

Analysis on the Automation Management System of Provincial Level Public Library in China

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Abstract. The construction of digital library informatization level is an important symbol of library modernization, library automation integrated system as the basis of the library to carry out the business work and reader service, to a considerable extent representatives and embodies the level of library automation, this paper introduces the domestic 31 provincial library chooses the library automation management system, and a brief evaluation, in the face of the new library development needs, is the investment funds, updated continue to use the original system, It is hoped that this paper can provide reference for the selection of library automation management software.

Keywords: provincial level, Public libraries, automation.

1. Introduction

The library Automation Management System is produced and developed with the development of social production and science and technology, especially the progress of computer technology and communication technology. In the late 1950s, some libraries in North America and Britain began experimenting with computer applications. In the early 1980s, in order to change the defect that several systems in a library were separated from each other, the library automation integrated system appeared in the United States and represented a development direction. Library automation management system, also often referred to as library document information management system, has experienced single machine, terminal/host stage, LAN client/server (C/S) stage. At the end of 1970s, some libraries in China started the research and experiment of library Automation Management System. Individual stand-alone systems were put into trial operation in the mid-1980s. The middle and late 1990s are the historical period of the vigorous development of library Automation Management System in China. With the development of Internet, the emergence and successful application of Web technology, database technology and Java technology, the domestic library Automation Management System r&d personnel have also developed several large library Automation Management Systems that are relatively influential in China.

2. The Current Situation of the Automation Management System of Provincial Public Library in China

Provincial public library is the backbone of China's public cultural service system, and its service concept determines the development trend of public libraries. The author investigated the Automation Management System of 31 libraries in China by means of collecting materials on the Internet and consulting by telephone.

3. Domestic Automation Management System

The domestic system is composed of modules such as interview, cataloging, public inquiry, circulation and periodical control, which involve all links of the library's business work. The functions are complete and practical. In particular, the system is based on the resource sharing of bibliographic data, and pays attention to the standardization and quality control of data. At the same time, it also absorbs the mature technologies such as real-time index and parametric control adopted by foreign library Automation Management Systems. In addition, combined with the actual situation in China, it has formed its own characteristics in the automatic generation technology (such as the Chinese

character -- Chinese spelling sound, is-bn -- the automatic generation of publishers and places of publication, etc.), the support of multiple languages and large character sets. The successful development of these systems has promoted the modernization of China's library, improved the management mode, improved the quality of service, and promoted the formulation and perfection of various standards.

3.1 ILAS

ILAS(Integrated Library Automation Management System) is a complete set of Library automation Integrated System assigned by the ministry of culture as a national key science and technology project in 1988 and developed by shenzhen Library. With the continuous efforts and progress of ILAS people, ILAS has become the library Automation Management System with the largest number of users, the most extensive promotion, the strongest practicability and the best networking performance in China. According to the diversity and complexity of users, ILAS has launched several versions: the public version designed according to the business needs of public libraries; Adapt to various campus network of the university version; Suitable for all kinds of large and medium-sized enterprises and transportation system, post and telecommunications system, health system, banking, securities, insurance industry and other enterprise version; Suitable for primary and secondary school libraries, township, town, village, street library reference room, referred to as ILAS(s) small version and for the application of Hong Kong, Macao, Taiwan region, has launched a set of BIG5 platform based on the Chinese and western version of the BIG5 system. In 1998, the company successfully developed ILAS II online version on the basis of ILAS5.0, with users covering 30 provinces, autonomous regions and municipalities directly under the central government, ranking first in the market share of similar products. ILAS has become the library Automation Management System with the largest number of users, the widest promotion coverage, the strongest practicability and the best networking performance. Once the ILAS system was launched, it was warmly welcomed by libraries at all levels of the country. The number of users jumped from 85 in 1993 to nearly 3, 000 in 2007. ILAS III, launched in 2005, is a multi-layer and distributed digital library application system based on the digital library practical database platform and library automation management system, which takes the construction of digital resources and digital services as the development direction. ILASIII is a complete solution and practical system for digital library. Library users can integrate resources and services through functions and technologies provided by ILASIII. ILAS III can also be incorporated into the digital library system as a component through a unified protocol. It supports the adoption of the current epidemic of universal database system, functions of resources construction and process system, reader service and online library, personal digital library, all kinds of digital technology application interface, etc. all business covers the ILAS system module includes practical database platform, resources construction, reader service system, the personal digital library, the user can from the early stage of the ILAS stable version to upgrade.

3.2 INTERLIB

Interlib is a library automation management software developed by Guangzhou tuchuang computer software development co., LTD. Its product series includes Interlib library cluster management system, Interlib SSO unified identity authentication system, Interlib SMS system, Interlib phone voice system, Interlib opac-library2.0, Interlib learning network platform, etc. Interlib system is a group of around the library content of the overall construction design, realized the city group of colleges and universities, multi-campus library, cross-industry literature resource of library alliance under interviews, cataloging, circulation, literature resource management, reasonable distribution of a set of processes, implements the effective sharing of literature resources, and provide the full transfer, personal service such as library. Interlib system was launched in May 2005 to May 2010, has developed more than 2, 300 total branch users, Interlib cluster management system is the third generation of new library system, as new forms for realizing resources sharing, through the Internet or metropolitan area networks will area libraries unite, to form a regional group of virtual library, and has set up a regional library group of electronic, digital and networked three-dimensional

information space, through the opening at the same time, the multilayer structure of To achieve the purpose of sharing and cooperating with other library resources at home and abroad, the resource management and business cooperation of library group can be realized in a real sense. Interlib breaks the situation of each library unit being owned and segmented, and manages urban library groups or libraries in multiple campuses of universities as a whole, so as to achieve the purpose of resource co-construction and sharing, rational allocation and mutual cooperation among libraries. It includes the subsystem of interview, catalog, collection, periodical, circulation, characteristic function and WEBOPAC. In terms of technology, it adopts B/S (browser/server) mode multi-layer architecture, and develops and designs based on J2EE system standards. The client does not need to install any software to realize all library services.

3.3 WD-2000

Wd-2000 DIGITAL LIBRARY sys-tem (wd-2000 DIGITAL LIBRARY sys-tem) is a comprehensive information management system for public libraries, professional libraries, unit libraries and community libraries of different sizes. The system adopts complete browser/client/server architecture, supporting advanced and mature well-known database and operating system. On functions can not only meet the traditional library business interviews, catalogue, collection, circulation processing requirements, reader management, at the same time can also meet the library office automation management, processing, production and management of digital resources, digital resources retrieval calls and output and release, and under the condition of application implementation wan street community libraries, readers rush, book circulation, make an appointment and digital literature sharing service. Smart 2000 digital library is suitable for three types of library members, the first type is the central library library, the second type is the district and county library with the ability to independently deal with business data, and the third type is the street community library that only completes collection, reader and circulation operations. The smart 2000 digital library management system adopted by Beijing public library from 2002 to 2003 has set up a new platform for the information network service of public library. Since May 1, 2004, capital library, xicheng district, dongcheng district, chongwen district, chaoyang district library and some sub-district libraries have established a "one-card" service system, which has realized the service of borrowing books and materials, and is welcomed by readers. It has realized the joint retrieval, inter-library loan, resource sharing and "one-card" service of public libraries at all levels in Beijing. Now it covers 22 district and county libraries (including children's libraries), 159 sub-district and township libraries and some community (village) libraries (rooms).

3.4 Wenhua Cluster Digital Library System

Shenzhen Wenhua digital map information consulting co., LTD. is a private high-tech software enterprise established in Shenzhen, specializing in digital library technology consulting, digital library software platform development, library Automation Management System development, computer hardware and network integration of professional software companies. Company research and development of "digital library system (DLibs) mandarin" is a set up in the Internet under the network environment, based on a generic UNIX/Linux operation system environment, the use of international commercial Ora-cle/Mysql database platform, USES C/S B/S mode, the Unicode standard under the large character set support across systems, across a large cluster of database application software product digital library. Mandarin Dlibs system is geared to the needs of large domestic library research and development of a comprehensive multi-functional digital library application platform, the database of the underlying document architecture and design ideas according to the large software system, suitable for domestic provincial public library and university library application, especially suitable for the situation to build the library system management and joint share system resources, in order to realize the joint cataloging, cross-database retrieval, one cartoon literature service of digital library service mode. Company developed the main products include digital library software platform, digital resource acquisition and release system, library automation management system, online union catalog system, document loan and return system, IC card

management system, resources unified retrieval platform, mobile phone library OPAC, the voice service platform, service system, RFID self-help books borrowed system, library portal, etc.

4. Foreign Automation Management System

Currently, foreign systems available in the market mainly include Sirsidynix's Symphony, horizon, Unicorn, Aleph500 of Exlibris, INNOPAC/Millennium of Innovative, etc. In terms of sales, the total installed customers of Horizon, uni-corn and Aleph500 by the end of 2006 were 1 597, 1 583 and 1 941, respectively, far ahead of the products of other suppliers. The users of these three systems are mostly in large and medium-sized university libraries, public libraries and professional libraries. In China, they also have a large number of library users. The foreign software used in the provincial public libraries in China includes the products of SirsiDynix company and ExLibris company. The following is a brief introduction of the products of this company.

Sirsi and Dynix entered the mainland market around 1996, while ExLibris entered the mainland market in 2000. The competition between these companies was fierce to begin with, and their market share was roughly even. But in the last two or three years, ExLibris has established a clear advantage. Metal-ib, the metasearch system, and SFX, the open link system, almost monopolized the domestic market and quickly drove the sales of ALEPH500. Its success mainly stems from two aspects, one is advanced product functions, the other is the mainland market is very important. ExLibris has set up a representative office since it entered the domestic market. It is the first international software supplier of its kind to set up a representative office in mainland China.

4.1 ALEPH 500

Eli ExLibris beth co., LTD. has more than 20 years development history in the global, 2 experience of more than 500 Aleph system implementation, the Ex Libris library integrated management system solution can meet the needs of the various type and size of the library, from a small library with fewer resources, to have millions of collection of large libraries and library organization. In November 2006, ExLibris merged with Endeavor and adopted the company name of ExLibris, which is the second largest library automation company. Aleph 500 is a fully integrated library system, with Oracle database as the background, and fully supports Unicode character set, XML management report, and API connected to other top-level application systems. The main modules include Web OPAC module, catalog module, interview/continuous publication module, circulation module, interlibrary loan module. Additional modules include Aleph digital resource module (ADAM), Aleph reporting center (ARC), interlibrary loan (ILL) module, media reservation module and joint catalog module. Aleph500's digital assets management module (ADAM) provided the ability to manage digital objects (pictures, videos, electronic documents, etc.) associated with bibliographic records and their permissions. In the future, this module can not only allow authorized readers to directly browse the book cover, but also realize in-depth retrieval and trial reading from bibliography to chapters and even the full text. It can also serve as a platform for publishing specific electronic resources (such as dissertation). Company related products and library resource discovery and access to the portal system Pri - mo, access to the library's electronic collection, obtain the right instant service of library portal system MetaLib, open link system SFX provide powerful connection service in the academic environment, focus on Verde in the field of electronic resource management system and so on.

4.2 SirsiDynix

In early 2005 Sirsi merged with Docutek, a small company that develops virtual reference and electronic storage with approximately 550 library users. In June of the same year Sirsi merged with Dynix to become the library automation company with the largest customer base. SirsiDynix later announced horizon7.x will be upgraded to Sirsi Unicorn's Symphony system in the future. Unicorn system is an integrated multi-library management system based on UNIX operating system environment, which can centrally manage books in different regions. The functions of all modules of the system run on the same bibliographic database, and librarians can transfer from one module to

another through a simple and easy interface. The core of Unicorn system is its integrated collection control. The collection information of all libraries using the same system can be stored, retrieved, queried and exported as needed. Unicorn system has online records of changes in the location of each document in the collection catalog: from interview to circulation to binding, from the central database module to bibliographic control. The library can add other modules according to the actual needs of the library. After adding modules, there is no need to change the operating procedures. Once the new module is installed, the librarian can begin to work within his/her authority. Horizon 7.x supports major commercial Unix systems on RISC servers, including Solaris, AIX, hp-ux, Tru64 Unix, etc. Due to the end of the product line horizon7.x will no longer be available for PC servers. The librarian client runs on mainstream configured PCS, and the web-based public client supports mainstream browsers. System provides the comprehensive function of library management system, including the circulation, cataloging, procurement, journals, the basic business modules, such as public retrieval platform and online cataloguing, interlibrary loan, such as senior business module, to provide with daily circulation, collection, reservation, firmness, librarians, readers information about the workload statistics, but its report function is relatively weak, is not so rich Aleph 500 report of the and Unicorn. Symphony library integrated system uses the high adaptability of multilayer structure technology, support multiple hardware platforms, operating systems and database requirements, provide software services, in the form of "cloud" module a continuous publications, cataloging, circulation, interviews, specify the appointment, the collection communication and other reference books, equipment, additional module includes browser-based SirsiDynix StaffWeb librarians interface, support mobile library circulation PocketCirc mobile equipment circulation module, As well as data delivery module Outreach program and easy-to-use stocktaking program, more than 600 report templates are built in, which can be used for analysis, usage statistics and prediction. The system runs on a variety of operating system platforms, including u-nix, Microsoft Windows, and Linux. The system is written in C/C++ and Java. The latest version of Symphony will support mobile devices, such as pdas and smartphones, as public clients, and will include voice calling clients. The client is automatically upgraded as the server is upgraded.

5. Conclusion

Entering the 21st century, the library Automation Management System is facing the impact of the development level of digital library. Business management process, first of all, a hit from the reader centered concept, bibliographic query by special client program to support the browser's direction, strengthen the function of many web-based online customer service, such as online renew, appointments, etc., this requires strengthening the management of users and support a broader user authentication (IC card). The internal business processes of the Library have also begun to focus on "user-friendly" staff orientation. Regional collaboration has strengthened the distributed management functions of centralized Z39.50 support, joint cataloging, interlibrary loan, multi-marc format and multi-library, and "Library Consortia" similar to the central Library. This is the library Automation Management System function put forward higher requirements. In these respects, have been unable to adapt to domestic library Automation Management System, and some large system abroad, there is support for open link products, even with the publication of digital resources/promoter to provide "software resources +" service mode, foreign system both from the overall frame and system function is perfect, but the price is relatively expensive, to the technology demand is higher, in addition, foreign software localization in can't meet our requirements very well. "There is no best system, only the best system.

When choosing the system, the library should first request the system overall frame is reasonable, the function is advanced complete, the practicability is strong, at the same time must have the very good technical support, at the same time must consider the unit's actual situation comprehensively, weighs the advantages and disadvantages, chooses suits own cost-effective Automation Management System.

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