# Automating Small Libraries

by James Swan

Libraries across the country are rushing to automation. Most large libraries have been automated for years. They were forced to automate to curb the cost of maintaining their card catalogs and handle the mountain of circulation they faced each day.

But what about smaller libraries? Have they been forced to wait because they couldn't afford the price of a ticket? Maybe so, but that hasn't been all bad. Technology is better and cheaper now than it was 20 years ago, and most libraries that automated in the 1970's are now in their third or fourth generation of hardware and software. They spent lots of money to learn about automation. Now the smaller libraries are coming to the table, and can learn from their big brothers and sisters.

The purpose of this article is to help the people in very small libraries develop a strategy for automating their libraries.

Eighteen years ago when I came to Great Bend to direct the library, I wanted to automate, but the price tag was around $500,000. In a few years, it came down to about $200,000. Automation was still out of our price range. Even $100,000 seemed impossible. In 1994, the city gave us $80,000 they had been accumulating for the library. This was the window of opportunity we needed. In October 1994, the board approved a plan to automate the library. The project will cost a little over $70,000.

I also direct the Central Kansas Library System which has 50 member libraries with boards and budgets of their own. Ninety percent of these libraries have budgets of less than $60,000. The average budget for the rest of our libraries is just over $15,000. The librarians in 13 of the smaller libraries would like to automate. They all have had computers for a few years, but they don't have a plan to put their books on the computer for the online public access catalog (OPAC) and then check out books with the computer system. This plan was developed for them. It might work for you, too.

The four-phase plan that follows is designed for libraries with budgets between $50,000 and $500,000. Libraries with less than $50,000

budgets may be able to automate if they can raise the money outside their operating budget. To make it seem even more affordable, I have divided the project into four phases—

1. Inventory and weeding;
2. Data conversion;
3. Implementation; and
4. Enhancements. Without enhancements the cost is $15,000.

At this point, you might say, "We don't even have $15,000." I have learned that if you make the plan, the money to complete the project will come to you. (For fundraising ideas, see my book, *Fundraising for the Small Public Library,* Neal-Schuman, 1990.) So if you want to automate, make the plans, get the support of those who will authorize the funding and you can make it happen.

As with any library project, we need to think about the good things it will do for the library and the patrons. Here are some benefits of automation for small libraries.

The automation system will allow you and the library's patrons to:

- Increase access to information through improved indexing of the existing collection.
- Enhance research techniques through automated access to sophisticated tools, such as CD-ROM products and online databases.
- Discover if a book is checked out or not by checking the online catalog.
- Enhance the quality of reference service by giving the staff quicker and more complete access to the entire collection.
- Extend access to the library's collection from the patron's home or from other libraries.
- Create accurate lists of materials patrons have checked out, quickly and easily.
- Place reserves on books automatically.
- Verify patron information automatically with every transaction.

- Maintain the privacy of patron information.
- Tell patrons when a book that is checked out is expected to be returned.
- Check books in and out faster.
- Generate overdue notices automatically.
- Give patrons the option of searching the collection by format, i.e., videos.
- Simplify borrower registration.
- Decrease the time required for conducting the inventory.
- Eliminate filing cards in the circulation files and the card catalog.
- Maintain the public access catalog with less time and effort.

Personnel is also a critical consideration. The librarian (Is that you?) **must** want the automation system and be enthused about making it work. This is a big project. You will have to learn many new skills and spend many hours putting the books on the computer. You will develop confidence with the computer and become familiar with how it works. It sure helps to have a knowledgeable mentor nearby. Here is the plan in four phases.

## PHASE I—WEEDING AND INVENTORY

Even if you are not sure you want to automate, weeding and inventory are regular procedures that every librarian should conduct. I know librarians who didn't weed or do an inventory before they sent their shelflist off to be converted to a machine readable database. The results were costly. They had stacks of "orphaned" barcodes—barcode labels without books. You don't want to buy smart barcodes for books you don't have or for books you are going to discard.

You have to weed first because you don't want to spend the time and money to create a bibliographic record for a book that isn't worth keeping. There are several good weeding manuals for libraries. Find one and use it. Be merciless when it comes to books that haven't been read for several years, or books that have yellowed pages, or books that make the collection look unattractive. Circulation will increase when librarians have the courage to remove unsightly books from the collection.

The library's shelflist is your inventory control device. It should be accurate. If you have cards in the shelflist and no books on the shelf to go with them, you should make sure the books are not checked out and then remove the shelflist card and the cards in the card catalog. If you have books on the shelf but no shelflist cards, they probably haven't been cataloged properly. Either catalog the books and keep them or discard the books.

Weeding and conducting an inventory can be done as one process. The process will take six months to a year for most libraries, but when you finish you will know what books you have and your shelflist will be accurate. Only then will you be ready to automate.

During Phase I, you can begin considering your options for Phase II. The only costs associated with Phase I will be the regular salary of those who are doing the work. If you want to spread the cost over more years, you could buy a computer during Phase I.

## PHASE II—DATA CONVERSION

Before you can check out a book using a computer, you have to create a bibliographic record (author, title, call number, publisher, etc.) on the computer. Then you have to put a barcode on the book and link the barcode with the bibliographic record. This process is called data conversion and it takes longer to complete than most people think. Depending on the amount of staff time available for data conversion, it will probably take about a year to do the data conversion for an average library.

"Smart" barcodes are created from a library's database and usually carry the title of the book and the call number. They are more expensive to create than "dumb" barcodes but they are already linked to the database. I recommend "dumb" barcodes because they are much cheaper and most small libraries either don't have a database to start with or the database they have is not accurate. Using "dumb" barcodes gives the library staff the opportunity to check the data record for errors and correct them before they go into the online catalog.

One of the best ways to get MARC records (Machine Readable Cataloging) is from a CD-ROM bibliographic product like Bibliofile, Precision One, or Alliance. Records from these products can be import-

ed into your computer database. You can edit these records to reflect your own call number, subject headings, locations, barcode number, etc. You can attach barcode labels to the books when you look up the bibliographic record and link them together at the same time.

Here is the setup procedure for Phase II of the project:

1. Select the automation software that best meets your needs. Follett, Winnebago, Data Trek, and Athena are the leaders in the PC automation market, though there are some major differ ences that must be considered. (See the end of this article for a discussion on selecting an automation system.) You need a net work license (the authority to use more than one computer with the automation software) unless you want to use only one com puter for circulation and the public access catalog.

2. Select the computer you will need for the project. You may be able to use a computer you already have for this phase.

3. Purchase the automation software.

4. Purchase the computer if necessary. Check with the automation software vendor you select for minimum hardware require ments.

5. Purchase a barcode reader that will work with your automation system.

6. Purchase enough barcode labels for your current collection plus enough for five years.

7. Purchase a subscription to a CD-ROM MARC record service (e.g. Bibliofile, Precision One, or Alliance).

8. Load the automation software on your computer.

Here are the approximate costs connected with this setup:

| | |
|---|---|
| Computer with a CD-ROM drive | $2,500 |
| Automation software | 3,000 |
| CD-ROM bibliographic subscription | 500 |
| Barcode labels for materials | 200 |

| | |
|---|---|
| Barcode reader | 600 |
| Contingency | 1,000 |
| **Total setup costs** | **$7,800** |

Here is the implementation procedure for Phase II:

1. Create a separate work space for data conversion, if possible.

2. Load two shelves of books from the stacks on a book cart and take them to the data conversion work area.

3. Place the shelflist for the books on the cart near the computer you are going to use for data conversion.

4. Put a barcode label on each book. The placement of the barcode on the book is important. There are several options. You will want to place it so that books are easy to check out and in, and easy to scan for inventory.

5. Search for the title on the CD-ROM MARC record product.

6. Check the record against your shelflist card.

7. Select those records that match and either import them directly to your database using the automation software, or save them in batches to import later.

8. Edit the record according to the information in the shelflist.

9. Scan the barcode on the book into the data record and save the record to the database.

10. Mark the shelflist in some way to indicate that the record is on the database.

11. Check your work by scanning the barcode of the book you just processed to see if it is now on the computer.

12. Repeat the process for each book. Return the books to the stacks and get the next batch. It is sort of like eating an elephant.

13. Some records will not be found in the CD-ROM MARC record product. A simple MARC record can be created on most automation programs.

The Great Bend data conversion team has found that they can process one book per minute. That may be optimistic for a librarian who also has to check out books and answer reference questions. It is helpful to have a block of time to dedicate to the process. Training for the data conversion is usually offered by the software company.

## PHASE III—IMPLEMENTATION

Once you have most of your books on the computer, you can begin Phase III. You will buy more computers and link them together in a network. You will buy some borrower cards or barcode labels for cards you already have. Remember that cheap is not always best in the long run.

1. Buy at least two more computers. You will need a minimum of three—one as a file server, one for the public online catalog (PAC), and one for circulation which will double as the cataloging computer when you are not using it for circulation.

2. Buy the networking hardware (network cards, concentrators, and cabling) and have the hardware installed.

3. Buy barcoded borrowers cards. (Some very small libraries may not need borrower cards with barcodes on them. Searching their patrons by name would probably be adequate.)

Here are the approximate costs connected with this phase:

| | |
|---|---|
| Computers | $4,000 |
| Networking hardware and software | 1,200 |
| CD-ROM bibliographic subscription (cont.) | 500 |
| Borrower cards estimate 2,000 @ .30 each | 500 |
| Contingency | 1,000 |
| **Total costs** | **$7,200** |

Next comes the payoff. Reregister your borrowers and begin checking out books with the automated system.

Here is the implementation for Phase III:

1. Assign one person to be in charge of the automation system. Give him or her the responsibility to troubleshoot and call for support and service.

2. Train all staff members on the use of the system. They should have been learning all along. By this point in the process they should need very little training.

3. Review your circulation policies with the board to make sure that they are compatible with the automated system. The computer may give you some new options.

4. Reregister all patrons, making sure they have borrower cards with barcodes on them.

5. Begin using the automated system.

6. Teach the public how to use the computers. Don't get rid of your card catalog until people don't use it anymore. Do not continue to file cards in the card catalog after you have begun using the public access catalog on computer.

7. Maintain a working relationship with the automation software company. They will rely on those who are using their software for enhancements ideas. In Great Bend, we made a suggestion to allow more than one cataloger to work in a collection at the same time. The next software release included the upgrade we suggested.

## PHASE IV—ENHANCEMENTS

By the time you get to this point, you will begin to know how you want to enhance the system, though many libraries could probably get by with a three or four computer network. You may want to add more computers to the network, or a CD-ROM tower to give your patrons access to products like an encyclopedia, a magazine index, or an atlas—all on computer.

Here are some options you may want to consider:

1. More computers on the network. (One computer in children's and one in the adult area may not be enough to meet the need.)

2. A CD-ROM tower. This is a bank of CD-ROM drives that are connected to the file server that can be accessed from any of the computer workstations. Software products include:

   Encyclopedias
   Atlases
   Magazine indexes
   National telephone directories
   Poetry indexes
   Health information sources in full text
   Genealogy information, etc.

3. A dedicated computer for public access to the Internet.

Here are the approximate costs connected with Phase IV:

| | |
|---|---|
| Computers, each | $2,000 |
| CD-ROM tower with seven drives | 5,000 |
| CD-ROM individual drives | 500 |
| Software on CD-ROM disks (cost variable) | 500 |
| Furnishings (tables and chairs) | 400 |
| Contingency | 1,000 |

There is still a lot to be discussed and many local decisions to be made. An automation project can be completed in several phases and you don't need a big chunk of money to start. Automation is not feasible for every library, but is more affordable now than it has been. If you think that now is the time to automate your library, this next section will help you decide which system to use.

## SELECTING AN AUTOMATION SYSTEM

Selecting an automation system is like choosing a marriage partner. You need to make sure you can live with your choice over the long haul. Once you commit yourself, you will have to live with the shortcomings of your partner for a long time. So the advice to "Keep your eyes wide open before marriage and half closed afterward" is still true. No automation system is totally perfect. They all have flaws. No matter how hard software developers try, some portions of their new software releases

usually have glitches. What worked well in a previous release may be all messed up in a new release. You have to be able to roll with the punches.

Once you have decided to automate your library, you have to decide what library functions you want to automate. The best thing you can do once you decide to automate your library is to meet with the board, the staff, and interested citizens and ask them what it is they want the automation system to do. Then, and only then, begin your search for a library automation system. Then don't settle for less. The inferior quality of a less expensive product will endure long after the attractiveness of its lower price has faded.

The Winnebago Software Company has published their *Guide to Library Automation: A Step-by-Step Introduction*. This excellent introduction helps even novice automation shoppers find their way through the maze of selecting an automation system. I found it especially helpful for board members.

The most common library automation modules include circulation, public access catalog, and cataloging. Functions with these modules include overdue notices, reports, bibliographies, and inventory. The library automation package may be able to do some things you have never thought of before. The staff in Great Bend is looking forward to being able to automatically block delinquent borrowers from borrowing books. It may be important to share your library holdings with the school or vice versa.

A major question in selecting a library automation system is: "How well will it meet your needs in the future?" Results take time to measure. A system that meets your needs today may not work so well 10 years from now. If the company fails to support the system you select after five years, what will it take to switch to a different system? Will your barcodes still work? Will you be able to move your bibliographic records to a new system? These are just a few of the questions you need to ask yourself before making a commitment to a company to use their software in your library. You could be consummating a long term marriage, and a divorce might be painful. Be very careful! Especially if you are trying to save a few hundred dollars.

Here are some points you may wish to use for comparison.

**Cost.**

The Murphy's law that states "Everything costs more than it costs" is absolutely true when it comes to automating a library. There will always be something that you didn't think of or didn't know about. Or something you realize you absolutely have to have. You can protect yourself from this phenomenon by adding 15 percent to the total projected cost of the project. This gives you a little cushion for contingency.

Great Bend could not afford the larger Unix or mainframe-based systems. We selected a personal computer-based system that uses a Pentium file server. Several of the systems we considered were in the $3,000 range for network version. We selected Athena automation software from Nichols Advanced Technologies primarily because it was a Windows based product and it allows for more than one collection.

The single-user price for Athena software was $2,000.

**MARC Records.**

MARC stands for Machine Readable Cataloging and is the standard for all bibliographic data. If the system you are considering does not support importing and exporting of full MARC records, you will not be able to move bibliographic records from one automation system to another. A sales person may tell you that the system accepts MARC records. You could import MARC records, but some of the data could be lost. When you try to export MARC records, the lost data won't be there. You could end up re-keying your entire collection again if something happens to your automation software or if it doesn't work the way you want it to. The system you select should be able to import and export full MARC records.

**Windows versus DOS.**

DOS stands for Disk Operating System. It is the operating system for many IBM compatible computers. It has been around for several years. Library automation software that runs under Windows is on the leading edge of technology for libraries today. It is more user-friendly than DOS and the graphics are great. Windows 95 is out now and is destined to become the industry standard, though subsequent releases may be worth waiting for. To select a DOS-based system would be taking a step backwards, though DOS machines and software will probably be around for a few more years.

A true benefit of a Windows-based automation system is the ability to use hypertext searching capabilities. Hypertext searching lets the librarian or patron highlight a word or phrase within a bibliographic record and search the database for the word or phrase.

Windows takes a lot more memory but most computers purchased today already have or can be retrofitted with enough memory to handle Windows.

**Compatibility.**

Some public libraries may seriously consider a system that is already in use in the local school. This is a valid argument. The students will already know how to use the system. You may be able to allow students to use the borrower card they get at school on the public library's system. You may be able to share bibliographic data files, depending on the system you select. For instance, some systems will allow you to establish multiple collections on the same system. In that case, the collection from the school could be imported as a separate collection and be searched from the public library's online catalog.

On the other hand, the school may be using a system that is now obsolete or inferior. In that case, the people in the public library should have the confidence to move ahead with their own decision and select the system that best matches their criteria.

**Ease of use.**

The system should be designed for ease of use by non-technical personnel and patrons. Patrons should be able to walk up to a public access computer and type in a word or phrase and press "Enter" to begin a search. They should be able to get a response even if they spell the word wrong. After they press "Enter," they should see a list of books with their authors and call numbers. If they find a book they want, they should be able to select the title, press "Enter" and see more information about the book, including finding the call number in about the same place they would see it on a card in the card catalog. They should also be able to find out if the book is on the shelf or checked out.

**Industry Standards.**

The system should support industry standard barcodes and non-proprietary barcode readers. Some systems let you create your own bar-

codes. This is okay if they can be read by other systems. I recommend purchasing preprinted barcode labels that follow industry standards. Depending on the quantity, you can buy them for between $20.00 and $30.00 per thousand. They can be used with any system. Homemade barcodes may or may not work with another system. Even if you select a system that can import and export MARC records, you may have to replace the barcode labels if you change to another system and that system doesn't accept your homemade barcodes. I know of some librarians that have had to do this.

Proprietary barcode readers will only work with one automation system. The supplier puts their own computer chip in the readers to make them work with their automation system. If you change systems and have proprietary barcode readers, you will have to buy new barcode readers.

**Searching Capabilities.**

The automation system should have sophisticated searching capabilities in all modules. One of the advantages of having an automation system is the ability to search the database by more than just the first word of a title, author, or subject heading. Sophisticated automation systems allow you to search any field in the database. You need that capability from the circulation, public catalog, and the cataloging module. The system should provide Boolean or combined search capabilities.

**Support Service.**

Good technical support is being able to call a toll free number and talk to someone who will help solve your problem the first time you call. Bad support is calling for help and having to leave a message to return your call and receiving the return call in a day or two. The best way to determine the quality of technical support is to call current customers of the company and ask them to tell about their experiences with technical support. Don't rely on the list the vendor representative gives you. Try to find other libraries that are using the same system that are not on their list. You are better off to rely on the experiences of current customers than the promises of sales representatives.

**System Security.**

The system should provide safeguards against unauthorized access to the system. You don't want patrons getting into the circulation records and changing them. Neither do you want them to mess with your online

catalog. The system should provide password protection for all modules. You need to be able to limit patron access to the online catalog, and that is all.

**Screen Displays.**

When library patrons search the card catalog, they are used to seeing the information displayed in a certain format. The display they see on the computer screen should replicate, as closely as possible, the format of the card catalog card. The call number should be in the upper left corner. The author and title should be displayed in the upper middle of the screen. The patron shouldn't have to hunt all over the computer screen for familiar information.

A card catalog can't tell you if a particular book is checked out or not. An integrated library automation system can. This is important information to the patron and it should be displayed at the top of the screen.

**Circulation Module.**

One of the main reasons you install a library automation system is to check out books and keep track of borrowers and overdue materials. Here are a few things you may want the system to do:

- Link a unique item record with a unique patron record for each charge transaction and in a circulation file.
- Include the inventory function in the circulation module.
- Help the library comply with privacy rules.
- Flag a material if no check out is allowed.
- Flag materials already checked out to another patron.
- Flag materials on reserve for another patron.
- Flag a patron with overdue items when the patron attempts to check out materials.
- Flag a patron with fines if the patron attempts to check out materials.

- Include counters for circulation totals.
- Display circulation status information in the online public access catalog without revealing the identity of patrons.
- Provide a component for reserving materials (placing holds).
- Allow authorized staff to manually override all hold processing.
- Calculate and record overdue fines and fees for lost and damaged items.
- Produce overdue notices and fine notices.
- Allow for specification of a fine schedule that levies no fine or fees for certain types of materials or classes of patrons.
- Check patron status and signal exceptional conditions such as excessive number of books charged, excessive fines, expired patron IDs, and excessive items claimed to be returned.
- Alert the operator when charge transactions are blocked.
- Check for holds or blocks on item records and prompt for appropriate processing.

**Report Features.**

Automation systems should be able to produce more reports than most librarians know what to do with. The trick is deciding which reports are most relevant and useful. Here are some reporting features you may want the system to do:

- Provide on-line statistical reports:
  - Number of materials by type.
  - Number of patrons by type.
  - Usage per month by material type.
  - Total check-outs to date.
  - Total fines paid to date.
- Genuine data for the following reports:
  - Patrons with expired cards.
  - Deleted patron barcode numbers.
  - Patron records with messages.
- Generate 3x5 inch or 4x6 inch postcards for overdue notices.

## Conclusion.

This is a brief summary of some points to consider when you select a library automation system. You hope you will be happy with your choice for years to come. The choices you make will be based on the answers you get to important questions. Your questions will be based on the priorities you set. If one of your priorities is to have a system like the school has, you may have to accept answers you don't like in some other areas. Ask lots of questions. Talk to several vendors. Call librarians that already have the systems you are considering. Find out the strengths and weaknesses of their system. Go for an on-site visit if you can. Involve the board and the staff in this process.

Most of all, don't settle for a library automation system that you see in a catalog or promotional flyer, just because it is within your price range. Check it our thoroughly before you make a commitment. The cost of the automation software will be minimal compared to other costs you will incur.

Once you decide to do it, move ahead with confidence. Libraries all over the country are automating. You can do it, too. Good luck!

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***Editor's note:*** *Mr. Swan has authored a book for Highsmith Press entitled* ***Automating Small Libraries****, which should be available later this year (1996).*

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