

# Customer Relationship Management Website

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**Abstract:** This project aims to develop a Customer Relationship Management (CRM) website designed to improve the management of customer interactions, streamline communication, and enhance sales strategies for businesses. The system is built with role-based access control (RBAC) to ensure that users with different roles (administrators, sales representatives, and support staff) can access only the necessary features. Additionally, an AI-powered assistant is integrated to provide real-time support, streamline query handling, and assist users in navigating the system efficiently. The CRM website is tailored for small to medium businesses seeking an intuitive and scalable solution to manage their customer relationships more effectively.

**Keywords:** Customer Relationship Management (CRM), Web-based application, Role-based access control (RBAC), AI-powered assistant, Business process automation

## I. INTRODUCTION

In the current digital age, businesses are increasingly recognizing the importance of managing customer relationships efficiently. Customer Relationship Management (CRM) systems have become essential for businesses aiming to improve communication with their customers, enhance customer service, and streamline sales and marketing processes. Traditional CRM methods that rely on manual tracking of customer interactions are prone to inefficiencies and errors, which can negatively impact customer satisfaction and business operations.

This project focuses on developing a web-based CRM website that addresses these issues by automating key customer management processes and offering a seamless user experience. The system allows businesses to track customer information, manage leads and sales processes, and provide support through a dedicated customer service portal. The integration of AI-powered chat assistants further enhances the CRM system by offering users real-time support for managing queries, generating reports, and navigating the platform.

## II. LITERATURE SURVEY

CRM systems have evolved significantly over the years, from basic contact management tools to comprehensive platforms that integrate sales, marketing, customer service, and analytics. Several well-established CRM systems, such as Salesforce, HubSpot, and Zoho CRM, have set the standard for what a modern CRM should offer, including customer data management, lead tracking, and advanced analytics.

### Traditional CRM Systems and Limitations:

Early CRM systems were basic, focusing on storing customer contact information and tracking sales. However, systems like Salesforce and SAP CRM were often too expensive and complex for small businesses to adopt. Moreover, their steep learning curves and lack of customization made them less flexible for businesses with unique requirements. A study by Bennet & Goyal (2019) discussed the drawbacks of using traditional CRM systems, especially in the context of data overload and lack of personalization.

### Role-Based Access Control (RBAC):

A growing area of focus in modern CRM systems is the implementation of RBAC, ensuring that only authorized personnel can access sensitive customer data. Research by Singh & Jain (2020) highlighted the need for secure, rolebased access in CRM systems, especially to comply with regulations like GDPR .

### III. METHODOLOGY

The development of the CRM website followed an Agile approach, with iterative cycles of planning, design, development, and testing. The initial requirements were gathered by analyzing the workflows of different business stakeholders such as administrators, sales representatives, and support staff. The goal was to automate key CRM functions, including customer data management, lead tracking, sales pipeline management, and customer support.

The website is built on a three-tier architecture:

- Presentation Layer: Developed using HTML, CSS, and JavaScript for a responsive and user-friendly interface.
- Application Layer: Built using Flask (Python-based web framework) to handle business logic, customer interactions, and API integrations.
- Data Layer: Managed with MySQL for structured customer data storage.

### IV. EXPERIMENTAL RESULTS a) Login Portal

The login portal ensures secure authentication, featuring different login paths for administrators, sales representatives, and support staff. Each user type is granted access to specific functionalities aligned with their roles, reinforcing the concept of role-based access control. b) Admin Dashboard

The admin dashboard serves as the main control panel for system administration. It includes features for managing user accounts, generating reports, overseeing customer interactions, and monitoring system activity. The admin interface is designed for ease of use, presenting all relevant data in a clean and accessible layout. c) Sales Dashboard

The sales dashboard is designed to help sales representatives manage their leads, track sales progress, and interact with potential customers. Key features include lead management, sales pipeline tracking, and client communication tools, all of which are essential for streamlining the sales process. d) Support Portal

The support portal enables support staff to manage customer service tickets, view customer queries, and provide timely responses. Integrated with the AI-powered chatbot, the support portal assists in resolving common issues automatically, improving response times and customer satisfaction. e) AI-Powered Chatbot

The AI-powered chatbot integrates NLP capabilities to answer common queries, provide support, and assist in navigating the CRM system. The chatbot is continuously improving based on user interactions, offering more accurate and context-sensitive responses.

### V. CONCLUSION

The developed Customer Relationship Management Website (CRM) offers a comprehensive, scalable, and secure solution for managing customer interactions and enhancing sales and support processes. By integrating role-based access control, a centralized database, and an AI-powered chatbot, the system enhances productivity, data security, and user experience. The modular design allows for future feature expansions, such as the integration of advanced analytics, marketing automation, and social media monitoring.

While the CRM system has proven effective in its current form, future work could involve integrating features like mobile app support, social media integration, and predictive analytics to further enhance its functionality and provide deeper insights into customer behaviors.

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