

Research Article

Digital Resource Sharing Platform and Its Application in Interlibrary Loan Service

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Abstract: As the existing building pattern of digital library no longer meet the needs of constructing new urban agglomeration, a platform for sharing digital resource was proposed. The platform perfectly provided user-transparent interlibrary loan service of inter-city, which greatly facilitated the city residents and promoted the process of building a new urban agglomeration.

Keywords: Digital resource sharing platform, interlibrary loan service, new urban agglomeration, network deployment, process of borrowing and returning book, user-transparent service

INTRODUCTION

On the issue of constructing urban agglomeration, regardless of the scholars' researches, or the government's developing plans, the topics they concerned were always on economy, politics, municipal planning and other fields. They paid little attention to the cultural exchange and cooperation between cities. In fact, if it could not share resources in the field of culture, the construction of urban agglomeration would be seriously compromised. Under the background of constructing a new urban agglomeration, this study studied the development status of existing digital libraries from the perspective of cultural exchange and cooperation and then designed a digital resource sharing platform for new urban agglomeration.

In order to build a more effective, more convenient, more secure digital resource sharing platform, a lot of study had been done by many researchers. Comparing with the traditional library, (Schatz and Chen, 1999) devoted himself into the study on the technological advances and social impacts of building digital library. Researchers, such as Min *et al.* (2003) and Yajun and Bi (2012) then studied the technologies and methods of building digital library. As the technology of data mining became mature and the concept of cloud computing was proposed, (Meiying and Zhou, 2012; Ying *et al.*, 2011) spared no effort to carry out the study of building digital library with these new computer and network technologies. At the same time, in order to enhance the sharing and exchange of books and electronic resources among regions, researchers around the world, such as Croft (2001), Yayong *et al.* (2003) and Wiley and Chrzastowski (2005), became to do the research on the issue of interlibrary loan service in the network environment. This study focused primarily on the issue of building a digital resource sharing platform which would

meet the needs of new urban agglomeration and its application in inter-library loan service.

MATERIALS AND METHODS

Based on these studies, considering the current development status of the construction of new urban agglomeration, especially the current distribution status of digital resources among cities, this study proposed and designed a sharing platform of digital resource under the background of new urban agglomeration. Its network deployment was described in Fig. 1.

The hardware environment of digital resource sharing platform was chiefly composed of a web server

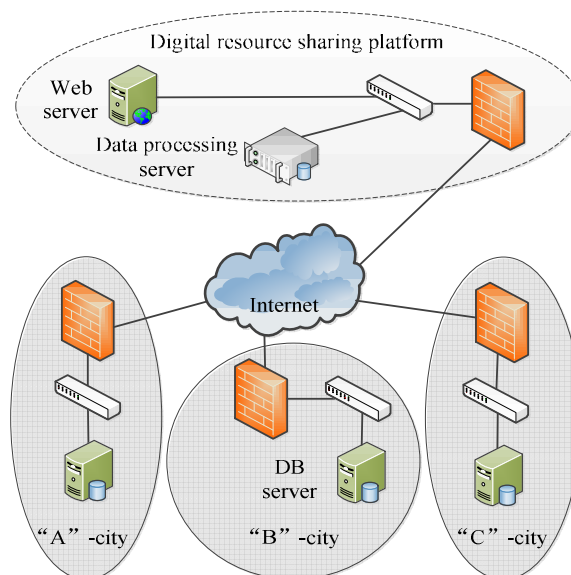


Fig. 1: Network deployment of digital resource sharing platform for new urban agglomeration

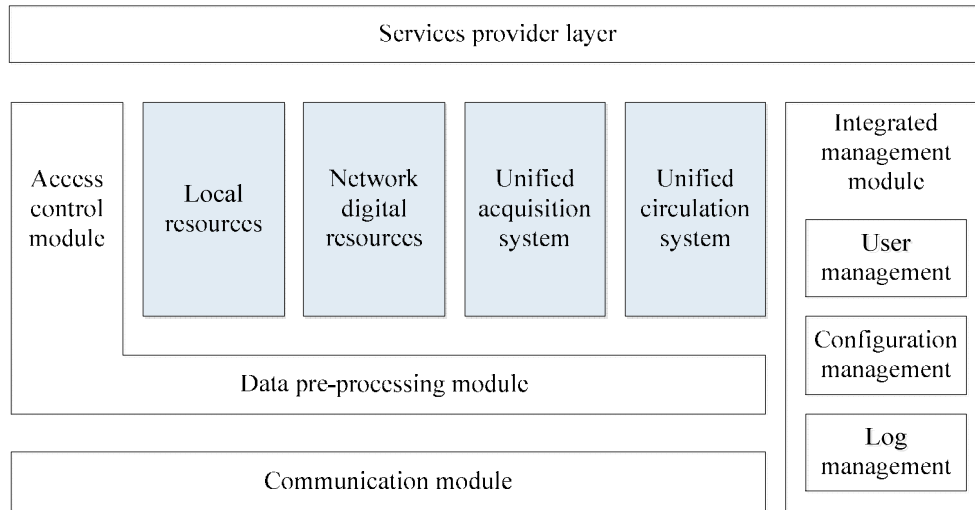


Fig. 2: The framework of digital resource sharing platform

and several data processing servers. Web server was used to deploy the digital resource sharing platform, while the data processing servers were charge for manipulating various types of data in the platform. There is no any geographical space restrictions to these devices, as they could be placed in any cities of the region.

The most important thing to a library was to make it smooth in the processes of acquisition and circulation (lending and returning) of books. Besides, to the digital library of traditional sense, it had another mission, that is to integrate and share electronic resources in the network. The digital resource sharing platform under the background of new urban agglomeration integrated resource of digital libraries of several cities, therefore, the new platform should not only meet the needs of including all the functions of traditional digital library, but also focus on sharing the local characteristics and culture of each city. The framework of digital resource sharing platform for new urban agglomeration was shown in Fig. 2.

As can be seen, Local resources, Network digital resources, Unified acquisition system and Unified circulation system were combined together and formed the core service module of the platform, which supplied corresponding service to users.

- **Local resources:** It showed local characteristics and culture of each city. It acted as a bridge for users to collect and search distinctive resource of a city, such as introduction to its tradition and culture , documents of governmental policies, local news and so on.
- **Network digital resources:** This module played an important role in connecting and sharing resources with other online medias and thematic databases in network.

- **Unified acquisition system:** The system integrated all acquisition systems of every cities in the region, achieving the goal of unified management through the platform.
- **Unified circulation system:** The system integrated all circulation systems of every cities in the region. By taking some corresponding facilities and services, it provided transparent interlibrary loan service for users.

RESULTS AND DISCUSSION

Digital resource sharing platform integrated previous digital libraries into a unified platform, facilitating the sharing of resources. Users in the urban agglomeration, could not only access digital resource in network through the platform, but also borrow books of any libraries in the region via the unified circulation system in the platform. What a user need to do was simple. He just needed to login the platform, book the books he wants and then wait for the books in his house or fetch the books in local library by himself. Correspondingly, the formalities for returning the books were also very simple. User just needed to be at home waiting for a truck to take away the books or to return them to local library in person. In order to provide the interlibrary loan service of inter-city, it also needed to be supported by appropriate logistics support services, which responsible for transporting the books from one city's library to another city's library or directly to the readers. Figure 3 and 4 independently show the procedure of borrowing a book and the procedure of returning a book.

As can be seen from the procedures, user could achieve the goals of borrowing and returning books within just a few actions. Thus, great convenient was brought to user by the platform. It was very meaningful to users, as people could borrow books from libraries of

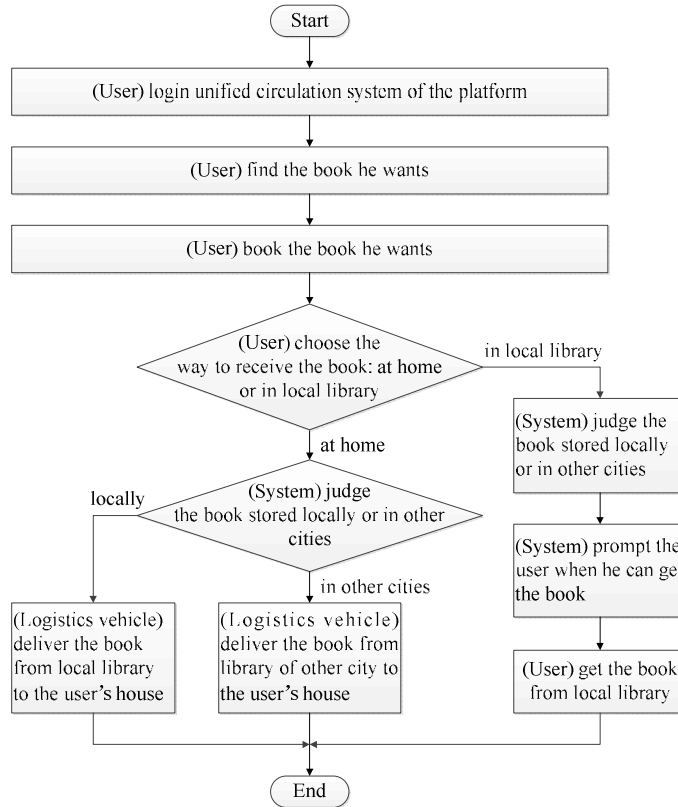


Fig. 3: The process of borrowing a book

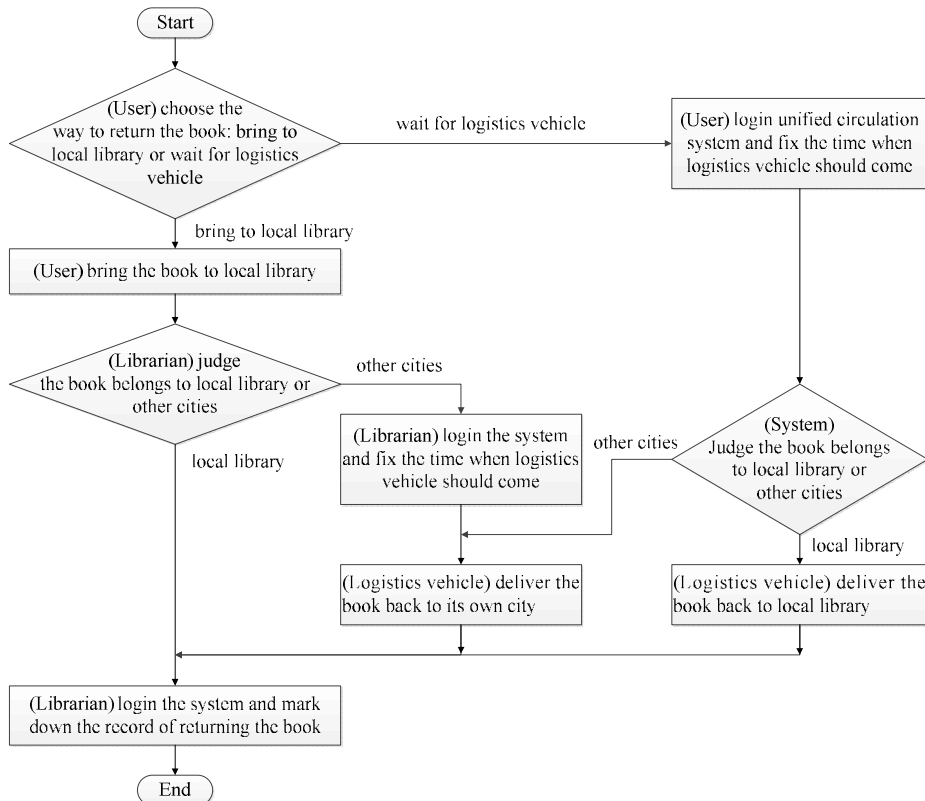


Fig. 4: The process of returning a book

any cities in the region, without having to care about whether the books were in the library of his own city, where the books from, or how the books be sent to his hands. And his also did not have to worry about to which library he should return the books back, or how he return the books to the library they belonged to. In a word, the entire procedures of borrowing and returning book were transparent to users.

CONCLUSION

Under the background of constructing new urban agglomeration, the existing network deployment and service model had been completely unable to meet the needs of facilitating the use of urban residents. Based on the previous research, this study designed and put forward a digital resource sharing platform. The platform not only made improvement on the security of the system, but also provided transparent interlibrary loan service of inter-city for users. Therefore, it greatly facilitated the city residents and also promoted the process of building a new urban agglomeration.

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