Research and Design of Hotel Management Mode under the Condition of Information

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Abstract—**In the hotel industry more and more intense competition today, to talent showing itself in the market competition, has become the goal of each hotel operators. The hotel how to improve the quality of service, the management ability is more important. So in the information technology nowadays, the use of information management system of advanced technology is essential to the management mode of the modern hotel. This paper studied and designed a set of hotel information management system, gives detailed functional requirements, the system architecture, and finally gives the field deployment of specific programs.**

Keywords- hotel management; information; model; ASP.net; database

I. INTRODUCTION

The 21st century, China's hotel industry, the rapid development of increasingly fierce competition within the industry, and also put forward higher requirements in today's information technology environment, the management of the hotel, To enhance the competitiveness of the hotel, the hotel management, advanced hotel management information system has become the inevitable choice of modern hoteliers[1]. The use of computer and Internet technologies, applications Hotel management information system, not only can improve the efficiency of the hotel management, but also can reduce operating costs and resource sharing..

II. INFORMATION NEEDS OF THE MODERN HOTEL

Needs analysis is the first step in the development of a variety of information management systems is also a very important step for the hotel management system is no exception, The fundamental purpose of the needs analysis is to establish an understanding of the mechanism of communication between the developers and with the needs of people (customers)[2].According to China's domestic hotel management system problems arise in the application of universal, The current management information systems science, practical theory to develop a hotel management system, in order to improve the level of modernization of the management of the hotels industry in China.

A hotel management system, hotel required in normal operation room resources, customer information and other information management, hotel management system to keep abreast of changes in all aspects of information, and improve the efficiency of the management. The overall system development tasks are systematic, standardized and automated hotel information management. Main program logic hotel administrators demand function and hotel reception staff needs to function. Its specific logic diagram shown in Figure 1:
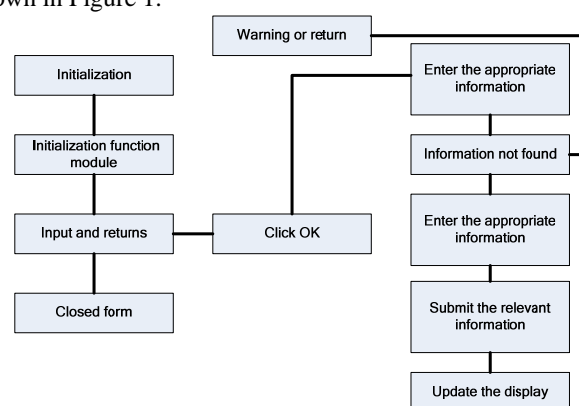

Figure 1. Logic structure diagram of the main module

For the performance of the system, the time characteristics requires only open the database server, the software can be used normally. Flexibility, security and stability of the system are to facilitate transplantation and use. For troubleshooting requirements unresponsive state of the server and login fails to make timely feedback. There are other important thing is to pay attention to the account and password security, environment security, regular data backup. In practical terms, in the case of high system configuration and network bandwidth easily guaranteed performance requirements, we need to consider is the system's security problems [3]. At each stage of the development system, the need to consider mutual authentication and authorization, with particular attention to certification, Simply, is to determine who is the specific user to verify the user's identity and for the security officer, and processed to identify users, you must use a method to authorized users, and thus be able to use the system specific features, In other words, need a way to determine what kind of operation allow specific users.

III. HOTEL INFORMATION MANAGEMENT SYSTEM MODULE DESIGN

Through the analysis of the functional requirements of the hotel, it can be divided into two parts of the front desk management and back-office management system. The front desk management is divided into: reception, housekeeping,

total cash register, food and beverage management library sales department module; Manage divided into: Night Audit Manager system, reporting system and system maintenance sub-module, as well as other external interface sub module[4]. The overall structure is shown in Figure 2:
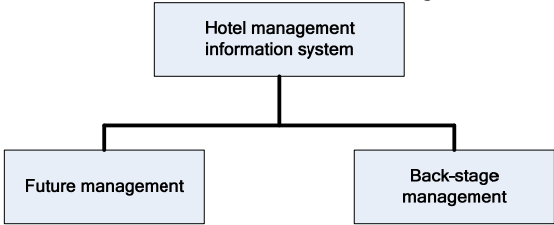

Figure 2. Hotel management module diagram

A. Front Desk Module Design

Throughout the hotel's front desk business processes around the room (guests), financial (guest accounts processing), the items the (hotel items out of storage) on three main lines. The front desk management specific sub-modules as shown in Figure 3:
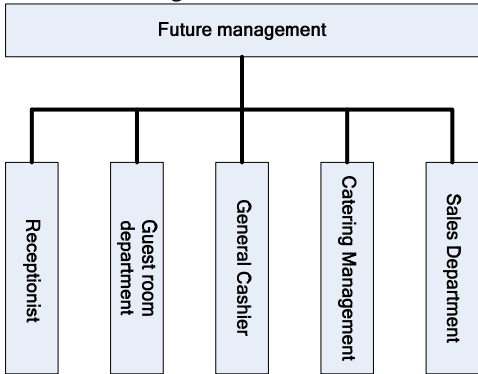

Figure 3. The foreground management module

A very important work in hotel management is the management of the room, the conversion of a variety of room status at any time occurs, which requires the system must be able to quickly and flexibly processing. Not only room numbers are listed in order, real-time dynamic display room status, and the freedom to choose a list of display common room table directly in the room state. Including all rooms, clean rooms, availability, it is into housing room class room status. Rooms charts, etc, Achieve the fastest guests with room management, while a variety of room information in real time to understand and master, Consist primarily of the following situations: Availability to into the housing (including the FIT room into the team room, individual room converted to a free room, team room converted into individual rooms).Into the housing to cleaning the room. That is cleaning room to availability, bad room to availability. The hotel management business, the most critical, the most complex processes accounts processing, He needs to stay in the hotel the guests until the consumer process to leave the entire process to deal with, Real-time processing of accounts to ensure that a breakdown of the checkout or transfer of all

related accounts are left operating traces accounts at the same time has occurred .Only allows corrections, so as to preserve the integrity of the accounts [5].

B. The Background Module Design

Entire Admin module around the system manager, the maintenance system, night audit and reporting system to, the specific configuration shown in Figure 4:
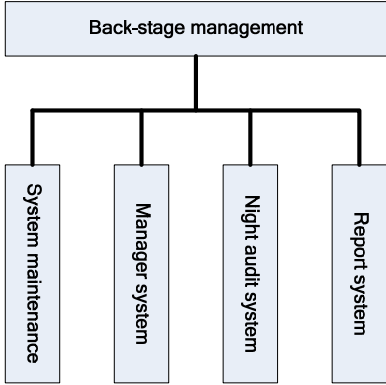

Figure 4. The background management module diagram

System maintenance module is the system administrator to post each operator in accordance with the division of labor within the hotel, the permissions system initialization hotel information set, Log management, data backup, data import, external interface settings management. The manager system modules authority and control necessary data for the management of the system can reflect the effect of management. The night trial system is also an important module in the whole system, it contains a predetermined management sub-module Front query sub-module, the integrated query sub-module, statistical reports sub-module. The concrete structure is shown in Figure 5:
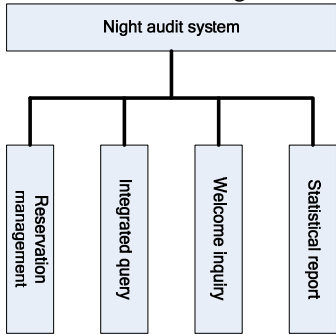

Figure 5. Night audit module structure chart of the system

Report management system, including statistical data, graphics, and other forms of the date of the various departments, month sales and operating conditions, and guests at the (city), nationality analysis, unit of account, billing details, unit consumption statistics, leader boards, salesperson performance appraisal and hotel complex business data analysis. In addition, the hotel may need to develop according to their custom reports. Generate reports to extract relevant data, a content rich graphic interface,

various operating table for any period to be called by the management, analysis, and generate concise, clear statements of operations of the hotel at any stage of comprehensive hotel, the next step for the hotel business management advice.

IV. THE SPECIFIC DESIGN OF THE HOTEL MANAGEMENT INFORMATION SYSTEM

After a comprehensive study of the above, the following specific design for hotel management system:

A. System Adopts the Technology

The system uses ASP.net technology, database using SQLServer2005, designed by Visual Studio2010 software; it is deployed to the above system Windows Server2003. The networks are deployed on the wired network and wireless network combined manner.

B. System Software Architecture

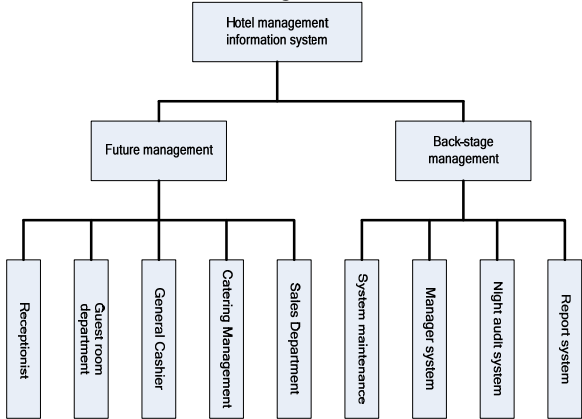Information system of separate module design and discussed above, as shown in Figure 6.

Figure 6. Software framework map

For an information management system, the user login process is a very important link; a login process diagram is designed, it is as shown in figure 7:
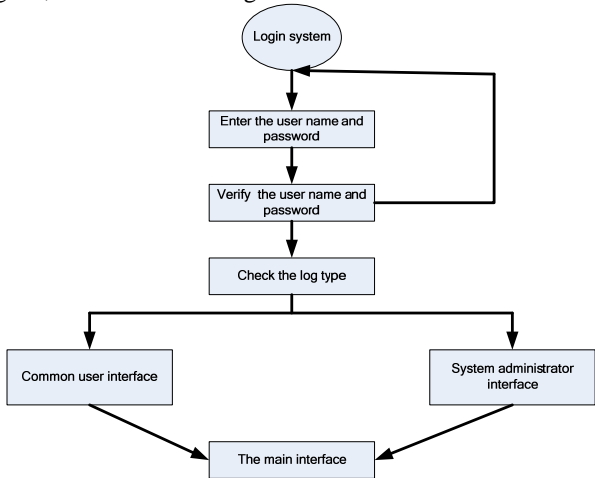

Figure 7. Flow chart of system login

C. Database Design

E-R design is a method to describe the real world information structure by E-R diagram design method of DB; E-R diagram consists of three basic factors: entity, attribute and relationship. This article lists only the E-R structure part, the guest room information E-R is shown in figure 8.
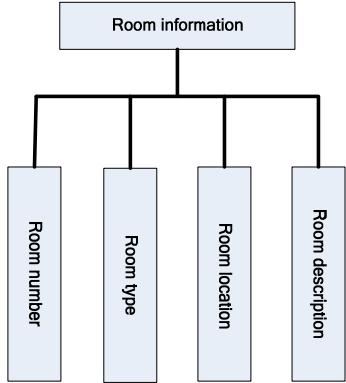

Figure 8. Guest room information E-R

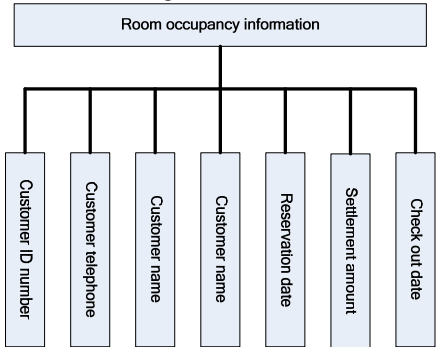Room occupancy information for the E-R is shown in figure 9:

Figure 9. Room occupancy information E-R

According to the analysis of database requirements, the following is the design of the database of hotel management system part of the data in table. As shown in Table 1 is the design of the guest room information table, as shown in table 2is in information table hotel room.

TABLE I. GUEST ROOM INFORMATION TABLE

Field Name	Data Type	Size	Whether it is empty
ID	Varchar	100	No
Type	Varchar	100	Yes
Position	Varchar	100	Yes
Describe	Varchar	600	Yes

TABLE II. IN THE HOTEL ROOM INFORMATION TABLE

Field Name	Data Type	Size	Whether it is empty
ID	Varchar	100	No
Name	Varchar	100	Yes
Id Card	Varchar	100	Yes
Begin Date	Datetime	10	Yes
End Date	Datetime	10	Yes
Pay	Money	10	Yes

D. Specific Deployment System

The whole system design is good after, began to actual system deployment. The real network deployment as shown in figure 10:
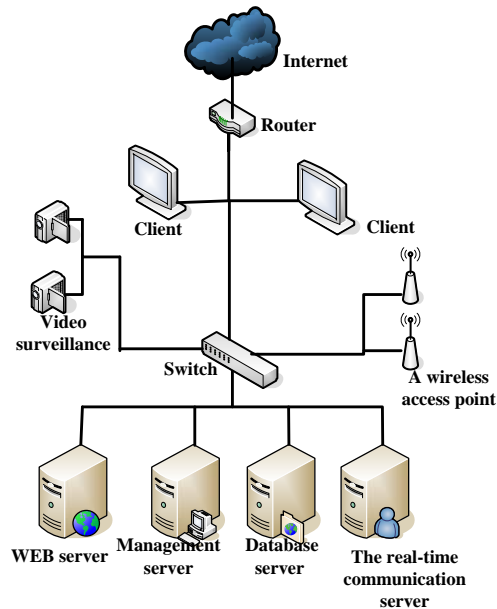

Figure 10. Information management system network deployment diagram

V. CONCLUSIONS

The important role played by information in the hotel industry, but also provides a new management mode for the hotel management. This paper discusses the development of hotel management information system the necessity, feasibility and the purpose and significance. And a detailed study of a specific design, believe that will inspire in the hotel management reality.

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