

## Design and Implementation of CRM System Based on SSP

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**Abstract.** This system is the basic customer information, contact information, contact information, customer service, full sharing of information and standardized management; based on the sales opportunities, customer tracking and recording the development process, improve the ability to develop new customers and customers will be lost in time when the early warning system for sales staff to take timely measures to reduce losses, and hope to provide the report system for senior corporate customers to understand. The system includes six modules: marketing management, customer management, service management, statistical statements, basic data and authority management.

### Introduction

CRM is a customer relationship management system, is a kind of software tools used to manage customers. Through the use of today's rapid development of information technology means to maintain corporate customers, to replace the traditional single customer information management. Through the CRM system, we can not only understand customer information, but also some of the information is closely related with customer, such as customer contact, when we are in the maintenance of customer information, but also to maintain customer contact information, then the customer contact will also may become potential customers for our development[1-3]. So the CRM system is a tool that allows companies to better select and manage valuable customers[4-6].

The CRM system SSP will retain this concept based on through automated scheduling in the program design, that can interact at any time for timely communication between enterprises and customers, so as to allow enterprises to truly understand customer needs, further development. This approach can not only enhance the productivity and efficiency of employees, but also increase sales revenue, reduce operating costs, as well as the most important to improve customer satisfaction. The pursuit of maximum profit.

### Design and Implementation of CRM System

Database design of the E-R diagram is a conceptual model of the form of expression, the reality of the entity relationship with E-R diagram clearly show [7,8]. The CRM system, there are 16 main entities, namely: user entity, entity roles, permissions entity, role permissions associated entity, customer, customer contact customer service entity, entity, customer information entity, customer communication record entity, entity marketing opportunities, sales plan entities, product inventory entity, entity, entity order, entity, entity dictionary. There are mainly 6 kinds of association: one-way one to one N:N. One way one to one N: N. [9,10] One way to many N:N. Bidirectional N:N. One way to many n:n and bidirectional multi to many N:N.

The user, authority, role relational data table model was shown in Fig. 1.

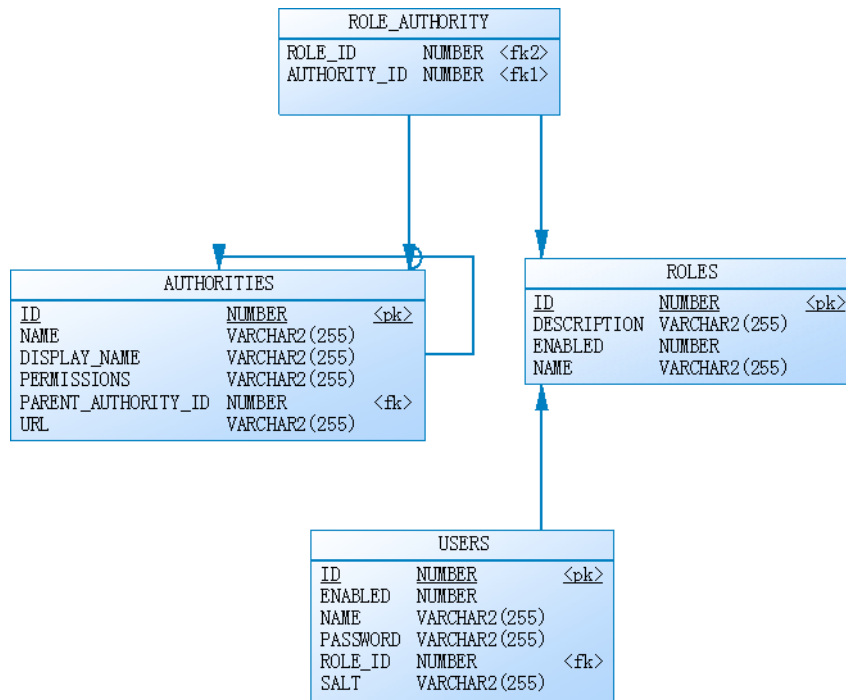


Figure 1. User, authority, role relational data table model

And Fig. 2 is a data sheet model associated with the customer (customer and customer contact, customer and customer service, customer contact records and customer churn data).

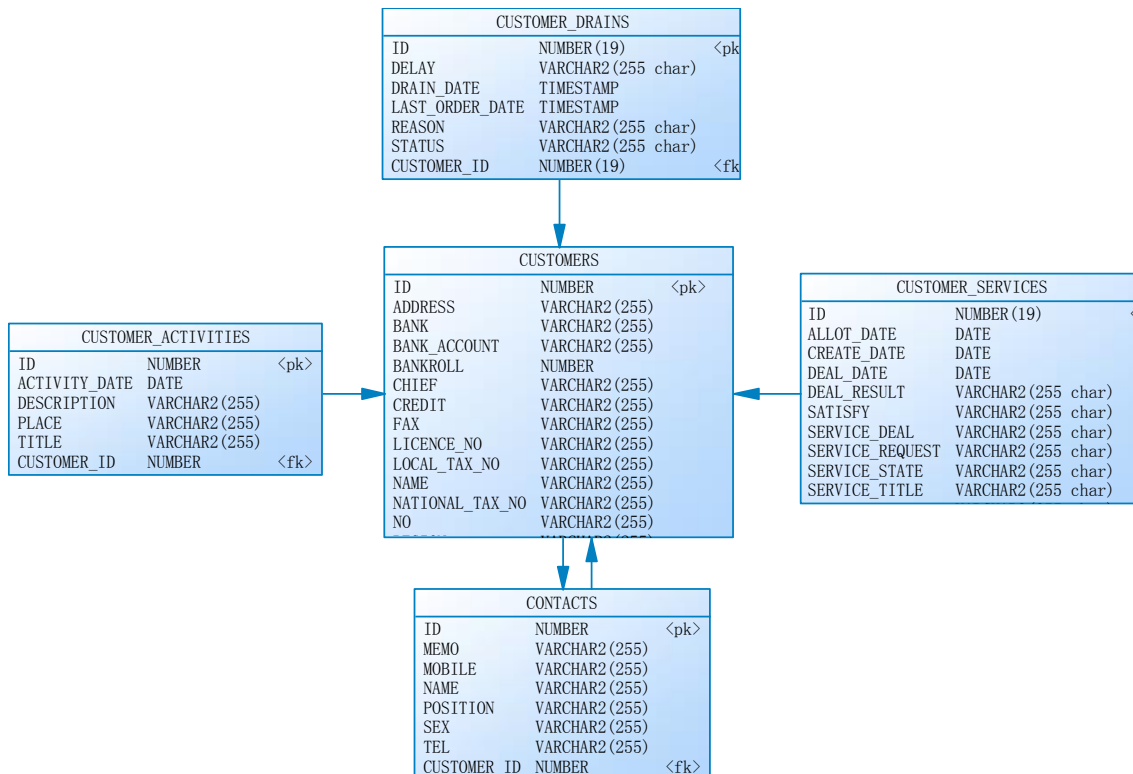


Figure 2. Data sheet model associated with the customer

The design of the database logic structure is to transform the conceptual structure design model into a logical structure model. Logical structure includes three parts: collecting basic data, data structure, data processing flow. The logical structure is converted into a physical structure, which corresponds to the data table in the database. The system uses Oracle database to store data. The following shows a few tables in this system.

**Table 1 Data dictionary table**

Field	Data type	Primary key yes / no	Meaning
ID	NUMBER	Y	Auto primary key
EDITABLE	NUMBER	N	Can edit
ITEM	VARCHAR2(255)	N	entry
TYPE	VARCHAR2(255)	N	category
VALUE	VARCHAR2(255)	N	value

**Table 2 Contact record sheet**

Field	Data type	Primary key yes / no	Meaning
ID	NUMBER	Y	Auto primary key
ACTIVITY_DATE	DATE	N	time
DESCRIPTION	VARCHAR2(255)	N	detailed information
PLACE	VARCHAR2(255)	N	place
TITLE	VARCHAR2(255)	N	outline
CUSTOMER_ID	NUMBER	N	Client primary key

## Result & Analysis

Click the menu can prompt the customer management, customer management system in accordance with the given page, the client query operation, also can create new customers, delete customers, customers can also modify the operation of customer contact crud operations. Specific tests are shown in table 3.

**Table 3 Test Result sheet**

Test content	Expected results	Practical results
Check the customer's basic information according to the customer name	Normal display of relevant customer information	Consistent with expected output
According to customer manager	Normal display of relevant customer information	Consistent with expected output
According to the regional customer level status query	Normal display of relevant customer information	Consistent with expected output
Edit the customer's basic information	Display edit page	Consistent with expected output
Customer contact record	Display customer records	Consistent with expected output
Click to view history order	Return all customer orders	Consistent with expected output
Click Delete button	Customer status display delete	Consistent with expected output
Customer loss set Cron time for ten minutes, so that the customer status into loss warning	Customer status indicator for churn warning	Consistent with expected output

## Summary

This system is the basic customer information, contact information, contact information, customer service, full sharing of information and standardized management; based on the sales opportunities, customer tracking and recording the development process, improve the ability to develop new customers and customers will be lost in time when the early warning system for sales staff to take timely measures to reduce losses., and hope to provide the report system for senior corporate customers to understand.

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