Comparative Analysis of Domestic and International Digital Library Integrated Service System

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Abstract. Based on the framework of the Digital Library, the integrated system of digital information at home and abroad a comparative analysis of the build and integration of the principles of further analysis of the characteristics of a digital library system integration services to build a digital library service system framework.

Keywords: Digital Library; Information Integration; Integration Services

1. Introduction

Digital libraries generated in the network environment, is a kind of information integration services based on the new resource management system. Preparatory work for construction of digital library resources mainly focus on digitization of heterogeneous resources, restructuring, re-distribution of resources more in line with the needs of individual users; late work will focus on the development and innovative service models and functions, so that users can more easy way to get consistent information on the dynamic integration of time and space. Embodies the core values of the library on the basis of service for the purpose of the above. Due to the development of innovative social progress, technology, the development of the library of a higher technical and service requirements, the integration of digital library resources and services to promote integration, to meet the basic needs of the user.

2. Information integration service has become an important part of the national construction

Build a perfect society is a network of national information service based on sharing information resources, and information resource services is an important part of. (NII plan) and the status of the Western developed countries in 1994 raised seven heads of state (GII program) marks the Information Resources 1993 U.S. Vice President Al Gore proposed has been established. China's "national development strategy (2006-2020)" establishes the direction of the development and utilization of information resources, the development and utilization of information resources for the country to promote a high degree of information technology, which integrates digital library information resources had become a national information service an important part of the construction.

3. Information integration service has become an important part of Digital Library Construction

3.1. Global Integrated Services Digital Library Construction.

With the construction of digital libraries abroad, integrated services is constantly evolving. 1994 American Library focuses on the process of building the first phase of the integration of electronic resources in the construction of the second phase will focus on serving the construction, which proves, integrated ideas from the original resource integration, information services, and gradually developed into a service integration. Since then, the EU jointly build an online library, and advocated reserve network resources in order to achieve information resources to build, share, work together to build a global digital library.

1) OCLC

OCLC Founded in 1967, in 1981 officially changed its name to "Online Computer Library Center," It's the world's largest data storage capacity, utilization rates highest in the world, and became the world's largest virtual library. OCLC continue to grow, Hall and his membership users around the world. Integration with joint development of the network so that OCLC transition by automated inter-agency development from regional to global.

In 1991, OCLC created the first retrieval First Search. First Search is an end-user-oriented design of on-line retrieval system, as long as any trained technicians can expertly apply a half-day, then be personally suitable for machine operation to retrieve documents they need, but also libraries, offices, laboratories in even moderate Carhua anywhere on the Internet using a computer network.

OCLC integration services. The first question raised by the user to retrieve relevant documents, searchable database searchable database of mostly secondary. The second is to find the location of the literature, including its location libraries worldwide, providing services to the full text of the world's literature Service or OCLC itself. The third is to provide a literature provide OCLC number may be more than 100 million articles are updated at any time online full-text database, it could be through the library's interlibrary loan service where it may be a third party literature service. End-users can take to ensure that the required documents.

2) NCSTRL

NCSTRL was founded in 1994, reports the American Library networked computer technology to collect reports from the world of computer technology computer science, industrial and government research laboratories of universities countries. As of 2001, NCSTRL has been dispersed in the U.S., Europe and Asia more than 100 universities and research institutions are connected, collected a large number of research reports in computers. NCSTRL goal is to establish a global computer information aspects of digital libraries on the network.

3) Global info

Global info program produced in Germany in 1998. The purpose of this project is to allow scientists access to scientific literature worldwide, reference materials, and related data through the digital library. So that information, store information, and the use of information of mutual integration. Strengthen ties and cooperation between countries, digital libraries and information via a global nature.

4) LRC

LRC-"literature data center" is a 1998 American Gaelic company launched. It is through the one-stop service, to provide users with information on literature data. This database is a "smart" database, different authors of literary works can be quite similar, you can also compare the different works of the same authors. The new easy to use search interface Literature Resource Center3.0. Database updates quickly.

5) integrated library-related projects abroad

Through the study of the development of digital libraries found abroad, and foreign construction of multiple digital libraries and integration are concerned. Such as Carnegie Mellon University Library (CMDL) on the establishment of an integrated voice, image, speech recognition and related digital video library of electronic journals. Birmingham University Library developed hybrid working model, but make a lot of printed documents and electronic-based resources through the seamless integration of WEB access.

3.2. Construction of Integrated Services Digital Library.

In recent years, the construction of rapid development of China's digital library. Our country has been built using integrated thinking Science and Technology Library (NSTL), China Academic Library and Information System (CALIS), National Science Digital Library (CSDL), Shanghai Digital Library (SHDL) and so on.

4. Integrated Service Digital Library System Framework.

Through the technical and theoretical construction of digital library at home and abroad, we may see a digital library system is divided into three levels, resource layer, application layer, and portal layer. The first step is to build a digital library of digital resources for processing, procurement, integration and storage. The application layer using a variety of software for data management, processing, organization, storage, retrieval, release, transfer, etc. Portal layer is communication between the information and the user's window, users get the information they need through a web interface, is a comprehensive library providing new services reflect the network environment.

4.1. CALIS Architecture

CALIS is referred to as the China Academic Library and Information System. It is based on the basis of academic information resources, with systematic and digital features, large-scale digital library structure by a number of interoperable group constituted to provide the necessary documents for the college reader content distribution in the country. CALIS aim is, under the leadership of the Ministry of Education to integrate the country's investment, modern library concept, advanced technology and rich college literature and human resources, building a digital library of higher education in China as the core of education literature joint security system, build information resources of knowledge, sharing, to maximize social and economic benefits for China's higher education services. CALIS Management Center in Peking University, under the liberal arts, engineering, agriculture, medicine four National Documentation and Information Center, China Northeast, Southeastern, Central, South, Northwest, Southwest, Northeast seven regional service centers and a literature information northeast defense Documentation and Information Center.

CALIS architecture is divided into five layers: a portal layer 2, layer 3 service literature, professional services layer 4, 5 processing management, storage layer.

4.2. CSDL Architecture

CSDL is short for the National Science Digital Library. The project started in 2001, its purpose is to meet the Chinese Academy of Sciences study of the characteristics of various types of users to be able to make effective use of various information resources and to establish an integrated coordinated system of information disclosure. CSDL system is currently China's most complete, user-oriented, distributed, service system can be customized digital information.

5. Integrated Services Digital Library Information System Features.

5.1. Integration Services will be the future direction of development of digital libraries

The aim is to create a digital library to create an intelligent way, so that users can access information through a distributed digital information environment. Currently the focus of attention for the library community information integration services - based on the integration of information resources integration services. Library and information services sector by restructuring service system, research and development of digital reference services, customization services, network information services, integrated navigation service model, greatly enhance the ability of the library service.

5.2. The formation of an integrated service concept

Information service integration is a new concept of information resources sharing ideas. Integration Services to promote the sharing of hardware to software, from resource sharing to enable sharing of ideas shared services has been improved.

5.3. Technology integration services with a strong dependence

Development of integrated services depends on the development of technology, with the development of push technology, data mining, personalization technologies, data warehousing, data dissemination, fingerprint technology and a series of related technologies, digital library of information integration services also completed the integration of shared the transition to a knowledge integration services service.

5.4. Integration between the various modes of library services

Books in the field of integrated services emphasize library services among departments and integration between the various libraries. Users simply log into from any entrance, you can get certified, retrieval, consultation, acquisition, training and a range of services such as interlibrary loan.

5.5. The formation of our current system lacks horizontal joint integration services

Our current information systems integration services to build a library of resources as the carrier is, is divided according to sectors and systems, there is self-enclosed, compartmentalized clear duplication of information resources and other issues, the needs of users can not be fully met. The real integration of the full range of resources to be improved.

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