loyalty to encourage repeat business.

Req ID	Requirement	Type	Priority	Source/ Stakeholder	Acceptance criteria / Test case ref	Comments / Dependencies
CRM-F-014	The system shall support a points-based loyalty program	Functional	Medium	Marketing / Management	AC-CRM-F-014: A user can manually add or deduct loyalty points for a customer. Test: TC-Loyalty-01	Requires loyalty module
CRM-F-015	The system shall generate reports on customer loyalty metrics.	Functional	High	Management	AC-CRM-F-015: A report shows the number of active loyalty members and total points redeemed.	Requires data from loyalty module

				Test: TC-Loyalty-02	

5. Non-functional requirements (detailed)

NFRs below are measurable and tied to test plans. IDs follow CRM-NF-###.

Req ID	Requirement	Category	Priority	Acceptance criteria / Measurement
CRM-NF-001	Overall page load time shall be ≤ 3 seconds for 95% of requests under normal load.	Performance	High	95th percentile page load time ≤ 3s in performance test. Test: TC-Perf-01
CRM-NF-002	System shall provide 99.5% availability monthly; scheduled maintenance excluded.	Reliability	High	Uptime reports show ≥ 99.5% monthly. Test: Ops reports.
CRM-NF-003	All personal data must comply with GDPR/ Privacy regulations.	Security/Compliance	High	Audit checklist pass, no plaintext PII stored. Test: TC-Sec-01
CRM-NF-004	The system shall support a minimum of 100 concurrent users without significant performance degradation.	Scalability	High	Load testing with 100 users maintains response times below 5 seconds. Test: TC-Perf-02
CRM-NF-005	The user interface shall be responsive and fully	Usability/Accessibility	Medium	UI passes responsive design tests on various

	functional on screen sizes from 320px to 1920px width.			devices. Test: TC-UX-01

5.1. Security

5.1.1 Security Objectives

- Data Confidentiality: Ensure that sensitive business data are accessible only to authorized personnel.
- System Integrity: Protect the system and its data from unauthorized modification or deletion.

5.1.2 Security Requirements

| Req ID	Requirement	Type	Priority	Acceptance criteria / Test case ref
CRM-SR-001	All network connections must use TLS 1.2+ encryption.	Security	High	Network traffic is verified to be encrypted using TLS 1.2 or higher. Test: TC-Sec-02
CRM-SR-002	User passwords must be stored using a strong, salted cryptographic hash function.	Security	High	Database audit shows no plaintext passwords. Test: TC-Sec-03
CRM-SR-003	The system shall implement Role-Based Access Control (RBAC) to enforce permissions.	Security	High	A sales user cannot access or modify a marketing campaign. Test: TC-Sec-04
CRM-SR-004	The system shall log all	Security	Medium	Log review shows all login

|	login attempts and failed login attempts.			events with timestamps and IP addresses. Test: TC-Sec-05
CRM-SR-005	Sensitive data exports shall require a two-factor authentication (2FA) or admin approval.	Security	High	A user cannot export customer data without a secondary authentication step. Test: TC-Sec-06

6. Quality attributes & Acceptance tests

- Exit Criteria for Acceptance: All high-priority functional requirements are implemented and verified, no critical non-functional failures, and the Requirements Traceability Matrix (RTM) shows all test cases passed.
- Acceptance Test Suites: Test suites for Lead Management, Sales Pipeline, Customer Support, Performance, and Security.

7. System models and diagrams

7.1 UML Use-Case diagram

CRM Use Case Diagram (Lifecycle Flow)

CRM Use Case Diagram - Customer Lifecycle
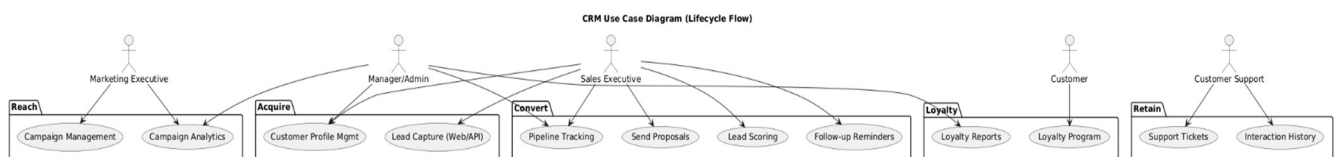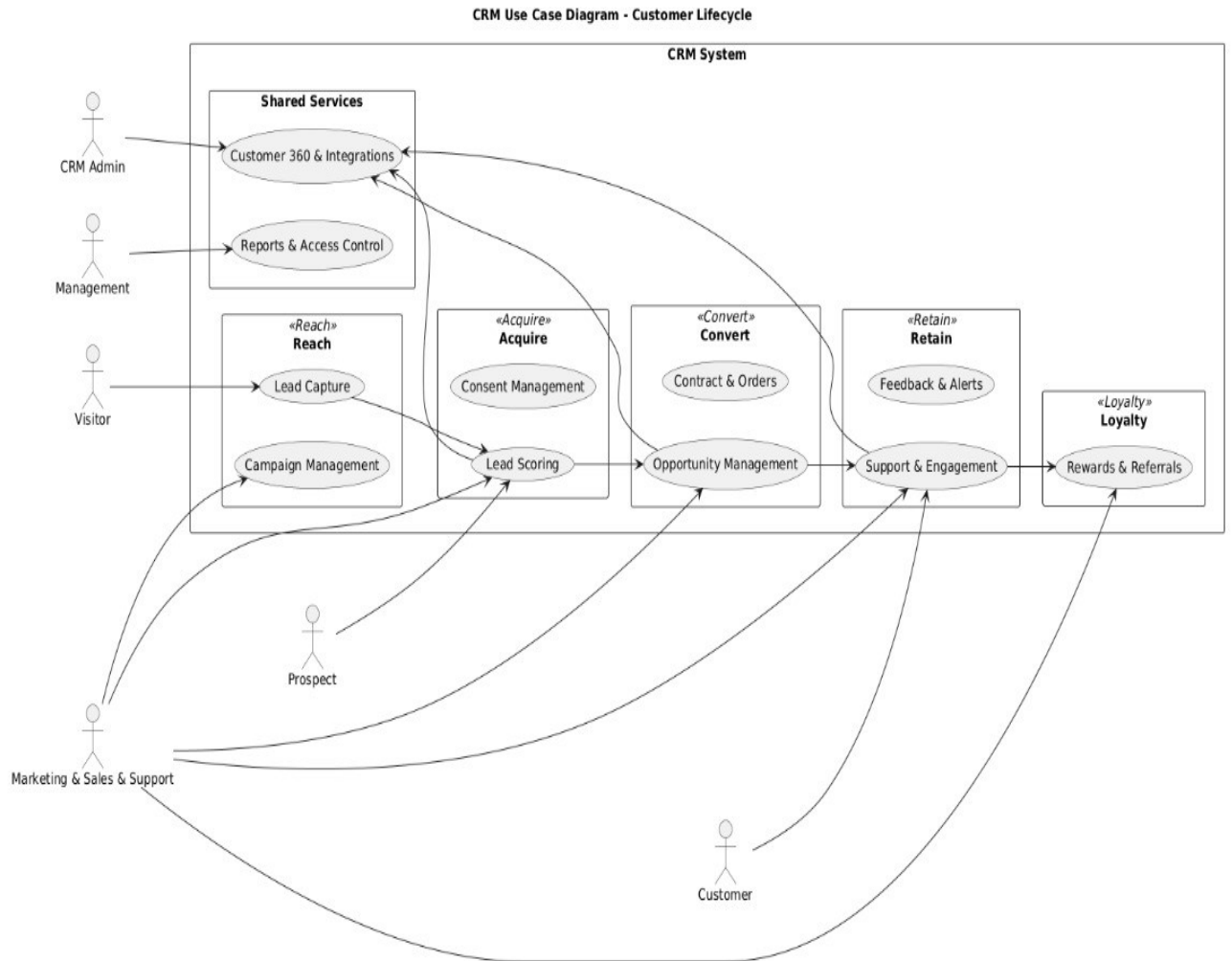
8. Requirements Traceability Matrix (RTM)

Req ID	Requirement short	Section ref / Design Spec	Module	Test case(s)	Status (N/P/A)	Comments
CRM-F-001	Create campaigns	4.1 / DS-Mktg-01	MarketingModule	TC-Mktg-01	N	Requires Admin permissions
CRM-F-002	Track campaign performance	4.1 / DS-Mktg-02	MarketingModule	TC-Mktg-02	N	Requires integration with lead capture
CRM-F-003	Integrate with social	4.1 / DS-Mktg-03	MarketingModule	TC-Mktg-	N	Requires third-party

		APIs			03		API keys
CRM-F-004	Capture web leads	4.2 / DS-Acq-01	OnboardingModule	TC-Acq-01	N	Requires form-to-CRM integration
CRM-F-005	Store customer profiles	4.2 / DS-Acq-02	OnboardingModule	TC-Acq-02	N	Core CRM function
CRM-F-006	Manual lead creation	4.2 / DS-Acq-03	OnboardingModule	TC-Acq-03	N	Requires manual data entry UI
CRM-F-007	Track sales stages	4.3 / DS-Conv-01	SalesModule	TC-Conv-01	N	Requires pipeline configuration
CRM-F-008	Sales pipeline dashboard	4.3 / DS-Conv-02	SalesModule	TC-Conv-02	N	Dashboard view required
CRM-F-009	Lead scoring mechanism	4.3 / DS-Conv-03	SalesModule	TC-Conv-03	N	Requires integration with engagement data
CRM-F-010	Automated follow-ups	4.3 / DS-Conv-04	SalesModule	TC-Conv-04	N	Requires task management feature
CRM-F-011	Generate proposals/quotes	4.3 / DS-Conv-05	SalesModule	TC-Conv-05	N	Requires template management
CRM-F-012	Ticket management	4.4 / DS-Retain-01	Support Module	TC-Retain-01	N	Core support module function
CRM-F-013	Maintain interaction history	4.4 / DS-Retain-02	Support Module	TC-Retain-02	N	Requires integration with

						communicati on tools
CRM-F-014	Support loyalty program4.5 / DS-Loyalty-01	4.5 / DS-Loyalty-01	LoyaltyM odule	TC-Loyalty-01	N	Requires loyalty module
CRM-F-015	Report on loyalty metrics	4.5 / DS-Loyalty-02	LoyaltyM odule	TC-Loyalty-02	N	Requires data from loyalty module
CRM-NF-001	Page load time target	5 / DS-Perf-01	Frontend /Backend	TC-Perf-01	N	
CRM-NF-002	System availability	5 / DS-Reliability-01	Operatio ns	TC-Availabi lity-01	N	Test via uptime reports
CRM-NF-003	GDPR compliance	5 / DS-Comp-01	All Modules	TC-Sec-01	N	
CRM-NF-004	Support 100 concurrent users	5 / DS-Scalability-01	Backend	TC-Perf-02	N	
CRM-NF-005	Responsive UI	5 / DS-UX-01	Frontend	TC-UX-01	N	
CRM-SR-001	TLS 1.2+ mandatory	5.1 / DS-Sec-01	Commun ications	TC-Sec-02	N	
CRM-SR-002	Hashed passwords	5.1 / DS-Sec-02	UserMg mtModul e	TC-Sec-03	N	
CRM-SR-003	RBAC implementa tion	5.1 / DS-Sec-03	UserMg mtModul e	TC-Sec-04	N	
CRM-	Log login	5.1 / DS-	Logging	TC-	N	

SR-004	attempts	Sec-04	Module	Sec-05		
CRM-SR-005	Export approval	5.1 / DS-Sec-05	AdminModule	TC-Sec-06	N	