

Design and implementation of Chinese high star-level hotel management information system

Chuanbao Yu^{1, a}, Haiyan Sun^{1, b} and Baozhen Han^{1, c}

¹Qingdao Vocational and Technical College of Hotel Management, Qingdao, Shandong, China

^a44373168@qq.com, ^bshysf1799@163.com, ^csylviahbz@126.com

Keywords: High star-level hotel, Management information system, design

Abstract. Nowadays, the integration of the world economy, information dissemination means modernization, the rapid development of economy and society, the survival and development of enterprises are facing greater challenges. This paper designs and develops a set of hotel management information system combines with the high star-level hotel management business and computer technology, focusing on the completion of the need analysis of system, the detail design of system and the implementation of part of the system.

Introduction

In recent years, with the rapid development of China's hotel industry, increasing competition within the industry, at the same time, the hotel management has put forward higher requirements "to enhance the hotel's competitive ability, improve the hotel management level, advanced hotel management information system has become the inevitably choice" Modern hotel operator of the computer and Internet use, technology, information application system can not only improves the efficiency of hotel management, but also can achieve the reduction of operation cost and resource sharing". [1-3]. In recent years, as China's various public crises have occurred frequently, and the present trend of expansion, China high Stars Hotel industry can not be an exception, because of its internal and external factors caused the possibility of crisis suffered significantly increased "Chinese high Stars Hotel, is an important facility for the high-end business public and Tourism public services, in the management process. [4-6]. It is difficult to avoid rabbit for various problems of their own management service level and the natural disasters and make the hotel faces crises, may also suffer from security, the threat of terrorism. [7]. This paper completed the implementation of the part of "system selection mainly completed the development of technology and user interface operation. The realization of part of "the system with auxiliary user dynamic data query, statistics, analysis function; system uses B/S system architecture, providing a network office platform, integrated for the user, the realization enterprise information sharing and information exchange; has the advantages of simple operation, friendly interface, good flexibility, high system security, stable operation characteristics.

The related technology of hotel management information system

J2EE. J2EE is architecture for more powerful function; it can make the enterprise development plan and management and deployment of these problems simple. Java2 with two platform compared to standard version is the foundation of J2EE, it not only consolidated the many benefits of the original version, as it features only written once and can be run everywhere, but also can protect the security of data in the network, CORBA can support the database inside good access and JDBC API technology, in addition to full XML support, JSP, API and EJB technology. J2EE hopes to finally result achieved is to do a good architecture, so that enterprises can greatly reduce the time to market researchers.

MVC model. MVC model is the model view controller, it is a kind of model design, MVC program can be designated as the view and the controller and the model of the three part, the three part can be on their own task processing, the pattern is a software design method of the current popular. In twentieth Century 80's MVC is a software design pattern and Xerox PARC created for

the Smalltalk-80 programming language, this model integrates the data representation layer and business logic separation, and the separated application behavior, Observer is a typical application of MVC design pattern (Model-View-Controller, model view controller) model is the model view controller, it is a kind of model design, MVC program can be designated as the view and the controller and the three part model..

STRUTS model. Struts is a framework for web applications are built, and the Java platform based on MVC mode, is very popular open source framework, using JSP and Servlet technology to realize the. The Struts framework can provide the implementation of components to model, view, control, and can make full use of JSP, JavaBean, and Servlet technology. Struts solves business oriented, high performance of the system software by using MVC design pattern in Web application development problem.

UML Technology. UML is also known as the unified modeling language, the language can be visualized, can be constructed, and function is relatively large, more extensive use. Structure of the model system UML language can create dynamic behavior in a software intensive system in the static structure, can also be, it is a kind of modeling language, general in the model, its universality is very good. Scalability is also good. It is the standard language is very good, can be very good for the modeling of those changes of large system, it can be used to draw the blueprint of software, UML can help us to the software system of products better visualization, structured and documented. UML can also for those distribute application based on Web modeling, and enterprise information system of Li's real-time embedded system.

Analysis of demand of hotel management information system

The software requirements analysis refers to the user on the target software system on function, behavior, performance, design constraints etc. The expected "requirements analysis is to find the demand, modeling and define the requirements process" requirements include from the user point of view, and from the developer perspective to illustrating for the "needs analysis stage is the stage of development of hotel management information system is the most important, the first is to understand and clarify the needs of users, and then strictly defined by the software system development the requirements specification".

Hotel management system existing, the need to strengthen technical input in database security and integrity, especially the database recovery technology, which is the weak link in the current system exists. The security problem is not only unique to the database; all computer systems will have this problem. The database security is the main protection of databases to use the house not legitimate data caused by leakage, modified or destroyed, only database systems store a large amount of data, but also for many end users share directly, so that the safety issue is more outstanding. At the same time, safety management is the existing prominent problems, due to physical causes poor management of computer equipment and data medium damage, loss and other soft hardware fault accidents, the accident site security problems, how to effectively protect the integrity of the data, it is proposed a system of the most basic requirement, but also the most important requirements.

Detailed system design and implementation

The Web application system based on J2EE architecture, using JSP, JavaBean, Servlet, and JDBC technology to develop. The hotel management information system of the whole system is based on Spring. J2EE Spring is a lightweight framework, covering almost all aspects of JDBC technology from the package to the web framework. The system architecture diagram was shown in Fig. 1.

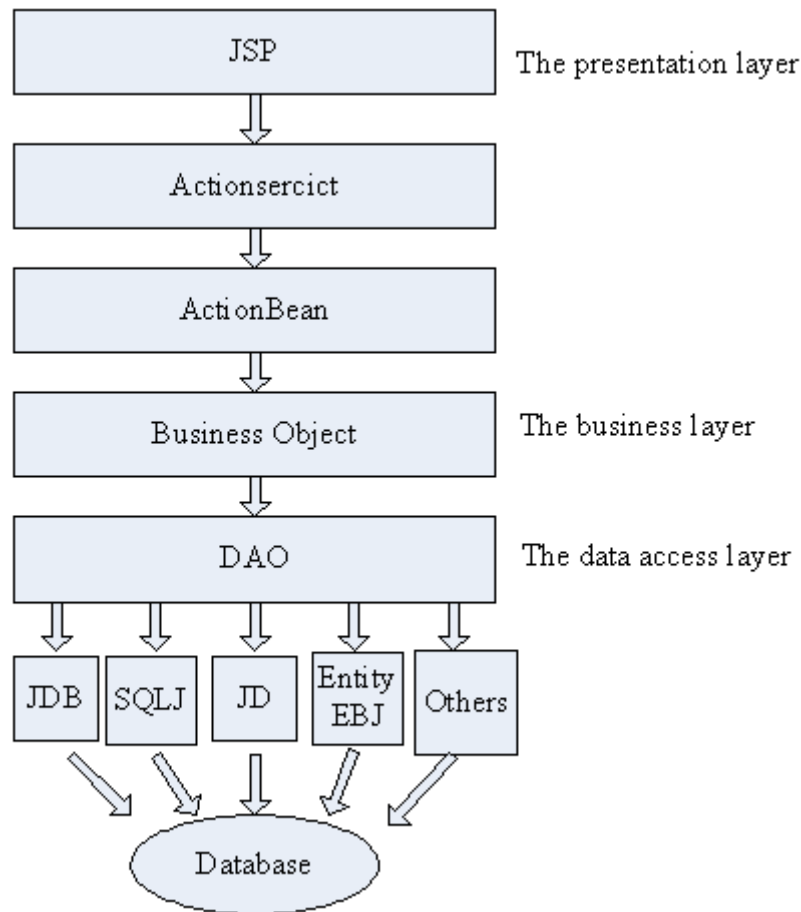


Fig. 1 The system architecture diagram

Test of hotel management information system

System testing is the key to guarantee the normal use of the procedure of system quality. System test purpose is inconsistent with logical thinking of the place, and the function and requirement inconsistency in software design place exposed, then supplement.

Functional test. Functional testing refers to the design of the system function that can not be in accordance with design requirements. First of all, whether there is a functional menu the user should have the test system menu, and will be able to connect to the correct function interface. Secondly, page operation correctness of functions tested. For functional testing is the need for centralized testing, also is the link function test to the system, such as login and operation interface etc.. This article plans to use the black box testing method to detect the function of the hotel management information system.

Performance test. Performance testing is not an exception has occurred during the running of the peak were observed on completion of the test system, then, is the completion of the use of automated testing tools. By the system load test can be tested and evaluation on the performance of the system in any work load.

System test results show the hotel management information system to achieve the desired functions of the original design requirements. The system in the more important operation, have authority verification mechanism, effective protection of the security of the system. In the performance of the system response and processing speed is within the normal range, only in processing and operation encountered a large amount of data occurs when the display delay phenomenon. Various functions and business processes of hotel management information system are to achieve customer management and cater management need.

Conclusions

This paper from the characteristic of hotel management business, the use of relational database, the development pattern of MVC and J2EE technology and some other technology to complete the hotel management information system based on WEB platform, the system realizes the network management of the hotel business, solve the information exchange and processing between departments, improve the hotel office efficiency, reduce the tedious and the error of manual processing.

References

- [1] P. E. Moreau, A. Reilles. Rules and Strategies in Java. *Electronic Notes in Theoretical Computer Science*, 204 (2008) 71-82.
- [2] C. J. Wang, S. Zhang, et al. A dynamically reconfigurable system based on workflow and service agents. *Engineering Applications of Artificial Intelligence*, 17 (2007) 771-782.
- [3] D. Garlan, D. Perry. Introduction to the Special Issue on Software Architecture. *IEEE Transactions on Software Engineering*, 21(4) (2005) 269-274.
- [4] E. Laure, O. java. A Java framework for distributed high Performance computing. *Future Generation Computer Systems*. 18(2) (2001) 235-251.
- [5] G. H. Lee, J. Jung. Web framework with Java and XML in multi-tiers for Productivity. *Future Generation Computer Systems*. 23 (2007) 263-68.
- [6] F. Baiao, M. Mattoso, G. Zaverucha. A Distribution Design Methodology for object DBMS. *Distributed and Parallel Databases*, 16(1) (2005) 45-50.
- [7] T. Grant. A Model View Controller Framework for Java Server Pages. *JAVA Developer's Journal*, (2001) 133-378.