

Small Supermarket Management System Based on VFP

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Keywords: System design; Small supermarket; VFP; Database

Abstract. With the development of science and technology and popularity of computer, people have deeply realized computers bring convenience to our work and life. Computer has entered the human society and is playing an important role increasingly. Therefore, for a small supermarket, also it is necessary to develop a system to manage all kinds of data information in a supermarket. This paper mainly discusses the design thought and implementation method based on VFP small supermarket management system. Aiming at breaking the closure and limitation of small supermarket management system, this system can not only deal with VFP data, but also can import and export Excel, Word data and Web data, improving the sharing of heterogeneous data, avoiding the repetition input of the same data, to effectively improve the efficiency of the supermarket.

Introduction

With the rapid development of computer technology, various industries have begun to enter the information age, and information age is not just let the life become quick and make life more convenient. For small supermarket, a suitable information management system is necessary.

Analyzing the business management requirements of supermarkets, the system's main task is to complete establishing a variety of tables, increasing records, query, statistics, print and other work, with the basis of powerful database management function of Visuil Fox Pro6.0, which is also a complete object-oriented programming language, so Visuil Fox Pro6.0 is selected to realize the functions of enterprise business statistics system. Supermarket business statistics system has the functions of commodity information collection, analysis, query, statistic and printing, etc, and it can greatly improve the work efficiency, also improve the timeliness, accuracy and confidentiality of information processing, so it plays an important role in promoting the modernization of supermarket management, improving enterprise economic benefits. At the same time, the system provides a friendly user interface that users can easily use this system without having any training.

Structure of the System

Functional module chart of the supermarket business statistics system is shown in figure 1. The system mainly includes three modules: user access authentication module, commodity information inquiry, statistics and print module, commodity information input module.

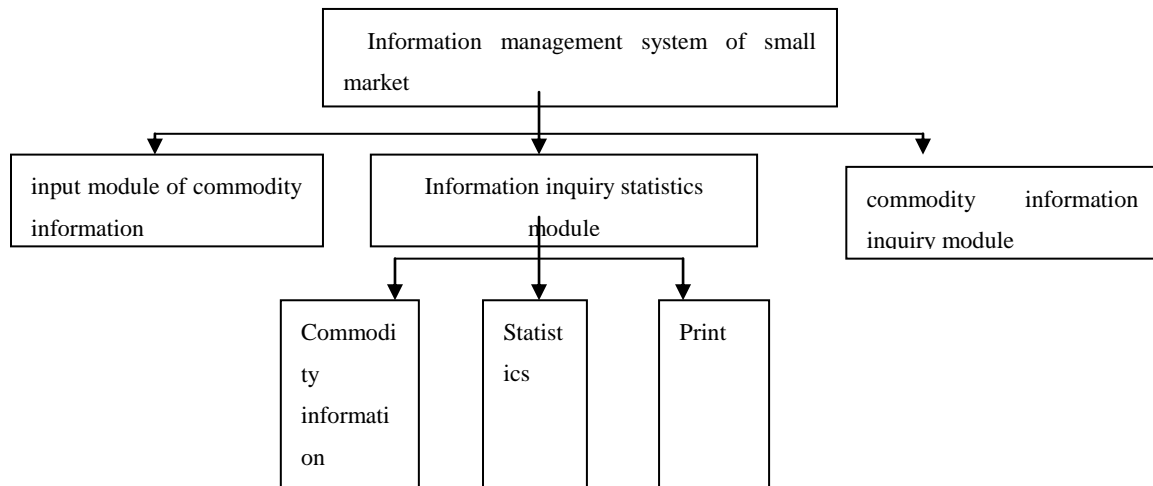


Figure 1. System function modules

User access authentication module is to improve the confidentiality and security of system information, and any user entering into the system should get the authority certification, namely to input the user name and password, and only when the user name and password are correct, the system can be entered. This function is the same with many other system user permission authentication functions.

Commodity information inquiry, statistics and print module are the core modules of this system, and they mainly have the functions of commodity information query, statistics and print. Inquiry and statistic part can realize with many conditions. The inquired results are all the records conform to the conditions in commodity information table, displayed in tabular form. Statistical results are the inquired result accumulation, also displayed in tabular form. Printing part can realize the printout of query results and statistics, displayed in a report.

Commodity information input module is set up for realizing database updates. Users can add new commodity information to the product information table, of course, also can realize the original commodity information editing.

The Design of Database Logical Structure

The structure of data table is divided into logical structure and physical structure. Logical structure is to provide the attributes of data records that need to be processed by a data table in system design stage, such as the field name, field type, field size and indexes, etc. And the physical structure is the implementation of logical structure in the database management system, in other words, the physical structure of data table is the structure of data table created in accordance with the logical structure of data table in the computer system. A reasonable database structure design can improve the efficiency of data storage and ensure data integrity and consistency.

Small supermarket management system is mainly to manage the supermarket purchasing and sales; as a result, the system mainly includes two entities: inventory goods and documents. And the two entities is relating through the sale of products. Therefore, we can get the E-R diagram of the system as shown in Fig 1. Accordingly, according to the transformation rule of E-R diagram to relational model, the relationship model of E - R diagram is obtained:

Inventory goods (article number, name of commodity, date of production, pricing, purchasing price, the number of inventory, remark)

Documents (document number, date of billing, purchasing unit, operator, total amount)

Goods for sale (article number, document number, goods for sale)

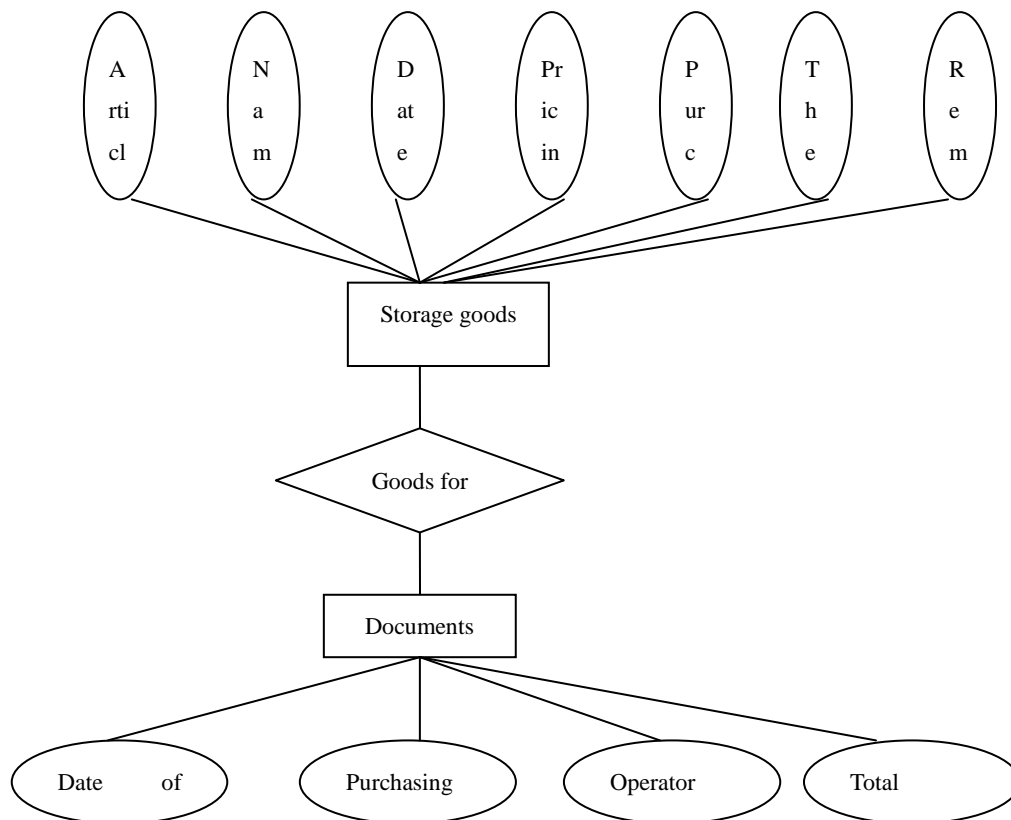


Figure 2. Conceptual model of system database

Import Data from Excel into VFP Form

The appropriate approach for program design is to put the Excel data in the table based on cell one by one into the VFP table, therefore, the following three tasks need to complete:

Build the one-to-one relationship between the data column the needs to be exported in the Excel and the fields that will accept the data in the VFP form, setting up a bridge of data communication between two tables (see Fig. 3)

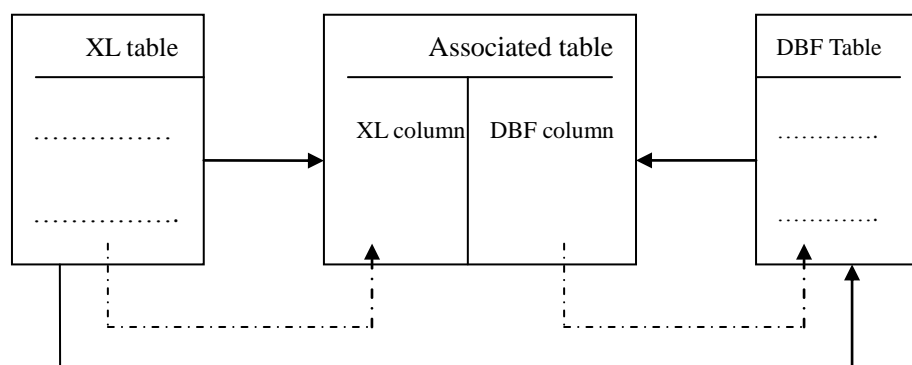


Figure 3. Excel — VF data transfer

Reading the start-stop line number in the Excel that needs to import data, and determining the data range that needs to be transferred from the horizontal direction. A row in the Excel table (can also be a line of some columns) corresponds to a record in the VFP table.

To import data, inconsistent data types in the table should be processed and rounding problems for inconsistent decimal digits of numeric data must be considered.

When considering the implementation of the above three tasks, the convenience and intuition of users should also be considered.

Conclusion

The ultimate goal for designing the supermarket business statistics system is to serve the users, so in the process of the system design, simple and practical operation, and truly meeting users' needs are mainly considered. At the same time, in order to ensure the reliability and stability of the system, the whole system test is also the repeated. The design of the management system is complicated and arduous system engineering. This system is currently can only be run on a single chip microcomputer that cannot achieve the network connection and sharing of resources. How to combine the change of user's actual demand better and develop more customer satisfaction business systems by using the existing network resources will need further thinking and exploration.

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