SOFTWARE REQUIREMENTS SPECIFICATION

For

Customer Relationship Management

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1. Introduction

1.1 Purpose

The main objective of this document is to illustrate the requirements of the project CRM system. The document gives the detailed description of the both functional and non-functional requirements proposed by the client. The purpose of this project is to provide a friendly environment. This project describes the hardware and software interface requirements using ER diagrams.

1.2 Document Conventions:

<> Convention for Main title

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<> Convention for Subtitle

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<> Convention for body

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1.3 Scope of Development Project

The project initiates with a meticulous analysis of business requirements, engaging stakeholders to identify critical features. The user interface and experience design focus on creating an intuitive, responsive platform for both customers and staff. Company can realize their side based on customer's feedback.

1.4 Definitions, Acronyms and Abbreviations:

JAVA -> platform independence

SQL-> Structured query Language

ER-> Entity Relationship

IDE-> Integrated Development Environment

SRS-> Software Requirement Specification

1.5 References

->https://www.techtarget.com/

->Websites

->Books

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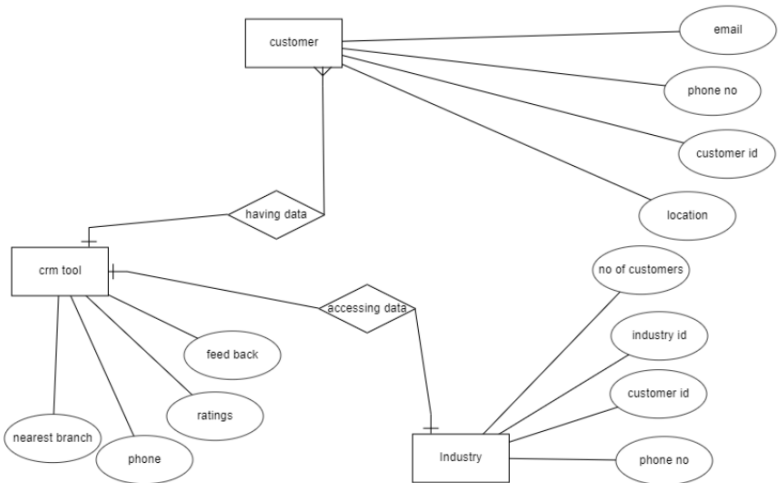
2. Overall Descriptions:

2.1 Product Perspective

<>simple ER diagram:



This ER diagram provides the overview of CRM.

The Entity-Relationship (ER) diagram for a Customer Relationship Management (CRM) system between an industry and its customers provides a visual representation of the data model and relationships involved in managing customer interactions. In this context, the ER diagram outlines the key entities, attributes, and connections essential for effective CRM implementation.

Entities -> Customer, User, CRM tool

Attributes -> characteristics of the entity

Primary keys -> Customer id, industry id

Foreign key -> Customer id, Customer's phone no

2.2 Product Function

2.3 User Classes and Characteristics

The system provides different types of services based on the type of customers [Member]. The seller will be acting as the controller, and he will have all the privileges of an administrator. The member can be a society who will be accessing the customer care online.

The features that are available to seller are:

- Maintain a centralized database of customer information.
- Easily access customer details, communication history, and preferences.
- Track and manage customer issues or inquiries.
- Prioritize and resolve customer issues efficiently and monitor response times.
- Log and track all interactions with customers.

The features that are available to the Members are: -

- Enable customers to access their accounts, view purchase history, and manage preferences on their own.
- Allow customers to create accounts and profiles online.
- Gather feedback from customers through surveys and reviews.
- Offer real-time chat support on the website or app.
- Improves communication efficiency and keeps customers engaged.

2.4 Operating Environment

The product will be operating in windows environment. The Customer Relationship Management System is a website and shall operate in all famous browsers, for a model we are taking Microsoft Internet Explorer, Google Chrome, and Mozilla Firefox. Also, it will be compatible with the famous OS like windows, macOS, Linux etc. The only requirement to use this online product would be the internet connection. The hardware configuration includes Hard Disk: 40 GB, Monitor: 15" Colour monitor, Keyboard: 122 keys. The basic input devices required are keyboard, mouse and output devices are monitor, printer etc.

2.5 Assumptions and Dependencies

The assumptions are: -

- The coding should be error free.
- The system should be user-friendly so that it is easy to use for the users.
- The information of all users, login profile and feedback and ratings history must be stored in a database that is accessible by the website.
- The system should have more storage capacity and provide fast access to the database.
- The system should provide search facility and support quick transactions.
- The Customer Relationship System is running 24 hours a day.
- Users may access from any computer that has Internet browsing capabilities and an Internet connection.
- Users must have their correct usernames and passwords to enter into their online accounts and do actions.

The dependencies are: -

- The specific hardware and software due to which the product will be run.
- On the basis of listing requirements and specification the project will be developed and run.
- The end users (admin) should have proper understanding of the product.
- The system should have the general report stored.
- The information of all the users must be stored in a database that is accessible by the Library System.

 Any update regarding the book from the library is to be recorded to the database and the data entered should be correct.

2.6 Requirement

Software Configuration: -

This software package is developed using java as front end which is supported by sun micro system. Microsoft SQL Server as the back end to store the database. Operating System: Windows NT, windows 98, Windows XP Language: Java Runtime Environment, Net beans 7.0.1 (front end) Database: MS SQL Server (back end)

Hardware Configuration: -

Processor: Pentium(R)Dual-core CPU

Disk: 40GB RAM: 256 MB or more.

2.7 Data Requirement

The inputs consist of the query to the database and the output consists of the solutions for the query. The output also includes the user receiving the details of their accounts. In this project the inputs will be the queries as fired by the users like create an account, selecting customer care and putting into account. Now the output will be visible when the user requests the server to get details of their account in the form of time, date with ratings and feedback along with the product they purchased.

3. External Interface Requirement

3.1 GUI

The software provides good graphical interface for the user and the administrator can operate on the system, performing the required task such as create, update, viewing the details of the book.

 It allows user to view quick reports like recent feedback and ratings in between particular time.

 It provides stock verification and search facility based on different criteria.

 The user interface must be customizable by the administrator

 All the modules provided with the software must fit into this graphical user interface and accomplish to the standard defined

 The design should be simple, and all the different interfaces should follow a standard template

 The user interface should be able to interact with the user management module and a part of the interface must be dedicated to the login/logout module.

Login Interface: -

In case the user is not yet registered, he can enter the details and register to create his account. Once his account is created, he can ‘Login’ which asks the user to type his username and

password. If the user entered either his username or password incorrectly then an error message appears.

Search: -

The user can enter the type of purchase he is looking for and the item he is interested in, then he can search for the required item by entering the product name.

Categories View: -

Category's view shows the categories of customer care available and provides ability to the user to interact with them.

4. System Features

The users of the system should be provided the surety that their account is secure. This is possible by providing: -

- User authentication and validation of members using their unique member ID.
- Proper monitoring by the administrator which includes updating account status, showing a popup if the member attempts to issue number of books that exceed the limit provided by the library policy, assigning fine to members who skip the date of return.
- Proper accountability which includes not allowing a member to see other member's account. Only administrator will see and manage all member accounts.

5. Other Non-functional Requirements

5.1 Performance Requirement

- The CRM system should have fast response times for user interactions, such as loading records, generating reports, and executing queries.
- Response times should typically be within a specified number of seconds for standard operations.
- The CRM system should be scalable to accommodate a growing volume of data, users, and transactions without a significant degradation in performance.
- The CRM system should support a high level of concurrent users performing various operations simultaneously.

5.2 Safety Requirement

The database may get crashed at any certain time due to virus or operating system failure. Therefore, it is required to take the database backup so that the database is not lost. Proper UPS/inverter facility should be there in case of power supply failure.

5.3 Security Requirement

- Implement strong user authentication mechanisms, such as multi-factor authentication (MFA).
- Enforce role-based access control (RBAC) to restrict user permissions based on their roles and responsibilities.

 Use encryption mechanisms (SSL/TLS) for data transmission between the CRM system and users' devices.

 Implement encryption for data stored in databases to protect against unauthorized access to the underlying data.

 Enforce strong password policies, including regular password changes and complexity requirements.

5.4 Requirement attributes

A business rule is anything that captures and implements business policies and practices. A rule can enforce business policy, decide, or infer new data from existing data. This includes the rules and regulations that the System users should abide by. This includes the cost of the project, and the discount offers provided. The users should avoid illegal rules and protocols. Neither admin nor member should cross the rules and regulations.

5.6 User Requirement

 Intuitive and user-friendly interface.

 The CRM system should be accessible to users with disabilities.

 Users should be able to customize their dashboards and views.

 Efficient data entry and editing capabilities.

 Robust search and filtering options.

6. Other Requirements

6.1 Data and Category Requirement

- Ability to store and manage customer contact information.
- Capture and update customer details, including names, addresses, phone numbers, and email addresses.
- Track and manage leads through the sales pipeline.
  Assign and prioritize leads to sales representatives.

6.2 Appendix

A: Admin, Abbreviation, Acronym, Assumptions; B: booking info; C: Class, Client, Conventions; D: Data requirement, Dependencies; G: GUI; K: Key;; M: Member; N: Non-functional Requirement; O: Operating environment; P: Performance, Perspective, Purpose; R: Requirement, Requirement attributes; S: Safety, Scope, Security, System features; U: User, User class and characteristics, User requirement;

6.3 Glossary

The following are the list of conventions and acronyms used in this document and the project as well :

 Administrator: A login id representing a user with user administration privileges to the software

 User: A general login id assigned to most users

 Client: Intended users for the software

 SQL: Structured Query Language; used to retrieve information from a database

 SQL Server: A server used to store data in an organized format

 Layer: Represents a section of the project

 User Interface Layer: The section of the assignment referring to what the user interacts with directly
 Application Logic Layer: The section of the assignment referring to the Web Server. This is where all computations are completed
 Data Storage Layer: The section of the assignment referring to where all data is recorded Use Case: A broad level diagram of the project showing a basic overview
 Class diagram: It is a type of static structure diagram that describes the structure of a system by showing the system's cases, their attributes, and the relationships between the classes
 Interface: Something used to communicate across different mediums
 Unique Key: Used to differentiate entries in a database.

6.4 Class Diagram