

Niolla Project & Lead Management System

Comprehensive System Design & Phase 1 Scope Document

1. Introduction

Niolla Customer Solution is a small but growing software development company. As the company handles multiple customer inquiries daily, manual tracking through memory, calls, and informal tools has become inefficient. This document proposes a centralized internal system to manage customer inquiries, proposals, projects, and internal workflows in a professional, scalable manner.

2. Problem Statement

Currently, customer calls and inquiries are handled manually without a structured system. This leads to repeated calls, forgotten follow-ups, difficulty tracking proposal status, and lack of visibility into confirmed and ongoing projects. There is also no standardized way to generate and manage project proposals and pricing.

3. System Objectives

- Capture and manage all customer inquiries in one platform.
- Avoid duplicate inquiries through phone number detection.
- Automate sample project proposal generation.
- Provide reminder and meeting scheduling.
- Establish a scalable technical foundation for future phases.

4. Project Base & Technical Foundation

4.1 Technology Stack

Frontend: React.js with TypeScript

Backend: node.js(express)

Database: mongoDB

Authentication: JWT-based authentication

PDF Generation: Server-side PDF rendering

Deployment: Cloud-based (AWS / GCP compatible)

4.2 Architecture Design

The system will follow Clean Architecture principles to ensure maintainability, testability, and separation of concerns. The architecture will be organized into layers: Presentation Layer, Application Layer, Domain Layer, and Infrastructure Layer.

4.3 API Standards

All APIs will be RESTful and follow professional industry standards. They will use proper HTTP methods, versioning (e.g., /api/v1), standardized response formats, and centralized error handling. APIs will be secured using authentication and role-based authorization.

5. Phase 1 – Lead & Sample Proposal Management

5.1 Phase 1 Overview

Phase 1 focuses on solving the most critical operational problem: managing customer inquiries and generating sample project proposals efficiently. This phase does not include full project development tracking or payment processing.

5.2 Inquiry Management Module

When a customer calls or contacts the company, an administrator manually creates a new inquiry. The system stores customer details such as name, phone number, project description, required features, and internal notes. If a phone number already exists, the system alerts the admin.

5.3 Reminder & Meeting Scheduling

Admins can schedule follow-up reminders and meetings for each inquiry. These reminders ensure that no potential customer is forgotten during the decision-making period.

5.4 Sample Proposal Automation

The system includes a predefined sample proposal template. When generating a proposal, customer details, project description, and feature lists are automatically filled from the inquiry. Pricing and milestone information are entered manually.

5.5 PDF Generation

After review, the administrator can generate and download the sample proposal as a PDF document. This PDF is ready to be shared with the customer and includes a disclaimer stating that final pricing and scope may change.

6. Conclusion

This document outlines a professional, scalable system designed specifically for Niolla Customer Solution. Phase 1 provides immediate operational value while establishing a strong technical foundation for future expansion.