

Research on the Construction of Library Intelligent Information Service System Driven by Big Data

Xianyong Feng

Xi'an Aeronautical University, Shaanxi, China, 710077

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Abstract: Big data not only makes the resource structure of digital libraries present a data form, but also challenges the service paradigm of digital libraries. So, it is necessary to deeply understand the big data environment and characteristics of digital library system. At the same time, it is necessary to understand in detail the new requirements facing the transformation of digital library services. Intelligent library is an advanced stage of library development. It is a kind of intelligent library that provides personalized professional services for readers through user participation and human-computer interaction. First, this paper analyses the digital library system. Then, this paper analyses the necessity of digital library service transformation. Finally, this paper puts forward a library intelligent information service system driven by big data.

1. Introduction

At present, China's digital library construction project is under preliminary construction. From the point of current development, there are still some problems in realizing digital library in an all-round way, such as lack of Library funds, low level of library automation development, low comprehensive quality of librarians, lack of digital information resources, poor reading psychology and consumption ability of users, etc.

With the rise of the "wisdom" concept boom, the intelligent library marked by digitalization, networking and intellectualization has become a more promising library model after the digital library. As a new mode of Library in the future, intelligent library has become a new concept and practice of Library innovation, transformation and sustainable development. In the large data environment, many modern technologies are applied to the construction of intelligent libraries, such as cloud computing, Internet of Things, artificial intelligence, etc. These technologies can make library services more automated, efficient and intelligent. Intelligent libraries have realized the transformation from pure knowledge service to intelligent service mode. Their service focuses on providing intelligent service. Advanced technology and interconnected and shared resources are the basis of service. Wisdom Library provides readers with a large amount of resources to stimulate readers'inspiration. Under the new situation, the intelligent service mode is an important subject for University Library staff. In order to realize the library's intelligent information service, we need to cooperate and serve together from many aspects.

2. Digital library service system

"Internet+" provides infinite possibilities for the development of Library ecosystem. The Internet redefines the organization, management mode, existing form and social value of Library resources, and it also provides technical and environmental support for the transformation and evolution of library service ecosystem. The Internet has led the construction of digital libraries. As shown in Figure 1.

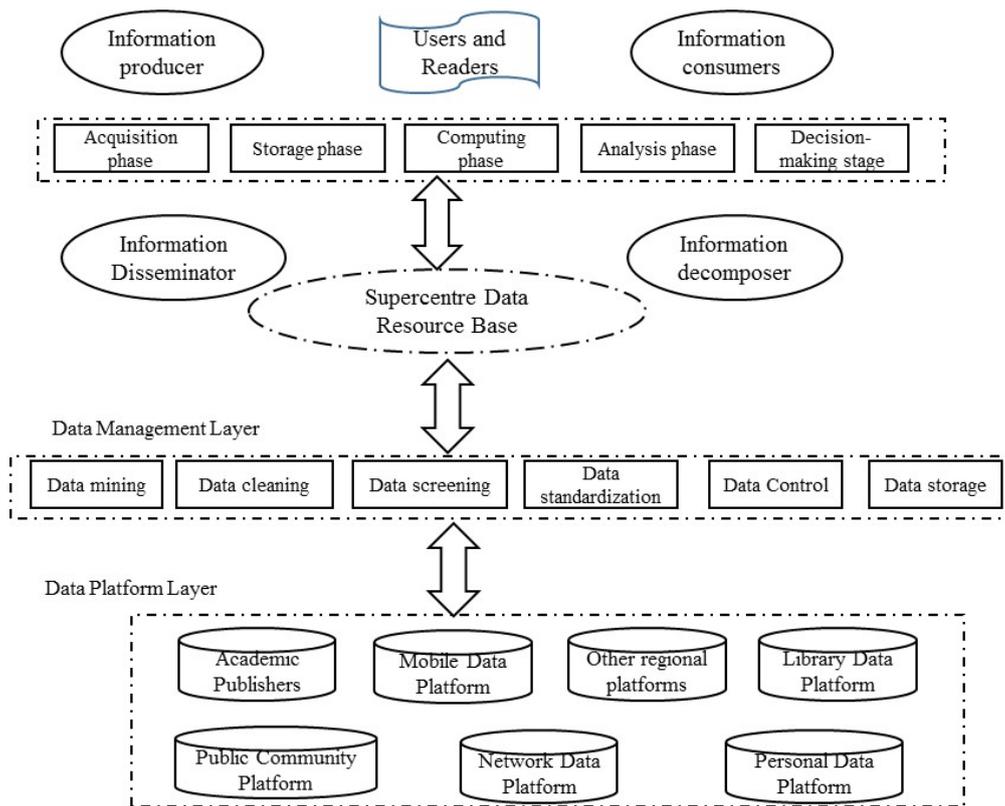


Figure 1 Service Model of Digital Library

3. The necessity of digital library transforming intelligent service system under the background of big data

3.1 Big data environment driver

In the era of big data, digital libraries tend to seek a new balance from multiple dimensions such as environment, resources, services, space and content. Digital libraries seek new positioning in the big data environment. The transformation from "data resource environment" to "knowledge resource environment" has become a part of the current world. It has become an inevitable choice to promote library intelligent information service with the development concept of technology first, user-oriented and service-oriented. Through the deep integration of resource chain, service chain, technology chain and space management chain, value chain and innovation chain, we can cultivate the new momentum of digital library intelligent service by technological innovation.

3.2 New service mechanism driven by data management

The 21st century is the century of knowledge and data, which emphasizes the power of data. In the era of big data, the importance of data has been unprecedented. The characteristics of digital library data quantity put forward new requirements for data management, such as explosive growth, data diversification, unstructured, fragmentation and so on. Data management has become one of the challenges facing library management. On the one hand, large data in libraries need to design reasonable metadata structure to form data management. On the other hand, through metadata processing, cleaning, standardization, de-duplication and integration, we should ensure that metadata can support data management and retrieval. In a data-driven environment, traditional technology and methods should turn to large data analysis technology. Traditional information analysis and processing technologies include information collection, storage management, classification, index, retrieval, clustering, human-computer interaction technology, etc. Big data analysis technology includes data acquisition and management, data storage and application, data analysis and interpretation, data management and service, data publishing and publishing, etc.

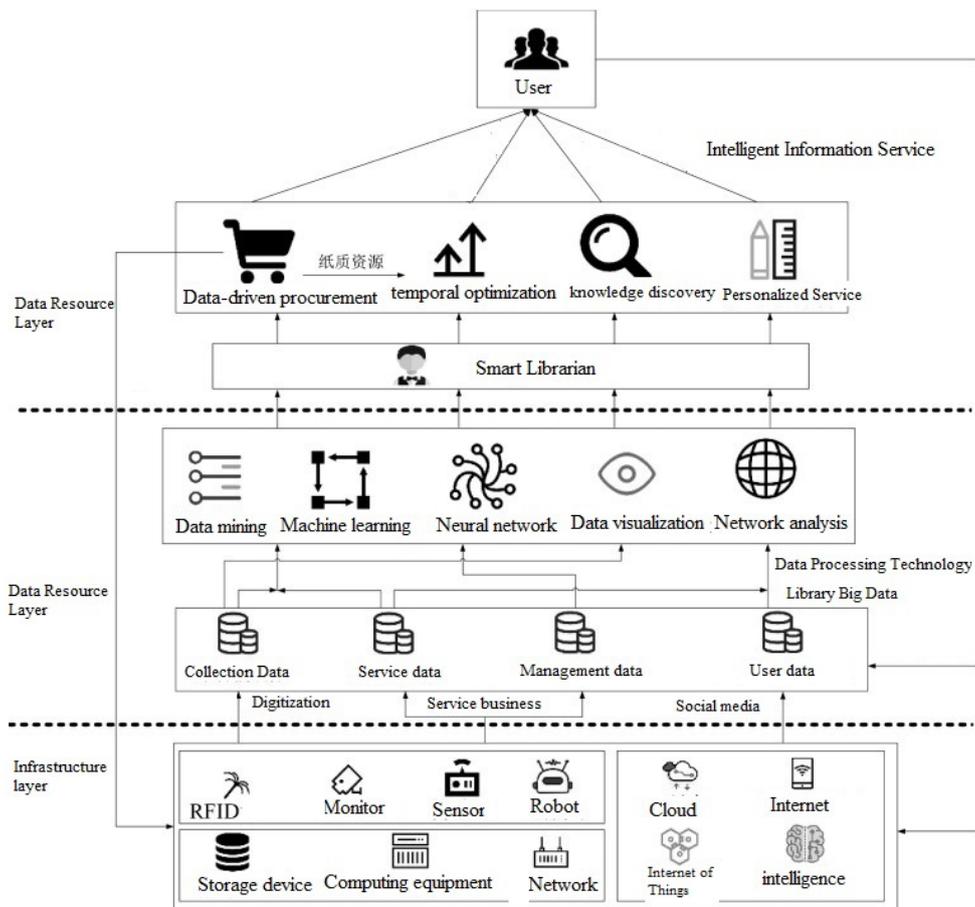


Figure 2 Construction of library intelligent information service system driven by big data

4. Construction of library intelligent information service system driven by big data

According to the three elements, including information environment, information and information person, this paper redesigns the intelligent information service system. The library's intelligent information service system includes three layers: infrastructure layer, data resource layer and service application layer. Big data comes from every business link of the library. Big data-driven intelligent information service can directly affect the library business process. It promotes business restructuring and business innovation, so the flow and transformation of big data in library business links is the functional essence of Library big data ecological chain. Infrastructure layer is the material basis and technical support of intelligent information service. Data resource layer provides core resources and data processing technology. Service application layer is the top-level interactive port, providing users with large data-driven intelligent information service. The multi-level structure design ensures that the system has strong adaptability and expansibility in large data environment. So, the construction of library intelligent information service system driven by big data, as shown in Figure 2.

5. Conclusions

With the development of cloud storage, cloud computing and Internet of Things, intelligent information services have penetrated into digital libraries. Intelligent library is the direction of future development. Intelligent service mode will also make the library glow vigor and vitality in the future, and better perform its duties. Libraries use various modern technologies to continuously improve the service quality of libraries. Wisdom service will help readers acquire new knowledge and inspire new wisdom by using the library. Only in this way can libraries better integrate into the process of global wisdom and contribute to the inheritance of human culture.

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