WAYNE STATE UNIVERSITY LIBRARIES
LIBRARY AUTOMATION PROJECT

SUMMARY

May 7, 1984

Background

The Wayne State University Library System is housed in six separate buildings. On the main campus, there are the Neef Library (Law), the Purdy/Kresge Library Complex (Humanities/Social Sciences Education), and the Science Library. Further away are the Federal Mogul library storage building located just south of the main campus and the Shiffman Medical Library on the Medical Center campus. The Pharmacy and Allied Health Library, located at the downtown campus, maintains a basic reference and reserve collection for the College of Pharmacy and Allied Health.

Over 1,426,000 users a year enter the Wayne State University Libraries. These users, many of whom are repeat student users, account for approximately 300,000 circulation transactions per year. In addition, Library staff provide services for the community, including services to students from other Detroit area colleges and universities. In support of these users, the Libraries have developed collections of over 1,900,000 volumes, including over 1 million monographic and 25,000 serial titles, plus 1,400,000 pieces of microform.

A media center is alo operated by the Libraries in the Purdy/Kresge Complex. It offers listening and previewing facilities, film and equipment booking, and graphics and photography services.

Currently, there is no online public catalog of the holdings of the Wayne State University Libraries. Only one consolidated, or union, card catalog exists, and it is located in the Purdy Library. Users must consult that catalog, as well as the catalogs at each library building, to determine the holdings and locations of the materials in the Library System. The libraries already have approximately 300,000 of their cataloging records in machine readable form on tape via participation in the national OCLC bibliographic network since 1975.

Two parts of the circulation system at Wayne State, namely, overdues and class reserves, have been automated locally, on the University's mainframe computer. All other circulation functions are handled manually. The software for the automated functions was written over ten years ago, has not been brought up to current standards, and will soon need to be reprogrammed to accommodate the University's latest communications operating system.

Acquisitions functions at Wayne State's Libraries are currently automated using Ringgold Management's Nonesuch software on a Wang minicomputer system. The Nonesuch system has served the libraries well for three years and can handle the anticipated workload for an additonal year or more. It would have to be re-designed to interface with automated circulation, an online public catalog, and serials control systems.

The libraries currently use OCLC's services for cataloging, union listing, and inter-library loan. All monographs added to the Libraries' collections since 1975 have been cataloged via OCLC. In addition, summary information about the Libraries' serials holdings has been entered into the OCLC database. But all receiving of current issues of serials is being done manually, and users have no direct access to these manual files to find out what the Libraries' have.

In summary, three separate computer systems are being used by Wayne's Libraries. These system have minimal or no links between them. And major labor-intensive services are being provided manually. Wayne State's Libraries, by installing a comprehensive integrated computerized system could:

1. substantially improve the quality of current services provided;

2. offer modernized and state-of-the-art services;

3. open access to its collections;

4. improve the management and control of its substantial resources; and

5. provide a unique opportunity for participation in an automated information network.

In October, 1983, Wayne State University's Libraries began intensive planning for comprehensive computerization under a mandate to develop an integrated library system for all University Libraries. An initial commitment of $500,000 was made to the program by the President of the University, with the goal of installing the first component in late 1984 and the balance in 1985.

Detroit Area Library Network (DALNET)

While Wayne State's Libraries were launching their largescale plans for comprehensive automation, other libraries or groups of libraries in the Detroit metropolitan area were also arriving at the conclusion that automation would improve services and enable them to better control their library's resources. Preliminary discussion among them indicated a strong desire to evaluate the feasibility and cost effectiveness of automating jointly.

The benefits of creating a computerized library network in the Detroit area were readily apparent:

- A shared online catalog identifying resources in all libraries would improve service to users of all.

- A shared circulation system would enable users at each library to know the availability of all materials in the shared online catalog.

- Sharing the costs of central site preparation, system personnel, system operation, and, of course, hardware and software would reduce the individual library's costs.

- Having access to one another's holdings, even during the acquisitions process, would improve our ability to develop our collections cooperatively.

- Having automated management information would enable all libraries to better analyze and control the use of the Detroit area's dollars for information resources.

- Sharing staff and expertise in the process of automating would pool the knowledge from staff in all libraries.

- A comprehensive, shared automation system would enhance the image of Detroit's libraries in the emerging Information Society.

- A large, multi-institution, multi-type automated library network may be more attractive to external funding agencies then individual library automation projects.

On January 27, 1984, realizing that Wayne State's Libraries automation project had exciting potential for regional networking, Peter Spyers-Duran, Director of WSU's Libraries, called a meeting of representatives of Detroit area libraries with active automation plans.

The group informally agreed to cooperate and began active participation in weekly automation planning sessions held at Wayne State. The group named itself DALNET, for Detroit Area Library Network. The host institution is to be WSUL until governance and organizational questions are settled.

The libraries participating in the initial development of DALNET are:

1.   Wayne State University Libraries,

2.   Detroit Public Library,

3.   The University of Detroit Libraries,

4.   Wayne County Community College Libraries, and

5.   Representative hospital libraries from the Metropolitan Detroit Medical Library Group.

They all have long histories of cooperation with one another. They all depend on each other's resources to supplement their own. They all have many of the same residents of the Detroit metropolitan area. They are each responsible for cost effectively managing their share of the Detroit area's increasingly scarce information resources.

The Main Library of the Detroit Public Library System is across the street from Wayne State's Purdy/Kresge Library Complex. The Detroit Public Library, a major research resource, has over 2,500,000 volumes in the collections of its Main Library and twenty-six branches. Currently enrolled Wayne State University students are given circulation privileges at the Detroit Public Library. Detroit Public Library users are able to borrow Wayne State's materials via the Infopass system. Over the year's library collections at Wayne State and at Detroit Public have been developed with collection sharing assumptions. A recent random sample of titles owned by Detroit Public revealed only a 35% overlap with monographic collections owned by Wayne State. The serial collections were found to have a 33% overlap.

The University of Detroit's Libraries consist of the main campus library, which operates two branches, one for the Evening Business Administration program and one at the Clarkston campus, and two independent professional libraries, Law and Dentistry. These libraries have collections of more than 500,000 volumes and 20,000 serial titles. The Dental Library is a regional resource library for the dental professionals in the area. Cooperative developments between Wayne's and U of D's Libraries have resulted in reciprocal borrowing agreements and a regular courier service. Estimated overlap between the U of D's collections and Wayne's is 58%. The overlap with DPL's collections is 60%.

Borrowing agreements have also been made between Wayne County Community College and the area's libraries. Wayne County Community College operates six libraries, called Learning Resources Centers. These libraries have collections of more than 70,000 volumes and 600 serial titles, as well as 9,500 pieces of audiovisual media and equipment. As WCCC developed, the students have had to depend on the resouces of the libraries in the metropolitan area to supplement their libraries collections. They now borrow regularly from Wayne's and DPL's librares via the Infopass system. Agreements with the area's hospitals have provided WCCC's large nursing and health sciences student body with access to clinical collections needed for their studies.

Wayne State's Shiffman Medical Library has long standing as a regional medical information resource. Its roots go back to a medical collection from the Detroit Public Library that was donated to the University with the provision that services continue to the community. The Shiffman Library has played a leadership role in the organization and development of the Metropolitan Detroit Medical Library Group. This group of more than sixty hospital libraries in the Detroit metropolitan area was formally organized in 1974, although it had been meeting for over twenty years. Evidence of their commitment to cooperation exists in the <u>Union List of Selected Serials of Michigan</u>, which they founded in 1964; in the union card catalog they established to enable them to locate materials; and in their strong inter-library lending agreements, which they re-affirm each year.

Wayne State hosts a self-supporting processing center for 15 hospital libraries at the Shiffman Medical Library. Hospitals contract with the center for catalog cards and machine-readable cataloging records. Many of the hospitals participating in this center are affiliated as teaching hospitals with the Wayne State School of Medicine. Wayne State's medical students and faculty, as well as WSU's and WCCC's nursing and health sciences students, depend on many of the MDMLG libraries with combined holdings of over 500,000 volumes.

All these libraries have made the initial commitment to plan together for a Detroit Area Library Network. To keep the planning group manageable and representative, other libraries have not yet been invited to participate. After the network is a reality, the plan is to provide opportunities for participation to any Detroit area library.

Wayne State's Libraries have made a commitment to vigorously pursue and play a leadership role in the creation of DALNET.

Project Progress

In October, 1983, Wayne State University Libraries began the preliminary system design for an Integrated Library System with the formation of a Library Automation Planning Group (LAPG). The Group, chaired by the Acting Assistant Director for Library Operations of the University Libraries, included representation from all libraries in the Wayne State University Library System. The objectives of the project were to:

- develop an overview of functions and technical specifications against which to evaluate existing automated library systems;

- evaluate currently available automated library systems to identify suitable candidates for Wayne and for DALNET;

- develop detailed functional and technical specifications and write a Request for Proposal;

- develop and administer an overall time table for procurement, installation, implementation, and maintenance of an Integrated Library System.

The results of the project to date are:

- a Preliminary Report issued February 20, 1984, including an evaluation of automated library systems, detailed features lists, terminal estimates, and a time line for Wayne State University;

- demonstrations of four state-of-the-art automated library systems;

- the draft of a Request for Proposal for an Integrated Library System that would support the needs of Wayne State and DALNET;

- evidence of progress on the pre-implementation tasks identified on the time line.

In November, the LAPG was joined by a liaison from the Detroit Public Library's automation team. At the end of January, representatives from Detroit area hospital libraries and from the University of Detroit and Wayne County Community College joined the LAPG.

In mid-January, representatives from Wayne State's Computing Services Center and from its Office of the Senior Vice President of Administration and Finance became consultants to the LAPG.

This expanded LAPG is currently finishing the draft of the Request for Proposal, as well as monitoring the pre-implementation tasks identified on the time line. A separate DALNET planning group is forging ahead with network development.

This Summary provides an overview of the planning effort thus far toward an Integrated Library System for Wayne State and for DALNET. It includes key aspects of the functional and technical specifications, the procurement plan, and overall time tables with cost estimates for Wayne State.

Integrated Library System

An Integrated Library System is one that will integrate the various library functions to be automated into one computerized system. In general, it includes the following:

- four main library functions, i.e., online public catalog, circulation control, acquisitions, and serials control;

- these four functions rely on the same data without the need for rekeying, thus creating a single functional database;

- all functions are fully interactive with each other, with access through the same terminals;

- the database is composed of bibliographic or cataloging, data as well as other data necessary to carry out library-related functions (e.g., borrower files for circulation and financial records for acquisitions).

A brief description of each function follows:

- Online public catalog

  The system will support an Online Public Catalog for the holdings of the Wayne State University Libraries, and will be able to expand to include the holdings of the Detroit Public, U of D, WCCC, and the hospital libraries. Access terminals will be located in these libraries and later in offices and laboratories throughout each institution.

  The catalog will identify online the materials in each library and its collection. In addition, users will be able to immediately determine the availability (e.g., in circulation, on order) of materials in the online catalog.

Database creation and maintenance will be facilitated via the tape load and direct transfer of records from the OCLC database in Columbus, Ohio.

Functions of the Online Public Catalog include: (a) database creation and maintenance; (b) authority control for names and subject; (c) searching by name, title, subject, call number, etc.; (d) search results printing; and (e) statistical and management reports.

● Circulation control

The circulation component will provide control of all functions related to the loan of materials from all participating libraries.

This system may replace the present overdues and class reserves systems maintained at Wayne's Computing Center. It will control the loan of books and other materials to students, faculty, and others, using bar code labels on materials and on user identification cards. Availability of materials will display to users through the Online Public Catalog.

The borrowers file for Wayne will be created and updated from computer tapes of the student, faculty, staff, and alumni name and address files at Wayne's Computing Center.

Functions to be performed include: (a) borrower file creation and maintenance; (b) charging, discharging and renewal of loans; (c) hold and recall components; (d) overdues, fines, and fees management; (e) class reserve component; (f) materials booking; and (g) statistical and management reports.

● Acquisitions subsystem

The Acquisitions subsystem will provide control of all functions related to the ordering, receipt and payment of library materials for all participating libraries.

The new software will replace the present Nonesuch minicomputer software acquisitions system at Wayne State.

The new system will provide specialized and current fiscal control, maintain an online vendor file, and provide for historical records.

A direct link to the OCLC database for the transfer of records for materials on order will be available. Eventual direct links to Wayne State University's Financial Accounting System and to library materials vendor's systems may be achieved.

Functions to be performed include: (a) materials selection and review; (b) order preparation; (c) vendor and fund file creation and maintenance; (d) receiving; (e) fund accounting; (f) claiming and canceling; (g) serial and standing order control; (h) statistical and management reports and (i) foreign currency exchange.

- Serials control subsystem

The Serials subsystem will provide control of all functions related to the receipt, claiming and binding of serial issues for all participating libraries. Wayne's serials database will be created from information available on Wayne's OCLC tapes.

Functions to be performed include: (a) receipt and check-in of serial issues; (b) claiming of issues not received; (c) control of binding of completed volumes; and (d) statistical and management reports.

Technical Requirements

The hardward for Wayne State's Integrated Library System is likely to be dedicated, stand-alone equipment, consisting of a central processor, direct access storage devices (disk), mass storage (tape), peripheral equipment (CRT workstations, printers, bar code scanners), and telecommunications equipment. This hardware will be maintained by the manufacturer's maintenance program. It is highly likely that the successful bidder to the Request for Proposal will require a mainframe computer configuration, e.g., an IBM 4341 or equivalent.

Other hardware requirements include:

- expandability to include DALNET libraries as they choose to participate;

- capability of tape loading from the Wayne State University's Amdahl equipment; and

- capability of eventual direct linkage to the Amdahl.

The software acquired will depend, of course, on the outcome of the Request for Proposal process. If a mainframe configuration results, software needed will include programs to control and operate the computer, to manage telecommunications and to provide the applications. Database management software may also be required separately from the applications software. It is very likely that Wayne's Computing Center already has licenses for some of the operating, telecommunication, and even database management software. An important requirement is that the successful bidder have the system operational at an institution the size of Wayne or larger. Other research libraries using the same software package will be sharing the cost of software R and D and maintenance.

Some of the terminals must be capable of handling Roman and transliterated nonRoman alphabets and the full ALA (American Library Association) character set. Special terminals for public access and for circulation workstations with bar code readers will be required. Access to the Integrated Library System should eventually be provided from crt's in offices and laboratories throughout institutions. Wayne's Computing Center should eventually be able to provide the capability of routing messages to the Library's computer that come to it from all over campus.

The successful bidder will be required to provide maintenance for the applications software, via a software maintenance contract. Hardware maintenance can also be contracted. However, Wayne State will need to provide an adequate staff to operate the computer room and the telecommunications system. And, for a mainframe configuration, a programmer/analyst and at least one additional programmer will be needed to maintain and upgrade system software. If staff at Wayne 's Computing Center are already maintaining the same software, their work should not have to be duplicated for the Integrated Library System. Other computer room maintenance responsibilities include creation and maintenance of a tape library and off-site storage of tape data files for database security.

System Procurement Plan

Procurement of an automated Integrated Library Sysstem for Wayne State University, capable of expansion to other DALNET libraries, is being done via the Request for Proposal method. Detailed functional and technical specifications have been written for the desired system. These specifications will be sent to seven or eight prospective vendors asking them to respond with a proposal describing how they would meet the system's requirements. All DALNET libraries have participated in selecting the prospective vendors.

The specifications detailing the features and functions of the integrated Library System were developed jointly, with representatives from each DALNET library participating. They describe the features and functions necessary to create an automated library network.

Vendors will be asked to provide two responses to the hardware requirements. The first response will detail the hardware configuration necessary to operate their system for Wayne State's libraries only. The second response will detail the hardware configuration needed to expand their system to include the other DALNET libraries.

In order to prepare these responses, the vendors will need in the Request for Proposal document statistics describing each DALNET library's data bases, workstation requirements, and anticipated transaction loads. They will also need maps of the Detroit metropolitan area marked with the locations of each DALNET library in order to design the needed telecommunications systems.

Vendors will include in their responses firm prices for the installatioin of their system for Wayne State's Libraries and separate firm prices for the expansion of their system to the other DALNET libraries.

Evaluation of the vendor's responses to the RFP and the recommendation of a vendor with whom to contract will be done jointly, with all DALNET libraries participating. The final selection of a vendor will be made by the Director of Wayne State University Libraries with the advice of key University administrators.

After the system is selected and contracting is completed, installation will be able to start. The plan is for implementation to begin with Wayne State University, starting with the Online Public Catalog and proceeding in a few months to the Circulation component. The system should be available to other DALNET libraries within six months of start-up at Wayne State. That gives DALNET a minimum of six months to develop governance plans and to get final commitments from each institution for participation.

Here is a more detailed list of the procurement and installation steps being followed by Wayne State University Libraries.

STEP	BRIEF DESCRIPTION	ESTIMATED TIME	DATES
1	Study systems	1 1/2 months	Oct.-Nov. 1983
2	Develop features list	1 month	Nov.-Dec. 1983
3	Write specifications and conduct demonstrations	5 months	Jan.-May 1984
4	Send specifications to systems	2 months	June-July 1984
5	Evaluate responses	1 month	August 1984
6	Develop contracts	2 months	Sept.-Oct. 1984
7	Begin installation and testing of hardware & software; load database	2 months	Dec. 1984-Jan. 1985
8	System reliability testing	1 month	February 1985
9	Bring up online catalog	2 months	Mar.-Apr. 1985
10	Functional acceptance testing of online catalog	1 month	May 1985
11	Bring up circulation	3 months	June-Aug. 1985
12	Functional acceptance testing of circulation	1 month	Sept. 1985
13	Bring up acquisitions	2 months	Oct.-Nov. 1985
14	Functional acceptance testing of acquisitions	1 month	Dec. 1985
15	Bring up serials control	2 months	Jan.-Feb. 1986
16	Full-load acceptance testing	1 month	Mar. 1986

Project Cost Estimates for Wayne State

Cost estimates for an automated Integrated Library System for Wayne State University Libraries have been done in ranges from minimum to maximum costs. Estimates for a Detroit Area Library Network cannot be done until vendors respond to the RFP document. The prices quoted for the DALNET expansion will be used to:

1. develop initial, and project future, total costs of a network;

2. design cost sharing and participation options for the DALNET libraries.

The project cost estimated for Wayne State is:

	Lower	Upper
Initial Cost	$ 876,600	$1,373,850
Second Year	249,150	357,800
Annual Maintenance (for 4 years)	993,200	1,357,200
TOTAL for 5 years	$2,118,950	$3,088,850
Cost per year	$ 423,790	$ 617,770

This cost estimate took into account all anticipated costs for the project, including software, hardware, telecommunications, site preparation, retrospective conversion of cataloging records, data base loading, bar coding materials, creating borrower I.D. cards, staffing the computer room, and creating a contingency fund.

DALNET Planning and Development

Representatives from the DALNET libraries have been meeting weekly to hammer out the requirements for an automated library network. They designed a statistics form and supplied data they had each gathered for the group. They identified and reaffirmed their interdependence and commitment to cooperation. They consulted with their individual automation teams and shared the results of their considerable local planning efforts with the group.

Here is a more detailed list of the steps being followed by the DALNET group to plan for an automated network.

STEP	BRIEF DESCRIPTION	ESTIMATED TIME	DATES
1	Initial meeting	1 month	Jan. 1984
2	Gather statistics	2 months	Feb.-Mar. 1984
3	Define network; Contact DALS ROC & SLA	1 month	Mar. 1984
4	Identify local costs; Develop individual timelines	7 months	Apr.-Oct. 1984
5	Preliminary commitments	1 month	May 1985
6	Hire consultant for rfp evaluation and analysis of responses	4 months	May-Aug. 1984
7	Governance options developed	5 months	June-Oct. 1984
8	Cost estimates and cost sharing plans	2 months	Sept.-Oct. 1984
9	Develop and present network prospectus	2 months	Nov.-Dec. 1984
10	Final Commitments from institutions	3 months	Jan.-Mar. 1985
11	Grant applications	3 months	Apr.-June 1985
12	Begin installations	Ongoing	June 1985

Before DALNET can continue with planning and development, a preliminary commitment is needed from each DALNET institution. Permission is needed to include the necessary library statistics in the RFP to enable the selected vendors to provide cost estimates for DALNET. Library staff members involved in the development of DALNET must have the continuing support of their institutions. Planning for a major library network takes considerable time.

In addition, DALNET libraries have recommended that a library consultant in networking be hired to review the RFP before it is distributed to the vendors. The consultant would examine the document to make sure that the needs of a network have been adequately and consistently represented. The same consultant would then be asked to review the responses of the top two vendors. The responses would be reviewed for the vendor's ability to meet the needs of a network, looking especially at the hardware configuration recommended.

To support the consultant, each DALNET library is being asked to contribute $500. Wayne State University will function as the host instituion for handling the funds. The DALNET library representatives will select the consultant.