

# A preliminary study of Lib-PassPort: JALIS' regional interlibrary loan management system

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**Abstract** This paper reviews the development of Lib-PassPort service program by Jiangsu Academic Library & Information System (JALIS). The service has realized a reader self-directed method of interlibrary loan of printed books at more than 130 university libraries within Jiangsu Province of China in the last 5 years and with a cumulative inter-library circulation of nearly 190,000 volumes. The paper describes the framework of the clientele, structure, functions, policies, and management mechanisms of the services, and demonstrates its contribution to the improved accessibility of library materials in the region.

**Keywords** Jiangsu Academic Library & Information System (JALIS), Cross-University Library Card (CULC), Lib-PassPort service program

Lib-PassPort is a library service program by using a commonly recognized library consortium card to access library information services at all affiliated consortium member libraries in Jiangsu Province. It is one of the earliest and most effective automated systems for the delivery of library services and also a flagship operation of the Jiangsu Academic Library Information System (JALIS).

JALIS is a cooperative program among academic libraries, which are mainly funded and directed by the government of Jiangsu Province beginning in 1997. Its main objective is to provide a province-wide document resources sharing system and to rationalize the allocation of academic libraries' document resources throughout the province. The first two stages of JALIS project have now been accomplished and the 3<sup>rd</sup> stage has been scheduled to be completed by 2011.

At present, JALIS has completed the establishment of a service delivery program, and has developed an integrated library automation system named "Huiwen Library Management System" (hereinafter referred to as "the Huiwen System"<sup>a)</sup>). Since the

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<sup>a)</sup> The Huiwen System is an integrated system being applied to the management of a single library. It was developed in 1998. Its main functional domain covers the whole spectrum of the library management issues, including acquisition, cataloging, collection holdings, serials, circulation management and open public access catalog (OPAC) service operations. Currently, there are more than 400 library subscribers to this system throughout China.



inception of the Huiwen Library Management System in 1998, JALIS has resolved a series of outstanding library operational issues, which included: 1) The coordinated procurement of electronic resources and their shared use among libraries in Jiangsu Province, 2) the creation of a JALIS union catalogue, 3) a virtual reference service, 4) a document delivery scheme, 5) an interlibrary loan service of printed books, 6) a policy for the access to unique local databases and 7) a subject navigation system. The operation of the JALIS System was under the auspices of a governing body consisting of representatives from JALIS Management Center, 5 subject-specific research centers, 3 regional library resources centers and more than 120 affiliated academic libraries on the front-line services<sup>[1]</sup>.

### 1 The development of the Lib-PassPort service system

Since the 1990s, the liberalized borrowing of paper-format books across a wide range of academic libraries in Jiangsu Province has become one of the most important measures for promoting the concept and practice of library resources sharing. In 1994, JALIS Management Center developed a library consortium card named "Lib-PassPort," which is used for the card holders to request interlibrary loans and to access other information services. In the first 10 years of its inception, Lib-PassPort was operated primarily with substantial manual assistance. By the end of 2004, institutional membership of the Huiwen System already included 80% of academic libraries and 10 metropolitan public libraries in Jiangsu Province, which situation gave significant impetus and a congenial background for a complete overhaul of the Lib-PassPort based library services and its underpinning automated operating system. Thereafter, the wide use of Lib-PassPort service program focused on readers' using a universally recognized electronic Cross-University Library Card (CULC) to access information services of JALIS affiliated member libraries. This innovative library service delivery program has greatly improved not only libraries' service efficiency but also enhanced the management of the JALIS library consortium, especially for its focused service areas of book circulation and interlibrary loan operations.

In 2001, there were 78 institutions of higher learning with an enrollment of 580,000 students in Jiangsu<sup>[2]</sup>. This number escalated dramatically into 110 colleges and universities with an enrollment of 994,800 students in Jiangsu Province in 2004<sup>[3]</sup>. During the same period, although the aggregated funding for the collection development of these university libraries grew from 72 million yuan to 345 million yuan, this increase of funding was nevertheless not in keeping pace with the quantitative growth in the number amount of academic institutions nor with their multiplied growth of curricular offerings at these institutions. It was especially so



when the inflation factor during this period was taken into consideration. This funding stringency impeded JALIS' progress from moving forward to resolve some of its pressing development issues in the initial phase of its establishment.

Despite the fact that JALIS had purchased over 500,000 electronic books and 14,000 electrical journal titles for its member academic libraries by 2004, the gap between the supply and demand of library resources and services persisted and even widened. Therefore, it is definitely an opportune time now to make a careful review about the service efficiency and effectiveness of Lib-PassPort' service program so as to enhance its scale of benefits further down the road.

## **2 Targeted servicing clientele and the management mechanism of Lib-PassPort**

### **2.1 Targeted servicing clientele of Lib-PassPort**

JALIS established an independent digital library portal with the funding support from Jiangsu provincial government. It also used the proceeds of its own fund-raising campaign to have purchased a sizable collection of digital resources both domestic and foreign. Up to present, JALIS has also formed a customized service delivery structure, which included the institutional participation of its governing body, the Management Center, and its branch institutions such as several subject document centers, regional centers and affiliated academic libraries on the front-line of information service.

Through its customized information service delivery operation for its clientele, JALIS has also provided interlibrary loan service for books in paper format to all bonafide college teachers and students in Jiangsu by JALIS affiliated libraries. Currently, Lib-PassPort card is universally recognized for accessing information resources and services by all academic libraries in Jiangsu Province. Readers from universities, government organizations, research institutes and military colleges are able to apply for this library consortium card through their own local library. This library consortium card entitles its holder to access all library resources and services, including particularly the valued interlibrary loan privilege at all JALIS affiliated academic member libraries.

### **2.2 Management mechanism of Lib-PassPort**

Within the operation of JALIS consortium, Lib-PassPort is relatively an independent operation. As a subsystem of JALIS (Fig. 1), it is integrated with JALIS digital library portal, and coordinated with other related subsystems. The management and maintenance of Lib-PassPort is now mainly undertaken by JALIS management center.



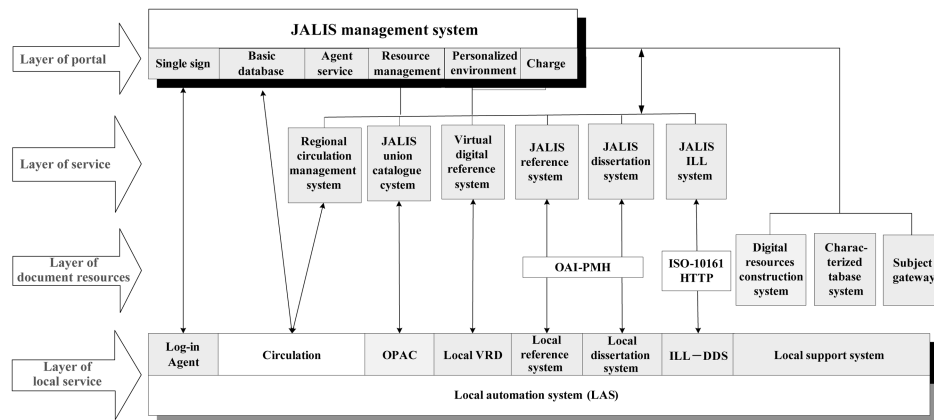


Fig. 1 Framework of JALIS management system.

The operation and management of Lib-PassPort service is stratified into two groups. One is the technical support and system maintenance, and the other is service extension and daily business operation management. JALIS management center is in charge of the coordination of operation and management. It has the direct responsibility for technical support and system maintenance.

### 3 The framework of Lib-PassPort’s circulation system and its service delivery control

#### 3.1 The framework of Lib-PassPort’s circulation system

The framework of Lib-PassPort’ circulation system consists of two tiers (Fig. 2). The top tier is the Lib-PassPort service platform and the second tier, the local Huiwen System, is hosted at each JALIS member libraries. The two tiers are loosely coupled together.

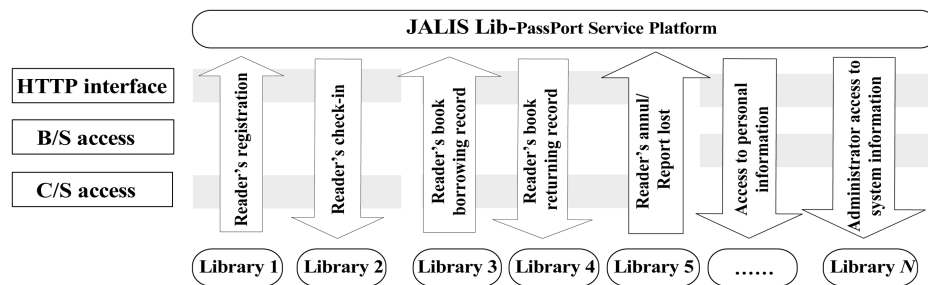


Fig. 2 The framework of the Lib-PassPort’s circulation system<sup>[4]</sup>.



### 3.1.1 Lib-PassPort service platform

Lib-PassPort is a networked and web-based service platform, which is supported by a host of participating member libraries. It facilitates the service delivery performance of the public service arenas (i.e. circulation and reference sectors) of all its member libraries by way of constructing a webpage on the Internet. Its services are particularly focused on circulation and reference practice, which are catered to library practitioners, readers and locally hosted service systems. It also provides such functions as a centralized management mechanism for verifying and authenticating readers' credentials. In addition, its functions also include settling accounts for service charge among consortium member libraries, keeping a record of reference service statistics and statistics of subject-specific research assistance rendered, and exercising a centralized control of library staff service performance in accordance with the established rules and standards.

### 3.1.2 The functional role of the Huiwen System hosted at member libraries

The locally situated Huiwen system at various member libraries shapes up the lower tier of the service structure of the Lib-PassPort's public service segment. Based on the service requirements of Lib-PassPort, the domains of both the circulation module and the system management module of the improved version of the Huiwen System are embedded in the rear-end interface of the Lib-PassPort platform. This technical improvement has made it possible for the interoperation between the locally situated circulation domains of the Huiwen system and the Lib-PassPort service platform.

## 3.2 Service policies of Lib-PassPort

In the Lib-PassPort service structure, each affiliated library is considered both as a host and also as a client library. Such a Lib-PassPort affiliated library provides as well as receives Lib-PassPort covered services. Readers of academic and research institutions within Jiangsu Province are eligible to apply for a Lib-PassPort service card at their own institutional library. Each of JALIS member libraries is commissioned to handle those tasks as listed below.

### 3.2.1 Reader's registration and management

If the reader comes from a JALIS member library using the Huiwen System, his or her registration application for book borrowing through the Lib-PassPort service program can be handled directly by its local Huiwen System. Otherwise, for those readers who are affiliated with Chinese Academy of Sciences, government agencies, military colleges and research institutions, the Management Center of JALIS will



process their registration applications in batch form on behalf of Lib-PassPort program. Registered readers will be able to enjoy the service privileges offered at any member academic library after the confirmation of their first personal visit to an affiliated member library.

### **3.2.2 Book borrowing policy**

Lib-PassPort's circulation system adheres to the rule of limiting the number amount of book-borrowing to a maximum of four books that a card holder can borrow each time. Such limitation for the amount of book borrowing will be upheld even if a JALIS member library's local stipulation surpasses this number. However, if the amount of book borrowing allowed by a local member library is smaller than that of the Lib-PassPort's four-book limitation, the smaller number of the local library's rule will apply. This book-borrowing policy resulted in the increased volume of book circulation of each member library significantly.

## **4 Meritorious features and implications of Lib-PassPort based services**

### **4.1 Merits of Lib-PassPort based services**

#### **4.1.1 Role switching**

Compared to the traditional interlibrary loan service, readers have become the protagonist of the Lib-PassPort service drama. Traditionally, borrowing and returning books through an interlibrary loan mechanism need more librarians to spend more time to handle such transactions due to the increased workload that requires longer period of time to process them.

#### **4.1.2 Reducing the size of staffing**

Lib-PassPort is a self-initiated and self-served system. Within such a context, the library staff who handle interlibrary loans are being shifted gradually to the back stage work of record management rather than serving full office hours at the front desk. Since readers are expected to search, borrow and return their needed or borrowed books all by themselves, it decreases the cost of staffing and increases the rate of book utilization.

#### **4.1.3 Instant display of book circulation information**

A complete record of all interlibrary loan transactions of a given book borrower is instantly made available by the Lib-PassPort system for his or her personal review. As of December 2009, Lib-PassPort service system had 132 library subscribers and their institutional types are shown in Table 1.



Table 1 Type of the libraries using Lib-PassPort service (from Dec. 2004 to Dec. 2009)<sup>[5]</sup>

Type of JALIS member libraries	Member libraries		Registered readers	
	Number	Percentage (%)	Number	Percentage (%)
Colleges and universities libraries	116	87.88	31,345	89.84
Military colleges & research institutes	8	6.06	2,945	8.44
Research institutes of Chinese Academy of Sciences	6	4.55	579	1.66
Government organizations	2	1.52	21	0.06

#### 4.2 Implications of Lib-PassPort based service

It is demonstrated in Table 1 that the major participating JALIS member libraries, which offer Lib-PassPort associated services are primarily those academic libraries. They cover 94% of the total number of academic libraries in Jiangsu Province. Other three main types of member libraries such as military colleges libraries & research institutions, research libraries of Chinese Academy of Sciences located in Jiangsu, and libraries government organizations constitute 10% of the total sum of JALIS member libraries.

Since the networked management and a limitation of the number of books that a card holder can borrow went into effect under the book loaning policy of Lib-PassPort service program in 2004, the duration of book holding time by borrowers has reduced noticeably. In addition, the efficiency of book-loaning service in the mean time has been improved remarkably. The detailed circulation records of those libraries implementing the Lib-PassPort program reveal that 12.12% of non-university affiliated readers have taken 20.78% of the workload of book circulation service at JALIS member libraries (Tables 1 & 2).

Table 2 Statistics of book borrowing through Lib-PassPort service between Jan. 2005–Dec. 2009<sup>[5]</sup>

Type of JALIS member libraries	Volumes of books borrowed	
	Number	Percentage (%)
Academic institutions of higher learning	79,351	79.22
Military colleges & research institutes	17,003	16.98
Research institutes of Chinese Academy of Sciences	3,729	3.72
Government organization	78	0.08

Within the Lib-PassPort networked service alliance, there is a considerable disparity in shared job execution among member libraries. The service-providing libraries are concentrated heavily on those regional center libraries, which account for one fifth of the total member libraries. However, 80% of member libraries are on the receiving end of service. In other words, regional center libraries are actually the main service



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providers. Fig. 3 compares the book circulation statistics of the 10 most active center libraries. It includes but not limited to Nanjing University (NJU), Southeast University (SEU), and Nanjing Normal University (NJNU) and so on. It shows that the 10 largest library service providers are among either those large-scale libraries or regional key university libraries. These libraries are playing a very important role in providing bibliographic services to the academic institutions of higher learning in Jiangsu Province.

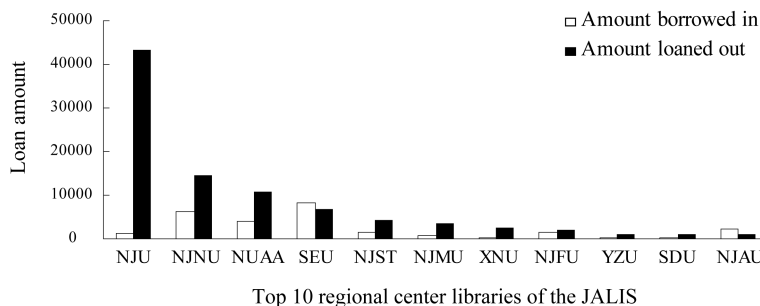


Fig. 3 A comparison of book circulation statistics of the top10 regional center libraries of the JALIS Library consortium.

Note: NJU, Nanjing University; NJNU, Nanjing Normal University; NUAA, Nanjing University of Aeronautics and Astronautics; SEU, Southeast University; NJST, Nanjing University of Science and Technology; NJMU, Nanjing Medical University; XNU, Xuzhou Normal University; NJFU, Nanjing Forest University; YZU, Yangzhou University; SDU, Suzhou University; and NJAU, Nanjing Agricultural University.

Table 3 also shows that NJU library plays a key part in the Lib-PassPort service program. However, the number of its card holders and the record of its book-borrowing from other libraries are relatively small. Until the end of 2009, 46.22% of the total book-borrowing record under the auspices of the Lib-PassPort program was generated by NJU library alone. It had received book borrowing requests from 61 client libraries, equal to 46% of all the member libraries. The ratio of its book borrowing and book loaning was 1:45, which means NJU library on average has loaned out 45 books to readers of other libraries for each and every book it has borrowed.

This disparity in terms of library service delivery is caused by the imbalanced development within the rank of academic libraries in Jiangsu Province. For example, traditional academic libraries that affiliated with NJU, NJNU and SEU respectively all have a longer period of institutional history. They have relatively abundant library resources and a wide-range of unique subject-specific collections and an adequate annual acquisitions budget for a sustainable collection development plan. Such enviable characteristics of these academic libraries made them less dependent on borrowing books from other libraries to meet their own curricular and research needs.





Table 3 Statistics of top 10 libraries with largest amount of book loaning record and service requests received under the Lib-PassPort service program (from Dec. 2004 to Dec. 2009)<sup>[5]</sup>

No.	Name of top 10 libraries	Loan amount	Percentage (%)	Received service request
1	NJU	43,369	46.2	61 client libraries
2	NJNU	14,404	15.3	51 client libraries
3	NJAA	10,750	11.4	24 client libraries
4	SEU	6,741	7.2	47 client libraries
5	NJST	4,127	4.40	17 client libraries
6	NJMU	2,599	2.77	20 client libraries
7	XNU	3,444	3.67	14 client libraries
8	NJFU	2,038	2.17	10 client libraries
9	YZU	1,107	1.18	11 client libraries
10	SDU	1,058	1.13	13 client libraries

Note: NJU, Nanjing University; NJNU, Nanjing Normal University; NJAA, Nanjing University of Aeronautics and Astronautics; SEU, Southeast University; NJST, Nanjing University of Science and Technology; NJMU, Nanjing Medical University; XNU, Xuzhou Normal University; NJFU, Nanjing Forest University; YZU, Yangzhou University; SDU, Suzhou University; and NJAU, Nanjing Agricultural University.

In contrast, the size of library collections at vocational and technical colleges are conspicuously smaller than the average size of those major university libraries whose parent institutions were well endowed because of their enviable academic status of having been inducted into the national government's strategic development plan of "Project 211" or "Project 985". Therefore, the wide disparity of library collection strength among the JALIS member libraries also stratifies their service role. Some of these libraries are purely on the service providing end whereas a majority of others, purely on the service receiving end. This phenomenon of social stratification in the field of librarianship is quite pronounced and cannot be easily corrected in a short span of time. Accordingly, it attests to the necessity for the information providers, large and small, to share their limited document resources within the same geographic region so as to optimize their utilization. As one of the most distinguished major university libraries in the region, NJU library and a few other large academic libraries play a leading role in fostering resources sharing in the region on the one hand, and also in having assumed a greater responsibility for the general advancement of librarianship in this region on the other hand. These dual roles played by large academic libraries within the JALIS contextual environment are undoubtedly complementary and mutually reinforcing to one another's professional undertakings.

In order to evaluate the results of Lib-PassPort service program, we conducted a random sampling survey at 10 representative university libraries from 2005 to 2009 (Table 4). This survey randomly extracted 100 borrowed books annually and compared these books against the borrowing library's own circulation record to figure out the percentage of books actually borrowed from other member libraries.



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The ratio of borrowed items from other member libraries to these libraries' own collection holdings shows how library collections have been positively affected under the JALIS Lib-PassPort service module. The collection support ratio<sup>b)</sup> of JALIS is deemed to be higher if the borrowed items through Lib-PassPort interlibrary loan service are more than its own collection holdings in these similar subject areas.

Table 4 A random sampling survey at 10 representative university libraries using Lib-PassPort service from 2005 to 2009<sup>[6]</sup>

No.	Member library	Property	Accumulative samples	Average coverage ratio (%)
1	Hohai University	Comprehensive Universities	400	62
2	Southeast University	Comprehensive Universities	400	82
3	Nanjing Normal University	Comprehensive Universities	400	60
4	Nanjing Arts Institute	Comprehensive Universities	400	69
5	Nanjing University of Traditional Chinese Medicine	Comprehensive Universities	400	83
6	Xuzhou Institute of Architectural Technology	Vocational and Technical College	400	90
7	Nanjing Xiaozhuang College	Vocational and Technical College	400	83
8	Nanjing Jincheng College	Vocational and Technical College	400	91
9	Nanjing College of Information Technology	Vocational and Technical College	400	83
10	Nanjing Institute of Industrial Technology	Vocational and Technical College	400	85
Average ratio of library collection support during the 4-year surveyed period				78.7

Table 4 demonstrates that the average ratio between the borrowed books from all 10 member libraries to their own library collections is 78.7%, while libraries of vocational and technical colleges have reached 86.4%, which is an 8% higher than the over-all average ratio of collection support vis-à-vis those 10 sampled libraries during the 4 years surveyed. This gives indication that through Lib-PassPort interlibrary loan service, the strength of bibliographic support at these vocational and technical college libraries has been greatly improved in terms of making up for the insufficient size of their library collections and for meeting their readers' curricular needs. The resource sharing program under the auspices of the JALIS' Lib-PassPort is certainly of great help in meeting the service missions and objectives of its member libraries.

With the close cooperation among academic libraries in Jiangsu, the Lib-PassPort service program has provided a self-serviced, non-intermediary, and customized book borrowing service, which transcends the boundary of any a given academic



<sup>b)</sup> The 4-year average collection support ratio in Lib-PassPort system can be calculated as follows: The amount of the borrowed monographic items not held in its own library ÷ the total amount of the borrowed volumes (i.e. 400 surveyed samples) × 100%. The higher the ratio of bibliographic support, the better the service performance of JALIS is.

library. As long as the reader holds a CULC card, he or she can enjoy reading or borrowing books (in print format) and access a host of other library services at any library in Jiangsu Province. This Lib-PassPort service program characteristically provides their bonafide readers a library service with maximum flexibility, convenience and customization. This amply attests to the brand-name effect of JALIS. This reader self-directed interlibrary loan program of Lib-PassPort is so far one of the most successful cases of networked management for book borrowing across a range of affiliated member libraries in China.

## 5 The outlook of Lib-PassPort's future development

After 10 years of dedicated operation, Lib-PassPort's service program is now widely accepted and applauded by its users due to its resounding effects. Its success amply attests to the feasibility of those applicable information technologies involved in conducting even larger scale of book loaning operation and also of a more heightened commitment to promote library resources sharing within a provincial area.

It is worth mentioning that the service base of Lib-PassPort still needs to be further broadened. Currently, the scope of its interlibrary loan service is mainly focused on the printed books and the quantity of its card holders are primarily limited to those teachers, graduate students and researchers of academic institutions of higher learning. Moreover, Lib-PassPort' automated system needs to be closely integrated with the development of other subsystems of JALIS so that a customized service and other value-added services can be realized simultaneously in the near future.

The 3<sup>rd</sup> stage of JALIS development will be continuously based on the Lib-PassPort service platform. Several promising developments are already in the offing, which will continue to foster a more convenient and efficient service environment, including but not limited to such features as the JALIS brand of personalized services, a JALIS union catalogue, enhanced interlibrary loan operation, a document delivery system interface, an SMS, an email and many other value-added services. In short, JALIS holds great promise not only in the area of library resources sharing but also more importantly for the overall advancement of library practice in a networked information environment in Jiangsu in the days and years ahead.

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