The Design and Implementation of Mass Sports Information Management System

Long Cai, Yuan Zheng

Weinan Normal University, Weinan 714099, China

cailongwn@yeah.net

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Abstract: Nowadays, mass sports vigorous development, a large number of business work and electronic documents need information management. At the same time, in the development of mass sports, there is a lack of a unified, standardized business application support environment, poor communication, business communication errors and other issues, serious impact on the efficiency of mass sports management, hinders the development of mass sports. Therefore, sports bureau to set up a system to solve the existing problems of Sports Bureau, integrate the present work, improve work efficiency, this paper practical work, on the research of the Sports Bureau of mass sports status based on, describes the system demand analysis, the system logic structure, application architecture, the system of general function include: unified authentication platform, data exchange platform, data statistics, decision support module, the information issue function module. This system project procedure uses the open language to use the WEB language to carry on the JAVA system development. According to the provisions of the industrial standards, in accordance with the application of J2EE technology architecture specification, Web system development can support the standard common language data exchange and Web services, such as the use of commonly used functions. At the same time, in order to ensure that users access to heterogeneous systems, Web should also provide a large number of such as file system, such as commonly used adapter. Of course, these adapters should be able to run under the J2CA specification. Using ESB (Service Bus Enterprise, abbreviated ESB) bus, to support the integration of resources between two or more heterogeneous systems. Only through this way, can we make the rapid construction of distributed applications, and achieve the basic functions of data sharing, etc.

1. Introduction

In the past few years, the sports information has been developing continuously and steadily. It has realized the information management of the sports business in our country and made some contribution to the sports industry. At present, the sports information has begun to take shape, but with the continuous advance of the work, according to the requirements of our country sports development planning and policy, overall competitive sports items, more effective support Sports Bureau guidance and coordination of mass sports community[1], youth and fitness facilities, swimming places and social sports instructor management work. Perfection of juvenile amateur training management, guidance to promote the community of all kinds of sports and traditional sports school construction and related training, training and sending the outstanding sports talent, urgent construction of mass sports service system, using information technology, improve work efficiency. At the same time, the Independent Bureau of sports of China in different periods, different environment and different business building of various application systems have been stable operation and the resources of the dispersion problem and the complexity of management is more and more prominent, information sharing, unified management and improve resource utilization into the problems need to be solved urgently at present. Urgent need to establish mass sports information management system to meet the needs of sports business. Through systematic

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review of existing business needs and functions, development platform based on unified, make an overall plan according to the unified technical architecture, standard and environment, the number of China's Municipal Sports Bureau of the mass sport information management system construction, the Municipal Sports Bureau each business divisions and existing between the application system of information resources sharing, application interoperability, improve sports bureau, the overall level of information technology. The construction of data sharing and exchange platform is generally done in software platform and hardware platform. The hardware platform, including the application server and server operating system and other hardware equipment, software platform, including intermediate software and database software, such as software. Platform software and hardware environment should meet the standards set by the platform construction. Only in this way can we highlight the characteristics of the advanced platform and reliability. Construction of data sharing and exchange platform, to achieve the mass sports information system data communication, Internet, conversion. Through the unified data specification and the standard to carry on the thorough mining, the analysis and the conformity to the Sports Bureau existing application system's data. To effectively solve the business system arranged in a crisscross pattern, data distribution widely, business demand will continue to transform the problem. At the same time to ensure that the system has good efficiency, stability and reliability [2].

2. Key Technologies Involved in the System

The distributed system is different from the computer network system, which depends on the network but not on the network. It is a system that performs tasks on the web. The distributed system consists of 4 parts: (1) the distributed operating system; (2) the distributed file system; (3) the distributed database system; (4) the distributed programming language. The distributed operating system plays a role of resource management and program control. Most people confuse it with a centralized operating system. In fact, the most simple way to distinguish between the two is to look at their system structure. Distributed file system can control the remote file, but also in a public way on the network file management. Distributed database system is not a single database in a computer, but it is composed of several sub databases scattered in a number of computers. The distributed database system can use its own access method to operate the database. From the point of view of physical structure, these sub databases are located on the nodes of each computer. Although these sub databases are widely distributed, they are logically related. And they are independent individuals, and they do not affect their executive function. They use the communication network to connect together to form a complete individual. So in a sense, the distributed database can be regarded as the combination of a series of centralized databases. Distributed programming language is a distributed program of the computer system, which is composed of several program modules. The program modules are distributed on different computers, which can perform functions independently. Compared to the centralized programming language, the distributed programming language has a wider distribution, stronger communication and better stability [3].

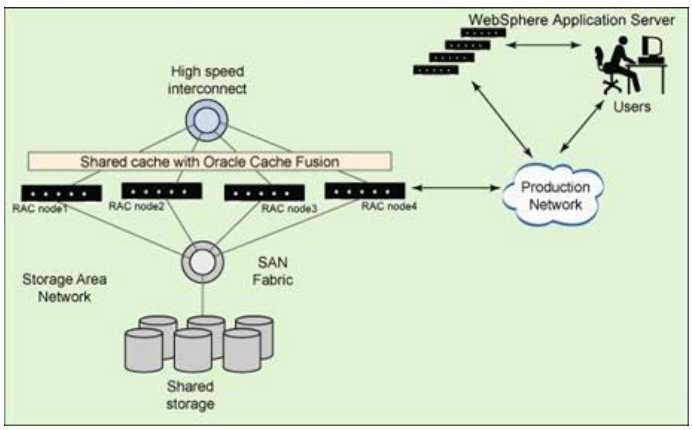

Fig.1 Chematic Diagram of Distributed Database

2.1 Xml Technology Introduction

XML is a better method of data transmission at present, which is used for data transmission in different systems. Because XML is not related to the programming language and the operating platform, XML can be connected with the data of different systems in order to achieve the integration of resources between different government systems, to achieve the best results. XML is able to adapt to the application of different structure data share, its operation has great expansibility and flexibility, such characteristics the can of not the same or different great application for data integration to show, the more profoundly reflected in special number of records according to the application. In addition, XML can also be described as self. The advantage of this feature is that it can transmit and organize data in different applications, and does not need to be formulated in accordance with the corresponding procedures for the data. XML is a meta markup language, which can be used to check the search data. In this case, we can see that, in order to achieve a specific document type in the XML file, you can search it according to the characteristics of the condition, and even in the computer automatically check the search. The user only needs to define a series of related tags in the XML document type. Related search engines are widely used, not limited to specific procedures. XML also supports a number of different languages, including various common languages and small languages[4], which is very good for the development of multilingual applications.

2.2 Introduction to B/s Architecture

B/S structure not only reduces the installation of client software, which is a cumbersome process, but also reduces the configuration requirements of the software. At the same time, the structure is greatly convenient for the operator and the user, so that the operation is simple and easy to use. In addition, the B/S structure can be extended to the original software functions, such as online information release function. Some written documents are converted into electronic form, which makes the work efficiency of enterprise or administrative department greatly improved. At the same time, this function can make the staff to avoid duplication of access to a wide range of written documents, reducing the work procedures, saving a lot of time. Through consulting the literature that, B/S structure to reduce the installation of client software this cumbersome process, only need to install a simple browser can be used. Such improvements can save the energy, material and manpower required for the installation, but it is more important to increase the space in the processor and make the network structure more simple. Of course, B/S structure has been respected by the system developers, because the B/S structure will be the development and maintenance of the system simplified, while only using the network server will achieve all the functions. Each user can use the HTTP request to start the Web server in the jurisdiction of different processing procedures, to complete the data query or modify. The maintenance of B/S structure has greater flexibility, in the user program updates, do not need to update one by one, only on the Web server to modify the service program can be[5].

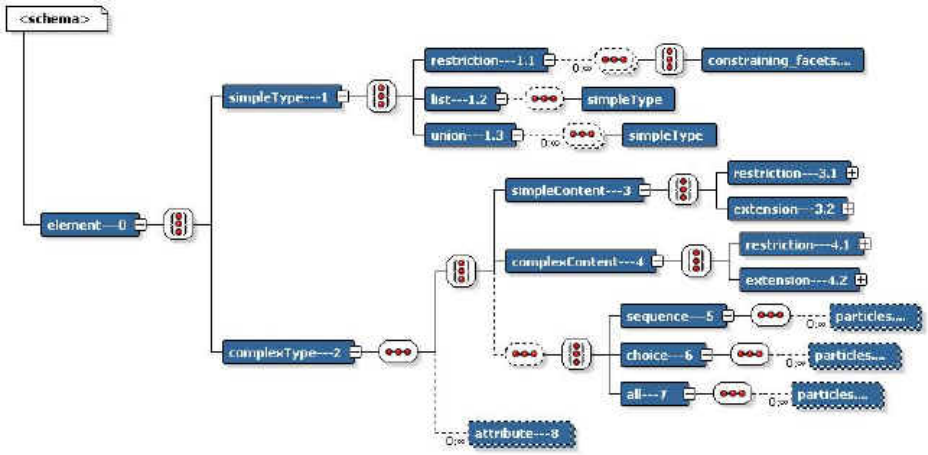

Fig.2 Schematic Diagram of Xml Structure

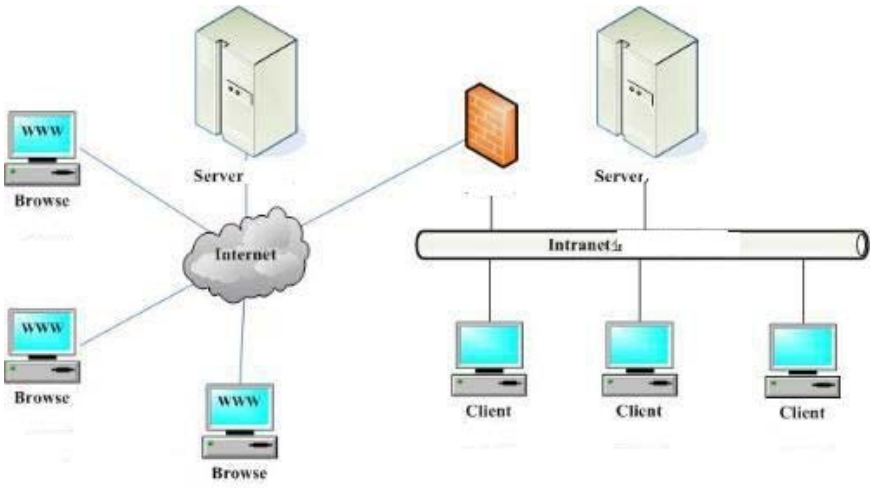

Fig.3 Schematic Diagram of B/s Architecture

2.3 Information Sharing

Information does not require centralized management, but is distributed in different places. The direct owner of the data and the provider division of labor is different, the former is mainly to maintain, update, management data and other work, and the latter is to provide these data to the server to service authorized users. This information sharing has two major advantages: first, the realization of the diversification of information; the two is to ensure that the “original data” security, the protection of the rights and interests of the data provider. There are three kinds of client \ server architecture: presentation layer, logic processing layer and data processing layer. There are drawbacks in the design and application of C/S structure. We want to avoid these drawbacks should do: extract the huge and complicated data, separated from the physical and logical structure of the system, so as to form the user service and commercial service with C / S structure; the distribution means can be used in the bottom of the base component and so on. To do this, we can actively avoid the drawbacks of the C/S double layer structure.

3. System Design and Implementation

In this project, the most important is the application of the development of the technology model, according to the needs of the use of the J2EE standard to build the system and the platform of the project. As far as possible to use sophisticated technology and products to build the system and platform. Data interface platform in the application supporting platform and physical database layer between a data access layer, application database access channel, unified design and develop a data access layer can greatly reduce the workload of the business system development and reduce the instability of the system. With the development of community sports fitness club, sports life of the community and sports advanced community work related to the business, including the application to create, review, promotion, evaluation, publicity, etc.. Sports life of community management: to provide advanced community sports management functions, showing the sports advanced community list information. This function interface for a user with feedback, processing, exchange a purchase, review, eliminate the username, checking and data export functions. The management of youth sports business mainly include the youth club, the traditional sports program and the open facilities school. Information management: with the State Sports General Administration Group business system to share the youth sports club data; the school sports facilities on the social openness of the statistics; the traditional sports schools for sports statistics. Business management: the implementation of the youth sports club declaration, registration, audit, appraisal and other services on the Internet for. Sports facilities open to the school management: its management function is mainly reflected in the user can see the information of the school. User in the function of the main interface can be used to view the record function and view the function of adjusting the data information to view the school information. The district and county is dedicated to the user set

up a query, input, modify, import data and other functions, so that users use. But now it is not allowed to apply and register. Fitness facilities management module design: the scope of the national fitness facilities, including the national fitness path project, special ball games venues, sports characteristics of the park, as well as national fitness and sports facilities update and maintenance. National fitness project, the relocation of the approval of the change, equipment maintenance and updating, appraisal, information statistics, and other fitness facilities needs to achieve the online business, and relevant policy information released. Information management module design for swimming pool: management of swimming pool information. County is responsible for the basic data of the national fitness project query, registration, modify, delete, Municipal Sports Bureau can check all the district's construction projects, the basic data to support the introduction of EXCEL. Support to increase the corresponding maintenance information. Provide swimming pool management function, display swimming pool list information. In this functional interface for the user to customize the registration, preparation, view deletion, data, users designed to log in, edit, circulation data, to remind the perfect data functions.

4. Conclusion

Based on the research in a wide range of China's sports information management status and existing difficult problems, deep thinking and research, using the advanced software development technology, unique, innovative development perspective, design and successfully developed out an information management system of mass sports, to assist the sports staff easy and efficient completion of the various and complex trivial mass sports management work. The in a variety of sports participants personnel work is based, in extensive research and personal experience, the seek itemize, by constantly sum up, and ultimately the formation of the specification of the demand analysis. Through the use of more advanced technology development tools, and gradually applied in the process of system development, and achieved the results of the stage.

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