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1. Introduction

Human resource management system is an indispensable tool and method for an enterprise to implement personnel management. It is not only inefficient, but also easy to make mistakes, and can not meet the requirements of personnel work. Therefore, an enterprise personnel management system with MFC as the core is developed on the MFC platform [1]. It uses computer technology and network communication technology, which can not only make the enterprise personnel information accurate and complete management, but also make the enterprise human resources management more convenient and fast. Thus, it greatly improves the efficiency of the enterprise's human resource management. Compared with the existing similar personnel management system, the software has a fast response speed, and adopts a modular method, so that users can easily expand and customize the functions of the system, and uses C/C++ programming language, so that it has a good portability and maintainability.

2. Design of enterprise personnel management system

2.1. System Functions

The functional modules of the whole system are shown in Figure 1 (the image is quoted in the Optimization of Digital Management Path for Human Resource Performance Evaluation Based on the image) Multiobjective Decision-Making Mathematical Model). In order to prevent non-users of the system or users from using the system without authorization, set the user's own password and authorization. According to the type of users to set different system permission, in order to prevent operators in the use of more than their own authority level, by the relevant supervisor of the system to give and modify the authority of the system [2]. In order to complete new queries, additions, statistics, updates and other functions, the computer is initialized. The upgrading of personnel files divides personal information into three categories: personal cards, social relations and family members, so as to facilitate the storage and management of relevant data of relevant personnel. The modification of the file is mainly to add, delete, modify and find the basic work of the table. Through the search of the employee's name, department, etc., the search of the employee's personal information is realized. The system can count the basic information of employees, such as age, education, technical title, salary and so on. It has the function of displaying and output employees' personal information. In addition, you can change the password and permission. The system can complete the function of storage exit and direct departure.

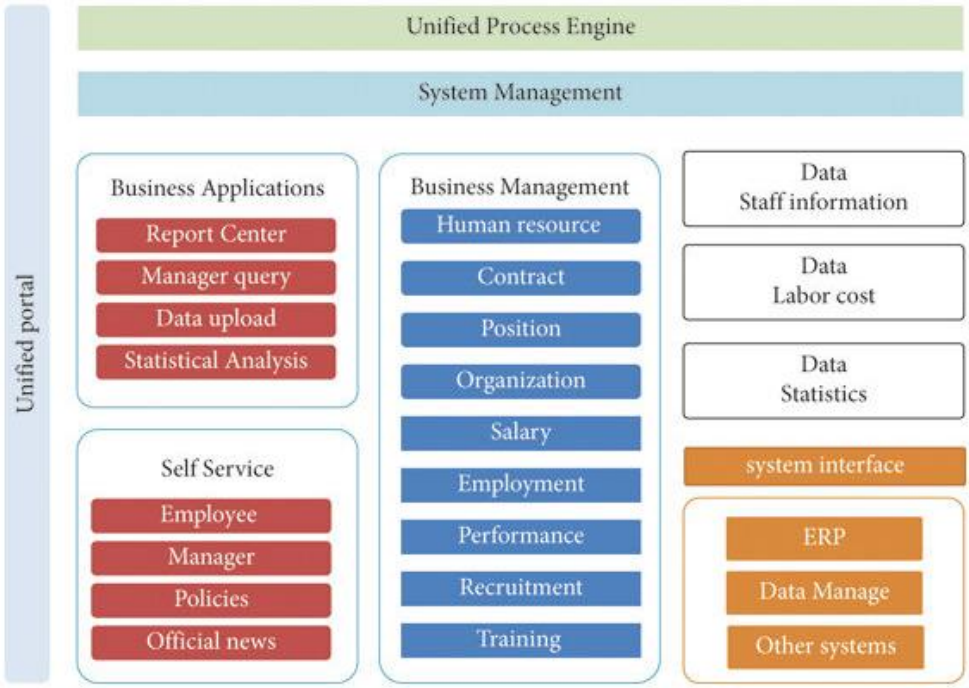

Figure 1. Enterprise human resource management system architecture

2.2. Database Design

When building a complete database application, it is very necessary to carry on a reasonable design. A suitable database structure can greatly reduce the data required to store, and improve its management efficiency, thereby improving the operation efficiency of the application system, and provide faster response ability. In the design of the database system, people should try to carry out a more comprehensive comprehensive thinking, especially to grasp the requirements, and strive to be precise and clear, so as to avoid additional human and material costs, improve the efficiency of development [3]. The database consists of two parts of computer hardware and software. The system can store a large amount of relevant dynamic data, which is convenient for multiple users to access each other. In short, a database is a collection of data such as data forms and data cards, stored in a computer, and then output according to the needs of users.

There are two types of database architecture, one is C/S architecture, the other is B/S architecture, in short, C/S mode refers to the client/server mode, which requires the corresponding application software to be installed on the terminal to interact with the data on the server; B/S is a Web-based Web/Server mode, which only requires users to use a browser on a terminal to achieve access to the server data. In the B/S model, all the data is done on the server, so the requirements on the hardware system of the client are relatively small [4]. The database in this paper adopts C/S mode, and users can access the database by using the personnel management system software. In the data requirement analysis, the emphasis is to collect the basic data, data structure and data processing process, and establish a detailed data dictionary. Through The investigation and study of the work of enterprise employees, the data processing flow in this System is obtained (Figure 2 is quoted in The Power of DFD for Hotel Management System).

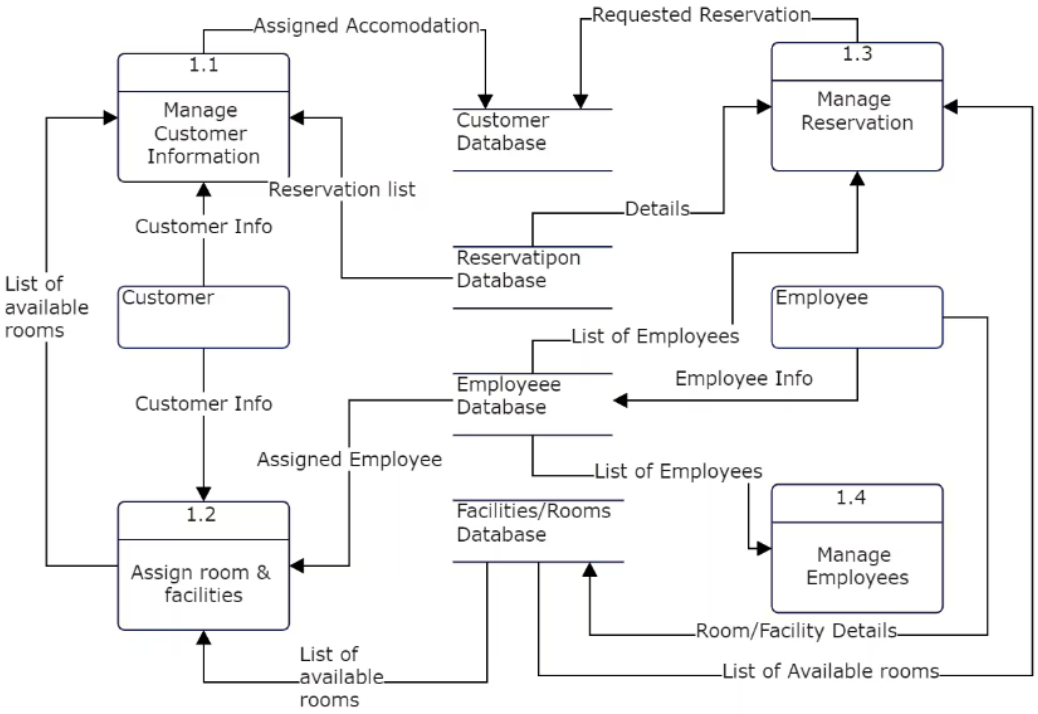

Figure 2. Data flow chart of enterprise personnel management system

In the personnel card, family member and social relation data, the employee number, family member number and social member number are used as keywords respectively and are used as external keywords in person-family member and person-social relation.

The database meets three requirements: all non-primary entries are functionally fully relevant for each option; For each candidate keyword that does not contain the keyword, the main attributes have full functional correlation; None of the features can be independent of an arbitrary set of unselected keywords. Therefore, this database meets the requirements of BCNF. The purpose is to make each body in the system and the relationship between them can better adapt to the needs of users based on the needs of the system [5]. Among them, the personal information management system consists of three parts: personal information card, family member information and social information (Figure 3 is quoted in the ER Diagram for Company Database).

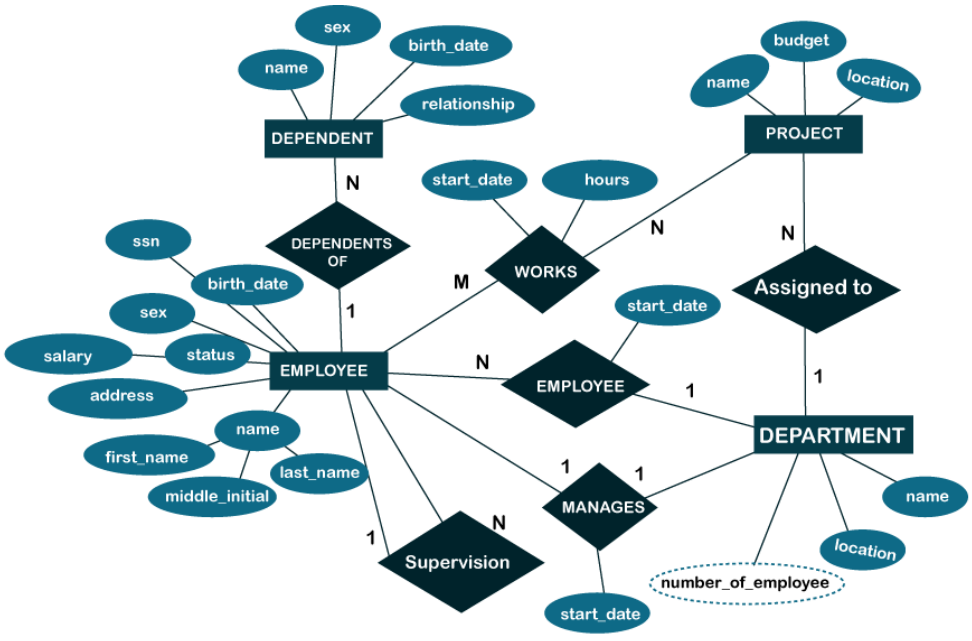

Figure 3. E-R diagram of personnel management

According to the topological relation of the system, the corresponding database table is designed. The following is a personal business card form as an example, the form database in this system is introduced accordingly. In the design process of the table, the name of the data item, the identifier, the data structure type and whether it can be blank should be taken into account (Table 1).

Table 1. Personnel card table

Name	CODE	Null or not	Data type
Employee number	YGBH	NOTNULL	VARCHAR (6)
section	BM	NULL	VARCHAR (20)
name	XM	NULL	VARCHAR (8)
sex	XB	NULL	VARCHAR (2)
age	NL	NULL	VARCHAR (2)
Native place	JG	NULL	VARCHAR (20)
job	ZW	NULL	VARCHAR (10)
The title of a professional post	ZC	NULL	VARCHAR (8)
Date of birth	CSNY	NULL	DATE
Political status	ZZMM	NULL	VARCHAR (4)
Educational background	XL	NULL	VARCHAR (6)
Health status	JKZK	NULL	VARCHAR (4)
Working hours	CJGZSJ	NULL	DATE
Home address	JTZZ	NULL	VARCHAR (20)
remark	BZ	NULL	VARCHAR (20)

According to the design results, the corresponding database is established. The Process of its creation and data is shown in Figure 4(the image is quoted in Process Structure of a DBMS). Because you're dealing with a database, you need to establish a relationship with the database.

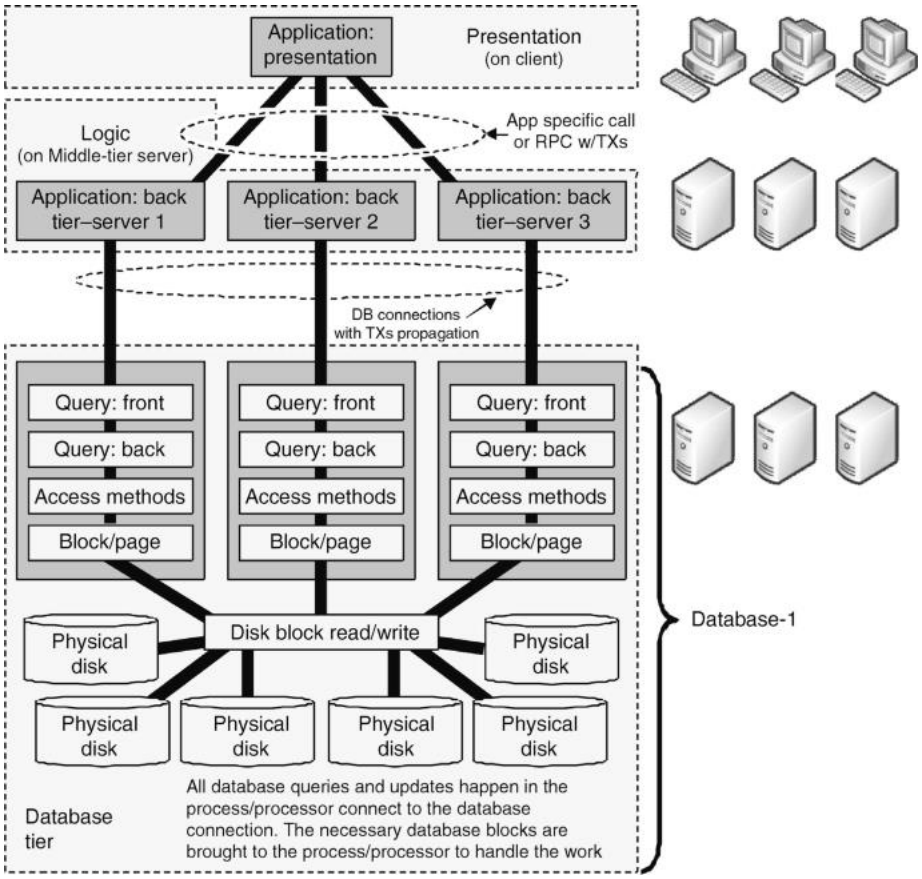

Figure 4. The process of creating and processing a database

After completing the link to the database, you can use SQL statements to add, delete, change, query and other basic database operations.

3. Model construction

The coordinate system is established with the axis of constraint time t, quality e and cost z, and the cuboid representing task r of project s is established according to Table 1. s_T^r, s_E^r, s_Z^r represents the planned value of time, quality and cost of task r of project s respectively. In FIG. 1, the values of point T on the t axis, point Z on the z axis and point E on the e axis are calculated by formulas (1)~(3) respectively.

$$T = s_T^r / s_T^r \tag{1}$$

$$Z = s_Z^r / s_Z^r \tag{2}$$

$$E = s_E^r / s_E^r \tag{3}$$

The value T obtained from formula (1) indicates that the time to execute task r of project s is exactly equal to the planned time, that is, the task is performed by the standard person [6].

$$s^r = \int_0^T dt \int_0^E de \int_0^Z dz \tag{4}$$

When the project is executed strictly according to the plan, that is, when it is executed by A standard person with a working hour coefficient of 1, the integral for s^r must be 1 [7].

$$T_i = s_T^r / s_{Ti}^r \tag{5}$$

$$Z_i = s_Z^r / s_{Zi}^r \tag{6}$$

$$E_i = s_{Ei}^r / s_E^r \tag{7}$$

By integrating the three dimensional index values of time T, quality E and cost Z, the volume s_i^r of cuboid is obtained, which represents the execution value of task r of project s executed by personnel i. The value of s_i^r can be calculated by formula (8).

$$s_i^r = \int_0^{T_i} dt \int_0^{E_i} de \int_0^{Z_i} dz \tag{8}$$

$$R_{isr} = s_i^r / s^r \tag{9}$$

4. Function realization of enterprise personnel management system

MFC is used to develop the human-computer interface, and C/C++ is used to develop the software. The software completes the basic operations of adding, deleting, modifying and querying the personnel file database, and provides some safe operations, such as setting the user's password and user's permission, and completing the statistics and output of the personnel file. The system includes a series of functions such as user login, system function selection, personal information query and so on. Limited by space, only a few system interfaces are described here [8]. After the user logs in, in the login screen, the user enters his account, password and verification code, and then verifies the account, password and verification code entered by the user. If you fill in the blank, there are relevant prompts; If it is not blank, enter the database for query. If the user does exist and its password and

CAPTCHA are correct, the login is successful and you go to the main form [9]. If it is not successful, then it will not be able to log in, and at this time, there will be a relevant message, so that the player can not log in. The system will decide which kind of welcome page to go to and which user's administrator based on the identity of the logged in user.

The system has two main interfaces, one is the system main interface, one is the user main interface, one is the tree menu, the other is a variety of different functions, using the Tab page management method. The personal homepage section is responsible for checking the personal information of the registered employees, checking the time records, leave applications, etc. In this function, users can change their password, the process of change includes: start the password change form, enter the original password, new password, and confirm the password; Whether the original password of the user is consistent with that of the original user according to the user data; If there is a difference, send a message and interrupt the process; If the two passwords are consistent, check whether the new password is blank. If yes, a message is displayed indicating that the process ends [10]. If the new password is not blank, check whether the entered password is consistent with the new password. If there is a difference, send a message and end the process. The user password field in the user information is also changed.

The Data source name (DSN) contains data related to a particular database information that is necessary for an open database link driver. The DSN is stored in a registry or a separate text file that includes the name, directory, database disk, and user ID and password. For each database, the system developer creates a separate database.

5. Conclusion

Through practical tests, when there are 50,000 data, the test time of querying, adding, updating and modifying specific document data is about 16 milliseconds, which can meet the needs of real-time response to user operations. The enterprise personnel information management system developed by MFC technology can input, query and count the basic information of employees, such as salary, title, etc., and can also query and process the information of employees. The software provides a basic system maintenance, which is convenient for users to backup, restore and delete data. The system adopts a modular design method, which can be easily expanded and modified according to the characteristics of the enterprise itself. This system has good user interface, good working performance, fast response speed, and can be well adapted to the management of a large number of people file affairs in enterprises.

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