

Design and development trend of hotel management system based on Web technology

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Abstract. In the rapid development of modern society, how to build and promote the integration of guest rooms, catering, business culture and other various service facilities for the consumption of places, is the main issue that the domestic and foreign hotel industry actively explore. Nowadays, China's hotels have a large organization, provide more service items, and collect a large amount of information. In order to further improve the level of labor production, control costs, and improve service quality, it is necessary to achieve information management and control with the help of computers. Therefore, after understanding the current research status and development trend of hotel management system, this paper mainly studies the design of hotel management system based on Web technology according to system demand analysis and system function analysis, and puts forward effective measures from the perspective of long-term development of the industry.

Keywords: Web technology; Hotel management; System design; Demand analysis; Archive.

1. Introduction

As the basic component of management information system, hotel management system has been popularized in the development of modern society. From the perspective of practical development, the goal of the hotel management system is to implement automatic and electronic control within the hotel, improve the office efficiency of the hotel business, and provide consumers with high-quality hotel services. In the increasingly competitive market environment, in order to stand out, hotel enterprises pay more attention to optimize their service quality and improve their management ability. Through the integration and use of advanced database management technology, the page design of the hotel management system will become more concise and clear, and the internal functions are perfect and effective, which will help the hotel management truly realize the development goals of science and digitalization, and integrate with the world market. Due to the current low level of hotel management in our country, only stay in the primary research stage, and this management mechanism has been unable to adapt to the development requirements of the new era, waste too much manpower and material resources, there are some congenital defects, so the use of Internet technology to create a new hotel management system is crucial.

As a helpful assistant for people's study and work in the new era, computer is widely used in many fields, which has the following advantages: First, computer can replace manual labor; Second, computers can save a lot of resources. Third, computers can improve the efficiency of practical work; Fourth, computers can make sensitive documents more secure. The hotel management system design based on Web technology has a wider application range, which is mainly divided into two parts, on the one hand refers to management, on the other hand refers to processing, both of which can give full play to their own unique functions, such as storing customer information, improving system operability, quickly querying information, and laying a solid foundation for hotel chain and network management.[1-3]

Hotel industry as one of the more rapid development of the industry in recent years, from 2009 to 2010, China's hotel industry investment reached 340 billion yuan, according to the forecast

analysis of the world organization, in 2025, China will become the world's first tourism reception country. With the continuous increase of the number of hotels, the competitiveness of the hotel industry is becoming greater and greater, and the profits obtained from practice are constantly diluted. Therefore, whether a hotel can establish a scientific information management system is crucial. Nowadays, hotels will regard advanced information technology as the basic conditions, and regard digital management, scientific decision-making and information service as important means. By improving the efficiency of hotel management and reducing energy consumption, it provides more opportunities and challenges for its own innovation and development. Under the development trend of global economic integration, the hotel industry has more colorful tourist sources and broader market development channels. However, because the hotel industry is facing increasingly fierce competition environment and rising customer expectations, industry enterprises should expand hotel sales, improve service quality, control cost expenditure, improve satisfaction and other ways. Enhance the core competitiveness of hotel enterprises. And one of the most effective means is the large-scale application of advanced information technology. According to the survey of finance and technology personnel of the hotel and tourism industry in the United States, advanced information technology has become an important tool for the hotel and tourism industry to obtain new competitive advantages in the future. How to directly learn from and apply international advanced information technology to enhance their own management work and avoid falling into the trap of market development has become the focus of attention of domestic hotel industry scholars. Therefore, this paper mainly studies the hotel management system design and future development countermeasures based on Web technology.[4-6]

2. Method

2.1 Requirement Analysis

With the steady development of the hotel industry, the traditional model has been unable to meet the basic needs of modern hotel management, and how to achieve comprehensive network information management has become the main topic of hotel management exploration. In the design of hotel management system based on Web technology, the first and most important step of all information management system development is system requirement analysis, which directly affects the development and application quality of subsequent software and hardware. On the one hand, it is necessary to ensure that the system has the basic functions of room inquiry, room reservation, customer information, hotel introduction, backstage login, etc. On the other hand, it is necessary to provide a simple and clear operating interface according to different types of users to ensure that the system always follows the basic principle of customer-oriented operation.

2.2 Function Analysis

During the operation of the hotel management system, it is necessary to scientifically handle customer information, room resources and other contents, and the staff can timely understand the information changes of different links through the system, so as to improve the efficiency of practical management. Therefore, the overall task of system development is to realize the systematization and automation of the internal information management of the hotel, such as timely informing customers of the precautions for staying in the hotel and the precautions for booking rooms, and providing consumers with the geographical location, contact number and basic information of the hotel, so as not only to ensure that consumers can accurately understand the hotel

service content on the network platform, but also to ensure that the hotel is fully integrated. You can also allow specific users to complete actions.

2.3 System Design

Combined with the analysis of the system function modules shown in the following figure, we can see that the overall system design should face three kinds of objects: first, customers. Customers can browse the web page and book the room in advance according to their own needs; Second, hotel management. The hotel management staff can add, delete or modify the basic information of the user, can carry out orderly operation of the room information, and can also regularly or irregularly calculate the operating status of the hotel; Finally, system administrators. This object has the highest authority of the system and can fully guarantee the safety and effectiveness of the system operation.[7-9]

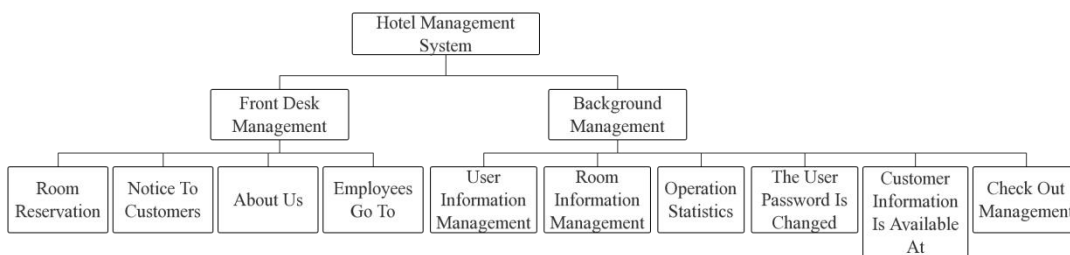


Figure 1 System function module diagram

2.4 Database Design

The database is a warehouse that organizes, stores and manages data according to the data structure. In the innovation and development of information technology, it has not only been used for storing management data, but also transformed into various data management methods required by users. Nowadays, there are many types of common databases, but the main structure is divided into three layers: first, the physical data layer. This hierarchical division is the core content of the database, is the basis for storing data sets on the physical storage device, and these data belong to the original data, is the main object of user processing, mainly by the internal mode described by the instruction operation processing for strings, characters and words together; Second, the conceptual data layer. This level of division belongs to the middle of the database, mainly used to represent the overall logic, will clarify the logical definition and logical connection of all data, can be regarded as the database under the concept of administrators; Finally, the logical data layer. This hierarchy is the database that users see and use, representing a collection of data that will be used by some specific user. During the operation of the system, each level of the database will use the mapping to realize the transformation.

Combined with the database architecture analysis shown in Figure 2 below, it can be seen that as a reasonable data collection structure on the computer storage device, it mainly contains data tables, records, fields, indexes, queries, filters and views, etc., which not only ensures that all users can access the data information in the database at the same time, but also can use the database through various ways through the interface. Compared with file system, database can prevent users from independently establishing application files, reduce data redundancy, and maintain data consistency. At the same time, data model can represent various data organizations and the connections between data, which can provide unified processing methods for the system, detect potential faults as soon as possible, and avoid data information being destroyed.[10-13]

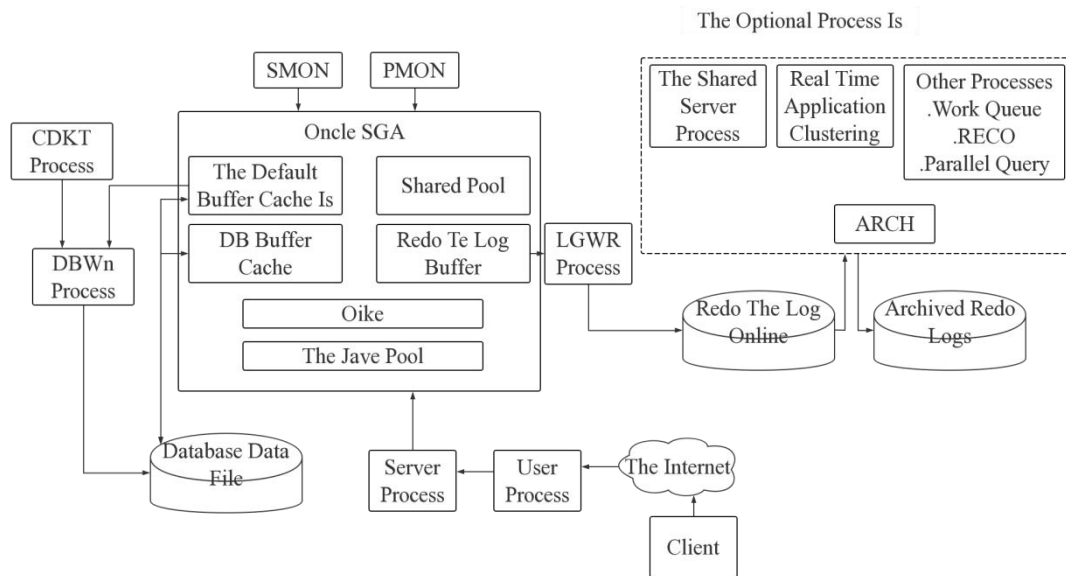


Figure 2 Architecture diagram of the database

3. Result analysis

3.1 Module Implementation

From the perspective of the system login module, it is mainly used to check and verify the users of the hotel management system to avoid illegal users entering the system. When logging in to the system, as long as the user enters the correct user name and password, he can enter the system, and the system will provide different operation rights according to the level of the login user. The actual operation process is shown in Figure 3 below:

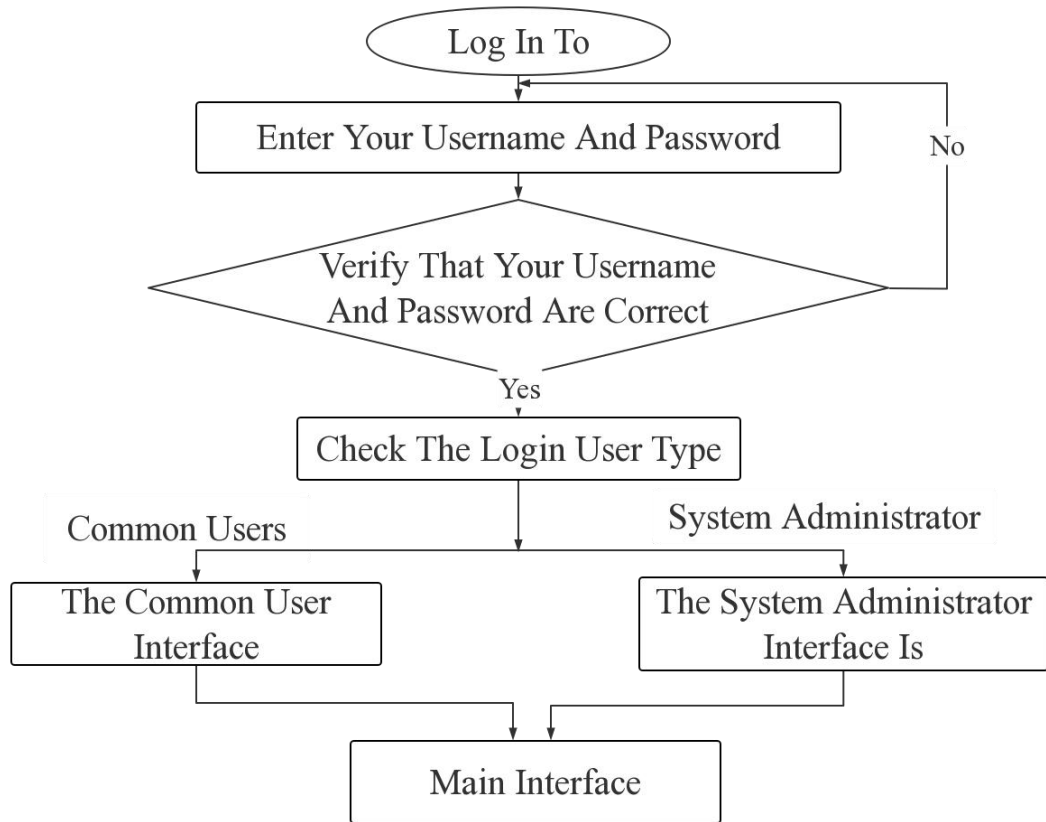


Figure 3 Flowchart of the system login module

From the perspective of the front desk of the system, the front desk is mainly used to book rooms, understand the basic information of the hotel room and the specific status of the room, etc., so as to facilitate consumers to choose to book according to their needs as soon as possible.

From the perspective of the system background, the user information management page can easily modify user information and complete basic operations such as deleting or adding users. The specific process is shown in Figure 4 below:

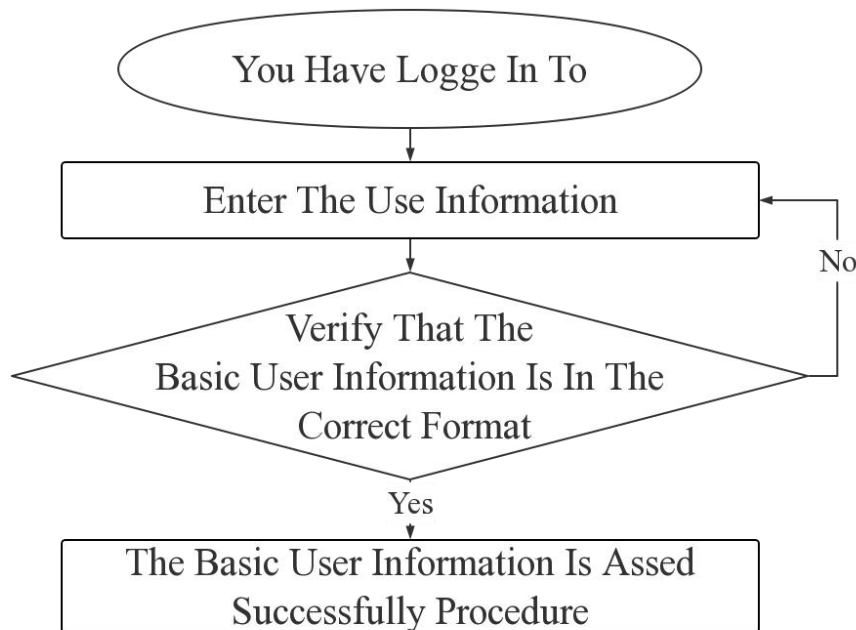


Figure 4 Flow chart of user information management module

The room information management is mainly used to add, modify or delete the room number, type, unit price, location, description and other content; User type management deals with information such as type name, room price, number of beds, room area, etc. Business statistics should be statistically analyzed according to room categories, date conditions, etc., which can facilitate hotel managers to quickly understand the transaction amount and the overall amount at different stages; The personal password modification module is mainly used to modify the name and password of the current login user, the specific process is shown in Figure 5 below:[14-15]

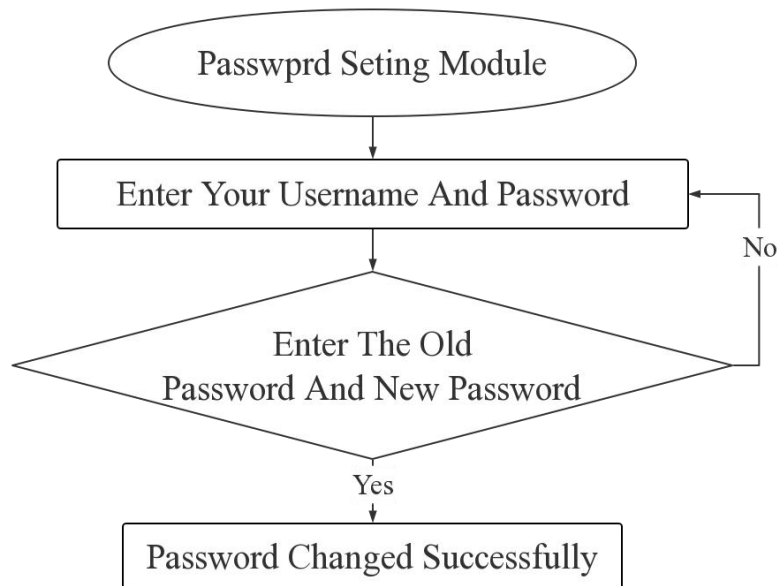


Figure 5 Flowchart of password change

In combination with the functions and module implementation process of the hotel management system proposed by the above research, through the program design and effective implementation of the front desk and background modules, the overall system can ensure that the daily management needs can be met, so as to guide the hotel industry in China to develop steadily in the direction of intelligence.

3.2 System Development

This system is based on visual object-oriented modeling design and development, the use of Web technology to develop the overall management system, although the application technology and design mode have a certain advanced, but in the future to continue to combine theoretical technology research and innovation. Especially in the face of the wave of economic globalization, China's tourism hotel industry is facing severe challenges, in order to adapt to the new development situation faster, the new era of hotel enterprises to establish four management concepts: first, innovative concept. Employees of all departments should have a sense of innovation and pay attention to communication with the external environment; Secondly, brand concept. Brand is of great practical significance to both producers and consumers. In the future, hotels can improve their competition level through brand culture. Again, inside the market. Hotel managers should establish a firm sense of the market, always take the market as the center of the implementation of management work, and according to different market conditions, psychological characteristics, choose flexible business strategies, in order to expand the scope of hotel market business; Finally, the concept of humanism. During the period of hotel management, the ability and quality of the

staff, psychological state, etc. directly affect the business results of the hotel products, so in order to create a high-quality service environment and rich economic benefits, we must always adhere to the people-oriented management thought, and truly realize the scientific and effective use of human resources.

Conclusion

To sum up, the design of hotel management system based on Web technology is the main topic actively explored by China's 9:00 industry in the new era, this system can not only improve the efficiency of hotel management, but also provide convenient and fast service functions, and basically achieve the expected work goals. Therefore, in the future, China's hotel industry should continue to explore intelligent management systems, focusing on providing more effective management means for the hotel industry.

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