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| Software Requirement Specification |  |
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|  | Sarvesh Savaikar |

**Project Title :** Generic CRM, Lead Generation & Marketing Tool

**1. Introduction**

**1.1 Purpose**

The purpose of this document is to define the functional and non-functional requirements of the CRM platform. The system will help businesses capture, manage, and convert leads while providing marketing automation, campaign tracking, customer lifecycle management, and analytical dashboards.

**1.2 Scope**

The CRM will:

* Provide lead capture from multiple channels (LinkedIn, WhatsApp, Email, Web Forms).
* Support pipeline management (Kanban board for lead stages).
* Enable campaign creation, automation, and performance analytics.
* Manage customers through lifecycle tracking (Onboarding → Active → At Risk → Inactive).
* Provide a dashboard with KPIs, forecasts, and team performance insights.
* Support multiple user roles (Admin, Manager, Sales Rep, Marketing, Support, Viewer).

**1.3 Definitions, Acronyms, Abbreviations**

* CRM – Customer Relationship Management
* JWT – JSON Web Token (authentication)
* KPI – Key Performance Indicator
* ROI – Return on Investment
* API – Application Programming Interface

**2. Overall Description**

**2.1 Product Perspective**

The system will be a **web-based SaaS platform** with a React frontend, FastAPI backend, and PostgreSQL database. It will integrate with third-party APIs for messaging (WhatsApp, LinkedIn, Email). Authentication will be handled using JWT with role-based access control.

**2.2 Product Functions**

* Lead management (creation, assignment, Kanban pipeline).
* Opportunity & deal tracking with forecasting.
* Task & activity management (calls, meetings, follow-ups).
* Campaign creation, scheduling, and analytics.
* Customer lifecycle tracking.
* Dashboard with KPIs and team performance.
* User, team, and role management.

**2.3 User Classes and Characteristics**

* **Admin**: Full access, system configuration, user & role management.
* **Manager**: Team-level access, performance monitoring, lead assignment.
* **Sales Rep**: Manage assigned leads, update pipeline, log interactions.
* **Marketing**: Campaign management, template tracking, ROI analysis.
* **Support**: Customer lifecycle management, retention & churn analysis.
* **Viewer**: Read-only access to dashboards and reports.

**2.4 Operating Environment**

* **Frontend**: React (Vite/CRA), TailwindCSS, Refine framework.
* **Backend**: FastAPI (Python), JWT-based authentication.
* **Database**: PostgreSQL.
* **Hosting**: Render/AWS/Firebase/Vercel.
* **Integrations**: SendGrid (Email), WhatsApp API, LinkedIn API.

**3. Functional Requirements**

**3.1 Lead Management**

* Add/edit/delete leads.
* Import via CSV/API.
* Kanban pipeline (New → Contacted → Qualified → Lost/Won).
* Unified inbox with communications history.

**3.2 Deals / Opportunities**

* Create/edit deals linked to leads.
* Move deals through pipeline stages.
* Forecast revenue based on deal probability.

**3.3 Tasks & Activities**

* Create/edit tasks (call, meeting, email).
* Smart scheduling & reminders.
* AI-powered follow-up suggestions.

**3.4 Campaigns**

* Multi-channel campaign creation (Email, WhatsApp, LinkedIn).
* Scheduling & automation.
* Performance metrics (sent, opened, clicked, bounced).

**3.5 Customers**

* Lifecycle stages (Onboarding, Active, At Risk, Inactive).
* Retention & churn analytics.
* Customer revenue tracking.

**3.6 Dashboard & Analytics**

* KPIs: Total leads, pipeline deals, revenue, conversion rate, forecast.
* Charts: Leads by source, deals by stage, sales trend.
* Team performance insights.
* Revenue snapshots (current vs previous).

**3.7 User & Team Management**

* Add/edit/delete users.
* Assign roles & permissions.
* Create/manage teams.

**4. Non-Functional Requirements**

* **Scalability**: Handle 10,000+ leads and multi-team usage.
* **Security**: JWT auth, password hashing, role-based access.
* **Performance**: API response < 300ms for dashboard queries.
* **Availability**: 99.9% uptime on hosting platform.
* **Usability**: Simple, intuitive UI with drag-and-drop boards.
* **Data Protection**: Encrypted storage for sensitive data.

**5. External Interface Requirements**

**5.1 User Interfaces**

* Responsive web UI (desktop-first, mobile-friendly).
* Dashboard, forms, tables, Kanban boards, and charts.

**5.2 Hardware Interfaces**

* Standard user devices (PC, laptop, tablet, mobile).

**5.3 Software Interfaces**

* PostgreSQL for database.
* APIs for WhatsApp, LinkedIn, Email.

**6. System Models**

* **ER Diagram**: Shows Users, Leads, Deals, Campaigns, Customers, Teams.
* **JWT Flow Diagram**: Auth & refresh token lifecycle.
* **UI Wireframes**: Dashboard, Lead board, Campaign screen, Admin panel.

**7. Future Scope**

* AI-powered lead scoring & chatbots.
* SaaS white-label version.
* Predictive analytics for churn and sales forecasting.
* Subscription billing integration.