

## Library Technology Reports

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*By Char Booth*

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***By Jason Griffey***

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November/December  
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October 2009

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*By Kelly Czarnecki*

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August/September 2009

**“Building the Digital Branch: Guidelines to Transform Your Website”**

*By David Lee King*

Library websites have been around for about fifteen years. During that time, library websites and the nature of the Internet itself have changed considerably. These sites started to appear in the mid-nineties. Dan Lester, librarian emeritus at Boise State University, described those early days: "Boise State University had a website in the Spring of 1994....It ran under Windows 3.1 on my desktop on a 486, 24/7, and was able to easily handle the load in those days. I also started building websites around that time.

July  
2009

**“Gaming & Libraries: Learning Lessons from the Intersections”**

*By Jenny Levine*

2008 may be remembered as the year in which gaming became just like any other service in libraries, with librarians implementing gaming initiatives that look very much like those we already offer for books, movies, music, and computers for as varied an audience as other library services are offered. In this third issue of *Library Technology Reports* devoted to the topic of gaming in libraries, "Gaming in Libraries: Learning Lessons from

the Intersections," we will examine some of the most common themes being noted and shared by librarians and illustrate them with five case studies.

**May/June  
2009**

**"Collaboration 2.0"**  
***By Robin Hastings***

While the purpose of this report is to give library managers the tools they need to encourage collaborative work both within and outside of their organizations, the report is also intended to make the case that social networking tools, when used efficiently by a library, are more of a boon to productivity than a drain on it. My hope is that by the time readers reach the end of the report, they will get not only tools that will help them in their library jobs, but also a sense of how social networking can be used creatively to expand or enhance library services. Most of this report will focus on the tools themselves and real-world examples of how they've been used, thus encouraging readers to experiment with these tools on their own.

**April  
2009**

**"Open Source Public Workstations in Libraries"**  
***By John House***

In a time where an economic downturn and concerns about climate change are influencing decisions, many libraries are looking for ways to save money and to reduce their impact on the environment. This report provides detailed information about the operating systems, software, and approaches used by three libraries and one academic institution that have implemented open source public workstations. It explains how open source operating systems and applications, when installed on appropriate hardware, can decrease power utilization while providing a reliable and satisfying customer experience. The report includes detailed case studies of two public libraries and brief case studies of an academic library and an academic institution. It will help library decision makers who want to find out about alternatives to Microsoft Windows-based PCs running Microsoft Office, not only as a

means of cutting costs or reducing a carbon footprint, but also as a means of providing a better experience for library customers.

**February/March  
2009**

**“Implementing Second Life: Ideas, Challenges, and  
Innovations”**

***By Joe Sanchez***

On July 12, 2006, my avatar North Lamar was “realized” (created) in the virtual world of Second Life. I had 250 Linden Dollars (the virtual currency of Second Life and the equivalent of about \$1 U.S.), a torch, a flamingo, and a few outfits for my avatar. I initially joined Second Life while working as an instructional technologist on a project for an English professor named Dr. Jerome Bump at the University of Texas at Austin. He had been using a Web-based MOO (Mud Object Orientated visual chat client) in his undergraduate English course for several years, and he was eager to try a 3-D virtual world. As an instructional technologist at the University of Texas at Austin, I was assigned to provide technological and pedagogical assistance to him. We launched his course in Second Life in the fall of 2006. My experiences in Second Life have ultimately been shaped from two perspectives: my perspectives as an instructional designer and also as a doctoral student researcher.

**January  
2009**

**“The State of Funding for Library Technology in Today’s  
Economy”**

***By Larra Clark and Denise Davis***

As this issue of Library Technology Reports goes to print, the American economy is in the middle of one of its most challenging periods in decades. We have seen a major failure of the banking industry, people across the country are unable to make mortgage payments and are losing their homes, and unemployment is rising rapidly. While there is considerable debate about the best way to solve this crisis, there seems to be consensus that in order to do so, we need to act fast and we need to get it right.

**November/December  
2008**

**“Open Source Integrated Library Systems”  
*By Marshall Breeding***

This is a time of major transformation in the library automation industry, and the open source software movement has found fertile ground among libraries. Many libraries are moving away from proprietary integrated library systems in favor of open source software. The dynamics of the industry have changed dramatically in recent years – until recently, libraries had largely acquired propriety automation systems from a clique of specialized vendors following the traditional software licensing models. The open source movement has disrupted long established patterns, introducing a new way of thinking about the development and distribution of software, new products, and a new set of companies seeking to compete against the status quo.

**October 2008**

**“Librarianship in Virtual Worlds”  
*By Tom Peters***

Virtual worlds are here to stay. They are not a short-lived fad. They are not pet rocks. As a profession, librarianship needs to work through its tendency toward denial – we did the same thing when the World Wide Web first hit it big-and begin exploring how librarianship can survive and thrive in virtual worlds. It will take an ongoing, broad-based professional effort. If past technological revolutions are any indication of what my happen in the future, virtual worlds will continue to expand into our collective lives and add interesting new features and experiential opportunities. At the same, time , the tech bar for having a meaningful VW experience, which admittedly currently is quite high for most virtual worlds, will continue to lower. Eventually we will arrive at the day, just as we did with telephones and televisions, where nearly everyone in the developed world who wants or needs to be active in virtual worlds will be able to do so. Many people in the developing world, too, will be active in virtual worlds. From their inception, most virtual worlds are global in nature.

**August/September 2008**

**“WorldCat Local at the University of Washington Libraries”**

***By Jennifer L. Ward, Steve Shadle, Pam Mofjeld***

Before WorldCat Local, OCLC had built two platforms that addressed the “Web scale” discovery and delivery of library resources: Open WorldCat and WorldCat.org. Open WorldCat integrates WorldCat content into popular search engines (Google, Yahoo! Search, etc.) and bookseller sites. Once integrated, WorldCat records appear in results along with other Web resources, providing information that was previously hidden in library catalogs. WorldCat.org is a destination Web site for access to library collections and services. It searches the entire WorldCat database, provides links to services and resources that are geographically close to the user, and has a search box that is freely available to add to other Web sites. WorldCat Local builds on improvements to WorldCat.org, leveraging traffic from Open WorldCat, WorldCat.org, and partner sites.

**July 2008**

**“On the Move with the Mobile Web: Libraries and Mobile Technologies”**

***By Ellyssa Kroski***

Imagine walking by a movie poster for the upcoming Harry Potter film and scanning it with a click of your camera phone in order to download associated ringtones, get show times, or even buy tickets. How about snapping a photo while browsing through a magazine to get a free sample of a new perfume? This may sound like science fiction right now, but in Japan, this type of mobile search technology is widespread, and in the United States similar services are already being developed, services that promise just this type of virtual engagement with the world around us. Think about the convenience of scanning the logo on someone’s Yankees cap to instantly receive the latest score from the game. This is what’s coming.

**May/June 2008**

**“Drupal in Libraries”**

***By Andy Austin and Christopher Harris***

Libraries are about content: acquiring it, storing it, indexing it,

retrieving it, and presenting it. Content management systems (CMS) help libraries accomplish these tasks on the Web by providing a back-end structure for a Web site so that the authors can focus on content. Unlike a traditional Web site, where HTML defined both the content and the formatting in a single document, a CMS uses databases and newer Web languages to store content and define formatting separately.

**April 2008**

**“Gaming & Libraries Update: Broadening the Intersections”  
By Jenny Levine**

In its December wrap-up of the “Top 10 Library Stories of 2007,” *American Libraries* magazine cited gaming because “it was the year gaming caught the imagination of libraries.” And what an amazing year it was. In an uncharacteristically (for our profession) viral and rapid way, videogame services in libraries broke through the niche, cult-like status that had relegated them to something only geeky nerds did at home in the basement. As video gaming went mainstream in the United States with the introduction of new games and consoles that appeal to a much broader audience, so, too, did it gain traction in all types of libraries. In many places, the immediate reaction to “videogames and libraries” is no longer an automatic, “No way,” but rather a, “Let’s talk about it-this might have some value for us.” In a year that saw two high-profile attempted library closure cases (Jackson County, Oregon, and the Environmental Protection Agency) and increased funding pressures across the country, video games overwhelmingly generated positive reviews, reactions, and support in many communities.

**February/March 2008**

**“The Preservation of Digital Materials”  
By Priscilla Caplan**

Although there are any number of definitions of digital preservation in the literature, most agree that it is a set of activities aimed towards ensuring access to digital materials over time:

- “Digital preservation combines policies, strategies

and actions that ensure access to information in digital formats over time.”

- “[Digital preservation] Refers to the series of managed activities necessary to ensure continued access to digital materials for as long as necessary.”
- Digital preservation is the series of actions and interventions required to ensure continued and reliable access to authentic digital objects for as long as they are deemed to be of value.

January/February 2008

**“Changing the Way We Work”**

***By Michelle Boule***

In most libraries, when a work group, team, or task force is created, the work flow goes something like this:

**Once upon a time**, a task force was created with the charge to produce a work product. The group met for the first time to discuss their charge. They brainstormed some ideas about the questions they were asked to answer. Each member was assigned an aspect of the problem, and they went their separate ways. Individually, they conducted research, and they each sent the team an e-mail with their findings. During this research period, e-mails were flying around with attachments and links to documents, Web pages, articles, PowerPoint presentations, forwards from Listservs, and anything else team members thought was important. These items, if the committee was lucky, got filed in a folder titled with the committee’s name, but they were ordered by date, which was not very helpful.

November/December 2007 **“Information Organization Future for Libraries”**

***By Brad Eden***

In this new information universe where the library no longer holds a monopoly, it is essential that those who wish to understand the economics of the challenge before us open their minds to the new technologies, not only because they are useful to our users and to us as communication and

collaboration tools, but also because they ARE the new technologies. Keeping up with the new technologies is essential. These include blogs, wikis, tools, and even Listservs that have as their focus how to address the challenges and concerns surrounding information description and organization in libraries. Some of these resources are listed below. The resources in this chapter are more general than the ones listed in subsequent chapters; they should be included in any blog service that you choose to join, and should be read daily. Why? Because the big names and players either post on or maintain these blogs and Listservs, and their opinions and thoughts help to drive momentum and change within our field.

**September/October 2007**

**“Web 2.0 & Libraries, Part 2: Trends and Technologies”**  
***By Michael Stephens***

As libraries synchronize their services to the Web 2.0 world, there are some issues we as a profession need to reconsider in light of changing user expectations. Librarians have traditionally held a gatekeeper role for information, which meant being gatekeepers for such things as authority and patron privacy. Since fall 2005, we’ve been re-examining what I’ve called “the four C’s” – collaboration, community, commons, and conversation. The discussions have been fruitful, moving from theory to practice as evidenced by the many examples in this issue of *Library Technology Reports* and its predecessor, “Web 2.0 & Libraries: Best Practices for Social Software.”

**July/August 2007**

**“Next-Generation Library Catalogs”**  
***By Marshall Breeding***

This issue of *Library Technology Reports* focuses on “next-generation library catalogs.” In this current phase of library automation, all eyes are focused on developing and deploying Web-based interfaces better suited to meet the expectations of the current generation of Web-savvy users. Over the course of the last year, a number of libraries have

made bold moves to introduce new catalogs cast in a mold apart from their previous offerings. Library automation vendors have lunched development efforts to create new catalogs and interfaces more in tune with today's expectations.

**May/June 2007**

**"Open-Source Software for Libraries"**

***By Casey Bisson***

Tim cocks his head a bit as he says it to emphasize the point: "LibraryThing.com is social software." However we categorize it, Tim's baby has become a darling to librarians, and as we sat chatting over lunch in spring 2006, the Web application that had begun life just ten months earlier was to catalog its three millionth book.

**March/April 2007**

**"Technology Competencies and Training for Libraries"**

***By Sarah Houghton-Jan***

This works begins, as many begin, with the author wondering aloud (er, in writing) why she took the time to write it, in the hope that sharing this little piece of information will convince you to continue reading. A few years ago, I found myself wanting a work like this to exist. Because it did not, I figured that I might as well consolidate all the information about library technology competencies in one place so that others could benefit from my hunting and gathering. In short, I saw a huge gap, and instead of simply trying to take a running leap over it myself, leaving others to the same change fate, I'm trying to fill that gap with some nice solidly packed, foot-friendly earth.

**January/February 2007**

**"Digital Audiobook Services through Libraries"**

***By Thomas A. Peters***

Digital audiobooks are becoming popular with library users. There are many possible reasons for this newfound popularity, which will be explored throughout this report.

One possible reason is that demand for audiobooks may be part of the larger demand for content for portable media players. These devices have become amazingly widespread. Portable MP3 players for example, were the hottest fit item during the 2005 holidays. Now that tens of million Americans have these gadgets, the scramble for compelling content is on. Digital audiobooks are part of this content rush.

**November/ December 2006 “Functional Requirements of Bibliographic Records”**

***By Brad Eden***

FRBR, FRAR, FROR, FRVRR, FRANAR, FRSAR . . . What are these abbreviations? In a profession that lives and breathes abbreviations and acronyms, do we really need more? Apparently we do, because these are the new boys (or girls) on the block.

**September/October 2006 “Gaming & Libraries: Intersection of Services”**

***By Jenny Levine***

Gaming and libraries. Two words you may never have thought to put together-except when discussing a policy to ban it. And yet, increasingly, those of us in the library field are seeing all types of libraries adding the phrase “gaming and libraries” to their repertoire of services, in many cases with an exclamation point at the end! In this issue of *Library Technology Reports*, I will examine the growing, and increasingly visible, intersections the library profession has with this phenomenon.

**July/August 2006**

**“Web 2.0 & Libraries: Best Practices for Social Software”**

***By Michael Stephens***

In this issue, I’ll explore the social software landscape and point librarians toward some implementation strategies and best practices for using tools such as Weblogs, commonly referred to as *blogs*; wikis (server software that allows users to create and edit Web-based content using any Web

browser); instant messaging, often denoted by the abbreviation IM; and RSS (Really Simple Syndication) to create new services or improve current ones in all types of libraries. I'll define as many terms as possible, and point readers toward some useful research, case studies, and concrete examples to ensure that those who choose to use one -or all- of these tools can proceed without any stumbling blocks.

**May/June 2006**

***“Web Services and the Service-Oriented Architecture”  
By Marshall Breeding***

In this report, I'll explain why Web services are a set of strategic technologies that libraries need to follow closely and, as opportunities allow, consider adopting. On one level, Web services are a set of technical specifications. More importantly, however, they reflect the reality of a world more interconnected and interdependent than ever before. Organizationally and operationally, libraries increasingly engage in more partnerships, dynamic business relationships, and cooperative efforts, and thus Web services stand as the technology well suited to support organizations engaged in cooperative activities.

**March/April 2006**

***“ERM: Staffing, Services and Systems”  
By Marilyn Geller***

An obvious and direct effect of the increasing availability of electronic resources in library collections was-and still is-the need to control and manage them. As simple as this task may sound, we, as librarians and library professionals, are still trying-more than a decade after the appearance of these electronically based resources-to find ways to administer these resources with the same comprehensive efficiency as we accomplished with print resources, all with new sets of tools and skills specifically tailored to the resources themselves and the new services these resources create.

January/February 2006

**“Linking and the OpenURL”**

***By Jill E. Grogg***

Imagine a world where library users never reach a dead end, never fail to find the electronic resources they have the need-and the right-to access. This is the ultimate potential of the OpenURL: to link, seamlessly, among a multitude of information providers-proprietary and open access alike. In a world where libraries must acquire, manage, and provide access to a host of search tools and information sources from a variegated group of content providers, the promise of the OpenURL is tantalizing indeed.

November/December 2005

**“Metadata and Its Applications: New Directions and Updates”**

***By Brad Eden***

It has been three years since the publication of “Metadata and Its Applications” (*Library Technology Reports*, September/October 2002, 38:5). Metadata was still a new buzzword that many librarians did not understand-or it was one they chose to ignore. This new edition of “Metadata and Its Applications” is both a revision and an update. It is not going to rehash old material; in other words, it is not meant to be a comprehensive overview of current metadata standards. This new edition is meant to be more of a supplement to the previous issue.

September/October 2005

**“Wireless Networks in Libraries”**

***By Marshall Breeding***

This issue of *Library Technology Reports* provides all the information needed to implement a wireless network in a library. It will explain the basics of the technologies involved as well as the practical issues related to installation. The report also will explore pertinent issues, including computer security, access policies, and appropriate use. The target audience includes library administrators, systems librarians,

and other computer savvy workers.

**July/August 2005**

**“Innovative Digital Projects in the Humanities”**

***By Brad Eden***

How are the "humanities" defined? A fairly general dictionary definition would be: "branches of learning (such as philosophy or languages) that investigate human constructs and concerns, as opposed to natural processes."

More specifically, humanities involve the process of evaluation and inquiry into ideals, values, and other esoteric concepts that shape our lives and experiences. This is in contrast to the sciences, where observation and documentation of facts, hypotheses, and experiments related to the physical and natural universe are emphasized.

Digital humanities (and the related terms "e-humanities" and "humanities computing") arose out of the early computing machine environment immediately after World War II in the 1940s. Dr. Roberto A. Busa, generally, is considered the "father" of digital humanities.

**May/June 2005**

**“Library Course – Management Systems: An Overview”**

***By Susan Gibbons***

No longer is online learning relegated to the distance-learning realm; that era is over. As it has evolved, the Web has woven itself successfully throughout countless aspects of higher education-with no sign of stopping.

Students in even the most traditional, lecture-style courses come in constant contact with the Web, either by choice or by necessity. Net Generation (Net Gen) students e-mail their professors, correspond with fellow students via instant messenger (IM) and text messages, obtain and read course materials online, submit papers into digital drop boxes, and seek information and conduct research on the Internet-almost to the exclusion of the printed word.

**March/April 2005**

**“Policy and Library Technology”**

*By Walt Crawford*

Technology is a lot more fun than policy. Most library technology people probably find it a lot more interesting as well. But library technology does not operate in a vacuum. Technology and policy have always interacted, in the library field as elsewhere. Those interactions have become more complex and need to be more visible.

This issue will show some of the ways that technology, policy, and libraries interact. You need to consider library technology in a policy framework. Don't expect easy answers: Most policy-technology relationships are messy.

**Jan/Feb 2005**

**“3D Visualization Techniques: 2d and 3D Information Visualization Resources, Applications and Future”**

*By Brad Eden, Ph.D*

This report is geared toward professionals in information organizations, whose primary focus is helping users access information or in presenting information in various environments. The information is kept simple, understandable, and practical for those who are most likely to read this report.

Except for the introductory material and a history and discussion of various information visualization applications, this report focuses exclusively on 2D and 3D issues, products, and services related to information visualization (and discussions related to the popularity of 2D information landscapes or posters set in a 3D world.)

**Nov/Dec 2004**

**“E-Publishing Impact on Acquisition and Interlibrary Loan”**

*By Paula D. Watson*

Electronic publishing has had an unprecedented impact on what is available for libraries to acquire and on purchasing practices. Unfortunately, as the number of useful digital products and users' desire for them escalate; many libraries also are facing unusually severe financial constraints.

**Sept/October 2004**

**"Techniques for Creating Sustainable Digital Collections"**

*By Stephen Chapman*

Collections digitization is expensive. Librarians hope for high returns – many users, many years of use – from these investments, yet the digital products created from preservation and access initiatives are inherently fragile, requiring ongoing attention and care to remain usable.

This report presents building blocks of successful text and image digitization programs as guidance to administrators seeking to develop programs in their institutions.

**July/August 2004**

**"Establishing an Institutional Repository"**

*By Susan Gibbons*

The 2003 edition of the annual Association of College and Research Libraries' (ACRL) Environmental Scan identifies institutional repositories, among others, as an "emerging issue that may affect the future of higher education [and] academic libraries" (ACRL, 2003, p. 3).

This report answers the basic, yet complex, questions of what an institutional repository is and why one might be of value to your organization. The report also discusses specific policy, use, and technical decisions that will result in a detailed checklist of functions and features of the ideal institutional repository system for your organization.

**May/June 2004**

**"Computer Technologies to Aid Special Audiences"**

*By Barbara T. Mates*

Everyone has heard of the Digital Divide and the serious ramifications it brings to providing information to all. This report addresses the needs of three groups disenfranchised by the explosion of electronic information:

- People with disabilities
- Older adults
- People for whom English is a second language (ESL)

These groups could immediately benefit by libraries adapting computer workstations to accommodate a wider array of the general population, offering computer instructions tailored to patron's needs, and designing usable and accessible websites.

Issues such as staff training, patron training, curriculum design, marketing programs, and funding are covered. Appendix A sums up what is happening in libraries in regard to serving patrons with disabilities.

**March/April 2004**

#### **"Filtering and Filter Software"**

***By Lori Bowen Ayre***

Since June 23, 2003 when the U.S. Supreme Court found the Children's Internet Protection Act (CIPA) constitutional, many libraries are, for the first time, seriously considering installing Internet filters. This report explores the issues associated with using Internet content filters in libraries. Throughout the report, specific products will be referenced and the differences discussed.

Readers who wish to understand the myriad issues at work when filters and libraries come together will benefit from reading each chapter in order. Each chapter also is designed to stand on its own and provide targeted assistance for libraries considering filtering, selecting a filter, or implementing a filter.

- Chapter 2 focuses on how filters work and addresses some inherent conflicts of using filters in a library

setting. The goal is to provide enough technical information about how filters work and their impact on the library to enable stakeholders to decide whether they wish to use them.

- Chapter 3 provides information about finding, selecting, and evaluating filters available on the commercial market and through open-source channels.
- Chapter 4 provides best practices guidelines for using filters in the library where issues of First Amendment rights, patron privacy, and CIPA compliance comes into play.
- Chapter 5 looks at the future of filtering.

January/February 2004

**“Integrated Library Software: A Guide to Multiuser, Multifunctional Systems”**  
*by Marshall Breeding*

This issue of *Library Technology Reports* provides an in-depth analysis of multiuser library automation systems and the companies that produce them. These systems automate the routine operations of a library, provide library users information about the library’s collection, and serve as a channel for delivering key library services.

The term *integrated library system*, or ILS, describes the software that automates the many different library work categories. This common application is tied together with data residing in common databases (as much as possible) that are related to many different tasks. An ILS automates many library tasks that would otherwise be repetitive, labor intensive, and inefficient.

This report cannot present any conclusions for a library on what library automation system they should acquire. At best, it serves as a guide to help a library considering a new ILS to understand which products to consider and the issues and process that surround that decision. The specific needs and circumstances of each library vary widely.

## Library Technology Reports

### Issue

### Reports

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**November/December 2003** **"RFID Technology for Libraries"**  
*by Richard W. Boss*

Research for this issue of *Library Technology Reports* was begun in January 2003 by contacting vendors for information and literature, interviewing librarians, visiting libraries, searching literature, and viewing demonstrations of all the systems at the 2003 Midwinter Meeting of the American Library Association (ALA) and again at its 2003 Annual Conference.

Vendors that offer radio frequency identification (RFID) systems but have not targeted the library market are not included in this report, nor are vendors that only sell products that interface with RFID systems.

**September/October 2003** **Not available at this time.**

**July/August 2003** **"Model RFP for Integrated Library System Products"**  
*By Nicole Waller*

The integrated library system (ILS) is the backbone of a library's organization, the most costly and important utility after the books on the shelves. Selecting a new library management system requires substantial amounts of a library staff's time, expertise, and patience.

As the market for library systems reaches saturation, nearly every library has been through a major ILS acquisition at least one time, if not more. By now, librarians are well acquainted with the available tools and functionalities of the ILS, meaning that the next-generation round of acquisitions, systems migrations, and updates involves amore intelligent customer base, one that is hungry for innovation at a low cost.

This report is designed to help you shop more effectively for library system products. With the RFP at its center, it

suggests new ways of acquiring information for making effective purchasing decisions.

**May/June 2003**

**"Integrated Library System Software for Smaller Libraries"**  
*By Anne A. Salter*

The market is busy responding to two major trends: migration away from legacy systems and a growing need among users to have a 21<sup>st</sup> century generation of products and capabilities. The economy may cut into the growth of the companies overall as buyouts and mergers continue to increase. The choices and products available are better than ever, and the first-time buyer faces a smorgasbord of selections, especially from the traditionally smaller vendors who previously laced the options.

**March/April 2003**

**"E-Journal Management: Acquisition and Control"**  
*By Paula D. Watson*

Electronic journals are an increasingly critical part of library collections. Even small libraries have access through aggregated databases and statewide agreements to thousands of titles. Acquiring e-journal content involves more complex processes than buying print serials, often requiring a license and negotiation.

**January/February 2003**

**"Library web Manager's Handbook"**  
*By Thomas Dowling*

**November/December 2002**

**"How to Plan and Implement a Library Portal"**  
*By Richard W. Boss*

Fewer than one-half of 1% of libraries have portals (single user interface to many electronic resources) and yet an increasing number of requests for proposals for automated library systems now include specifications for a portal module.

This report is intended to give librarians an overview of portals, where the industry is today, major vendors and some examples of operational library portals.

**September/October 2002**

**"Metadata and its Applications"**

***By Brad Eden***

This report is a guide to current metadata standards and their application in whatever environment you are working in. Because of the vast number and variety of metadata standards under construction, only the major standards are included in this report. Besides discussing these standards and their histories, this report examines:

- Linking initiatives and how they relate to metadata
- How to use metadata to build and enriched library catalog
- How metadata assists in natural language recognition technology

**July/August 2002**

**"Establishing and Maintaining Live OnLine Reference Service"**

***By Nancy Kalikow Maxwell***

This report is intended to help librarians peacefully coexist with their automated information systems and provide effective online reference assistance to library patrons - not by abandoning their exploding computers and reverting to manual reference, nor by letting the machines take over. Rather, the goal is to combine the strengths of humans and machines to deliver library reference services.

In this report you will find practical information on live online reference service systems, equipment, and supplies, as well as information on evolving technologies. Armed with this information, librarians can harness the benefits of automation to craft systems, policies, and procedures to provide effective online library service to patrons.

**May/June 2002**

**"Strategies for Measuring and Interpreting E-Use"**

***By Marshall Breeding***

This issue of *Library Technology Reports* explores the topic of measuring the use of electronic content and services provided by libraries. The approach taken is a practical one that helps librarians think about the issues involved and learn some practices to effectively document how library users take advantage of electronic content and services.

**March/April 2002**

**"Building and Optimizing Library Web Services"**

***By Andrew K. Pace***

Library Web design has only two truisms. The first applies specifically to library Web design: users want simplified access to the known information they are seeking, and they want logical organization of the information they might not know exists. The second truth applies to the Internet in general, and-like the third wish that asks for three more wishes-it removes boredom from working on the Web: change is the only thing of which librarians can be sure.

Content is king and the only constant is change. Libraries excel at content but still grapple with change. The librarian who cannot tolerate change is quickly becoming obsolete. The Web represents a library's best chance to embrace change while enriching access to content and improving service to its patrons.

This report investigates specific tools and resources for improving and assessing usability for library Web services but avoids topics such as specific HTML code, XML dissection, and clever java scripts. The most in-depth portion of this article is its treatment of usability engineering and testing.

**January/February 2002**

**"Librarian's Guide to Copyright for Shared and Networked Resources"**

***By Tomas A. Lipinski***

This edition of *Library Technology Reports* focuses on current copyright issues in libraries. Many issues fall within the

topic, but the focus here is about incorporating newer technologies into library service, such as the Web, distance education, and intranets.

The discussion is split into nine topics - one for each chapter. Rather than reading from beginning to end, first choose topics of interest or that are unfamiliar. The tenor of this Report is not intermediary. Many fine introductory texts and articles are available on basic topics within copyright law. This basic material is not covered - topics cover basic concepts in new applications or cover the implications of recent legal developments.

Selected background material is presented to help you understand the context of recent legal developments. Statutes are cited and cases discussed, but the emphasis is on a general discussion of concepts, not legal fine points.

**November/December 2001 “Library Ergonomics and Facilities Planning”**  
***By Richard W. Boss***

Ergonomics has been defined as the science of fitting the task to the worker. Doing so increases the worker’s physical comfort and reduces the possibility of injury. Ergonomics involves assessing biological and engineering data and using that data to make changes in the workplace that will keep work-related injuries to a minimum. This report focuses on preventing musculoskeletal disorders (MSDs): injuries to the nerves, muscles, tendons, and supporting structures of the body. These injuries are most often sustained by repeating the same motion throughout the workday, working in an awkward position, or rapidly moving the hand and wrist, or the repeated lifting of objects. Work in libraries often involves one or a combination of these, therefore, injuries occur-injuries that are avoidable.

Chapter 2 looks into the problem of workplace injury and includes a general explanation of ergonomics, with details about identifying and solving ergonomic problems. Chapter 3 discusses the various types of MSDs to aid in the

identification and treatment of problems. Chapter 4 discusses ergonomics basics and demonstrates how to compose an ergonomic checklist for your library; such a checklist is necessary for beginning a survey of the workplace to either solve or prevent problems. Chapter 5 summarizes ergonomic standards, both American and international, to provide guidance in establishing a plan in your workplace. Chapter 6 identifies useful ergonomics products, including cost, vendors, and availability. Chapter 7 describes the components of an effective ergonomics program, providing a loose model for customization. A glossary has been included as Appendix A, a list of sources of information as Appendix B, a directory of ergonomics consultants as Appendix C, and the ergonomic hazards checklist prepared by the Occupational Safety and Health Administration (OSHA) as Appendix D.

September/October 2001

**"Assembling and Managing Virtual Libraries"**

***By Barbara J. D'Angelo***

Virtual library. Electronic library. Online library. Digital library. Library without walls. Networked library. E-Library. All these phrases have been used to describe the library as it exists in the networked environment. Yet each may describe something distinct depending on the context and individual, whether an extension of the physical library, a stand-alone completely autonomous library, or a combination of both. The library profession has defined characteristics that place libraries into categories: academic, public, special, and school. Although libraries may have particular nuances depending on location and clientele, they also have common characteristics that allow them to be grouped into one of these categories. Within the networked environment, digital libraries have evolved to fit a fairly standard definition: a collection of digitized resources occasionally accompanied by other electronically available resources or services. Virtual libraries, on the other hand, do not yet have this clarity of definition.

For the purpose of this issue of the Library Technology Reports, the term virtual library is defined simply as a

managed collection of information resources and services available electronically through the internet. The focus is on consortial efforts that bring together resources and services through one common gateway. Several states have launched such efforts: VIVA in Virginia, TexShare in Texas, and Ohio's OhioLINK are just a few examples. The two virtual libraries profiled in this issue are statewide efforts; one focuses solely on providing library services to distance education students and the other aims more broadly to electronically provide library services to all citizens of its state. Both libraries exemplify similar yet distinct models for assembling virtual libraries that incorporate physical libraries and traditional services and extend and expand them into the virtual world. Perhaps in this sense they best exemplify the virtual library as a hybrid-that which has surpassed the physical but has not yet become purely digital.

**July/August 2001**

**"Accessibility Guidelines for Electronic Resources"**

***By Barbara T. Mates***

The library profession has many service specialties within it, such as youth services librarian, adult services librarian, and database specialists. Instructing patrons as to how to use the library and library services is their strength and challenge. Most staff enjoy seeing patrons locate useful information and are eager to see them soar.

Service to patrons with disabilities is a task that all librarians should take on, since people with disabilities cross all cultures and demographics. As library staff works with patrons with disabilities, they will be able to pass onto them the tools to help them achieve equity in education and in the workplace. Assistive or adaptive technology has previously not been available in libraries, so people with disabilities, such as visual impairment, haven't had a good reason to visit traditional libraries. With recent technical developments, librarians now have the opportunity to teach some people with print impairments how to access information using adaptive technology and of describing to patrons the enormity of libraries.

Automation librarians who develop and maintain library Web sites also have the opportunity to enrich the educational goals for people with disabilities. Those who take on the responsibility of designing and maintaining web sites accessible to those using screen readers or refreshable Braille displays receive the gratification of knowing that they are developing electronic curb cuts that will allow people with disabilities to access information and be empowered.

**May/June 2001**

**"Network Checklist for Library Intranets and Internet"**  
***By David Barber***

The report begins by describing the types of applications that library networks will need to support, from traditional applications like Web browsing to new applications using audio and video. These applications are analyzed to identify what they require from a library network. The general performance requirements and specific bandwidth needs of audiovisual applications are highlighted. The capabilities of library networks should be judged by how well a network addresses the needs of available applications.

With these requirements identified, the report gives two networking checklists. Each checklist identifies the principal components needed in its respective sections of the library network. The key components are explained so librarians can understand their role in determining how the overall network functions. If alternative approaches are available to supply this needed component, those alternatives are presented. Where alternative approaches exist, the alternative best able to meet the requirements noted in the section on library network applications is identified. In the description of each network component, the costs associated with each item are discussed.

In looking to the future and the need to support more use of audio and video on the network, this report will help prepare libraries for the future. Plans to expend library funds require the purchase of equipment that can serve the library for

several years, not just meet today's needs. But while the need to meet future needs is seen as necessary, this report does not recommend innovative technologies that would create more risk than libraries would want to assume. The recommended technologies in these checklists are in widely used and can both be purchased at reasonable levels of cost, and for which there is probably a reasonable level of expertise widely available.

**March/April 2001**

**"Alternatives to Filters"**

***By Nancy Kalikow Maxwell***

Includes history and status of the filtering issue. Describes various filters, problems, and policies. Discusses alternatives to filters and the future for filtering of Internet content in libraries.

**September/October 2000**

**"Internet-Accessible Full-Text Electronic Journal & Periodical Collections for Libraries"**

***By David Barber***

Periodicals represent a major investment and information source for libraries. The development of the Internet and the World Wide Web (WWW) has created the exciting opportunity to increase the value of these materials to library users. Periodicals can become available outside of the library's walls and become more widely and conveniently accessible. Most libraries have moved to take advantage of this opportunity and have begun to build a collection of electronic periodicals. How libraries build these collections and how users interact with electronic periodicals is the subject of this report.

Two kinds of full-text information sources form the foundation of electronic periodical collections. The first is the full-text periodical data-base. This category includes products such as SIRS and ProQuest. These databases are a staple of academic, public, and special library collections. A second type of full text periodical product is the journal

archive, the Web sites that offer access to academic journals. This product includes the Web sites of publishers like Elsevier Science or Academic Press. Web sites of journal aggregators such as OCLC, and the Web sites created by libraries and library consortia that have decided to upload these journals themselves.

Building an electronic periodical collection requires knowledge of two key subjects: How journal archives and periodical databases shape the user experience, and how libraries operate to create access to these resources. A balanced understanding of these two topics is required to appreciate both the goal of high-quality access to electronic information for the user and what this will require from library administrators.

The first part of this report examines how Web sites and their underlying technology affect the user experience. The user experience is the result of two aspects of the design of journal archive and periodical databases. The way the Web site is designed to allow users to find an article is the first aspect; an article's format (PDF, HTML and so forth) is the second aspect that shapes the user experience.

July/August 2000

**“Information Technology Standards”  
by Richard W. Boss**

The Role of Standards: Dictionaries generally define a standard as something established for use as a rule or basis of comparison in measuring or judging capacity, quantity, content, extent, value, or quality.

In the strictest sense, the word standard refers to a written document that details specifications that must be met to conform to the standard. The International Organization for Standards (ISO) defines a standard as:

*A document available to the public, drawn up with the cooperation and consensus or general approval of all interests affected by it based on the consolidated results of science, technology, and*

*experience aimed at the promotion of optimum community benefits and approved by a body recognized at the national, regional, or international level.*

To be a standard, a document has to have received formal approval from national or international standards bodies such as the American National Standards Institute (ANSI), the Institute of Electrical and Electronics Engineers (IEEE), the International Organization for Standardization (ISO), or the International Telecommunications Union (ITU).

The so-called standards that rely on informal adoption by industry groups such as the Book Industry Systems Advisory Committee (BISAC) or professional associations such as the American Library Association (ALA) should be considered de facto standards because they are formally expressed in detailed documents and are widely adopted, but they are not true standards.

This issue will comprise of:

- The Role of Standards
- Identification and Description
- Format and Mark-up
- Cabling and Networks
- Interfaces
- Imaging
- Business Communication
- Specifying Standards

**May/June 2000**

**“Search Engines for Library Web Sites”  
by Karl Beiser**

A search engine enables a user of electronic data resources to quickly locate the specific information desired from within a large volume of mostly unrelated or extraneous information. A variety of software packages have been developed to enable the administrator of a search site to gather, index, and provide a user search interface for retrieval of references to online resources. Some products are aimed at meeting the prodigious and particular needs of Internet portal sites such as Excite and Yahoo that attempt to index a significant percentage of the Internet. Still others are engineered and priced to support more modest objectives, such as the indexing

of pages within a single Web site, for searching by visitors to that Web site.

Typical search engine needs for a library Internet site fall between these extremes. Usually, the indexing of a library's own site is a given. Often, inclusion of the site of the library's institutional parent organization is also a requirement. But as they develop larger and more ambitious Internet sites, librarians find themselves drawn to creation of specialized search capabilities that immediately reach beyond purely local content. Some libraries may wish to provide comprehensive search access to Internet sites pertaining to a given geographical area or governmental jurisdiction. Others may wish to focus on a particular set of subject areas that parallel the library collection. In some environments, thorough coverage of a collection of specific corporate Web sites or support for other approaches to achieving a level of competitive intelligence may hold special value.

This report looks at search engine software of use in this middle ground. Included are products appropriate to creating a searchable index of from several hundred to several hundred thousand Web pages. Products that cost more than \$10,000, in a basic configuration, have been excluded as likely to exceed the cost limitations of most libraries. Given the cost considerations that typically attend certain high-end operating systems, only those products that run on Windows NT/98/2000, Linux, or the Macintosh have been covered in depth.

**March/April 2000**

**"Text Retrieval for Libraries"  
by William Saffady**

The issue begins with an overview of text retrieval technology and products, followed by detailed reports on 10 Windows-based text retrieval programs that are suitable for digital library implementations. For each program, the report describes and discusses important operational characteristics, including computer platform requirements, user interfaces, database structure, data entry components, indexing capabilities, and retrieval functionality. The narrative is accompanied by tables that summarize important program characteristics.

January/February 2000

**"The Status of Library Automation at 2000"**

***By William Saffady***

To begin the new millennium, this issue of *LTR* summarizes and analyzes the status of library automation products and services at the start of the year 2000. The report is divided into three parts that correspond to three major aspects of library automation covered regularly and extensively by *LTR* since the 1970's:

Part 1: Deals with computer-based cataloging products and services, including bibliographic utilities and CD-ROM cataloging products.

Part 2: Discusses integrated library systems that automate catalog access, Circulation control, acquisitions, serials management, and other library operations. It examines integrated systems for all types of computer platforms: mainframes, minicomputers, client/server implementations, and personal computers.

Part 3: Covers products and services for online searching of reference databases.

Each part begins with a timetable of important events, followed by a review of the developmental history of significant products and services. The subsequent discussion provides a state-of-the-art survey of the principal functional characteristics and noteworthy features of available products and services, followed by an analysis of industry trends and likely future developments.

November/December 1999

**"A Model RFP for an Automated Library System"**

***by Richard W. Boss***

This issue explores the decision to procure an automated library system. This is one of the most significant decisions librarians make, not only because it involves a great deal of money, but also because it is a highly visible undertaking. This report describes the planning process, including the role of library staff.

The first part of this report discusses the procurement process, including initial planning and specification development. The

balance of this issue is a model RFP (Request for Proposals) comprising: instructions to bidders; general system requirements; detailed functional requirements; minimum hardware configuration; vendor support; and acceptance testing and ongoing reliability requirements. An RFP seeks proposals, rather than just a price quotation. The assumption is that each vendor will propose an already developed system which may not meet every requirement in the RFP. A library then chooses the vendor which offers the optimum combination of conformity to the requirements, price, and other evaluation criteria established by the library.

While the model assumes a mid-size public library, any type or size of library interested in procuring a multi-user, multi-function automated library system can adapt the RFP for its use.

**September/October 1999**

**“Movable Compact Shelving Systems: Selection and Specifications”  
by Gloria Novak**

This report summarizes the various types of the most popular style of mobile systems for compact storage in use and manufactured today: wheeled carriages guided on rails and equipped with various storage media, primarily shelving. It draws heavily from the information provided by a number of manufacturers of mobile systems for compact storage.

Most of the manufacturers provide manual, mechanical-assist, and electrical mobile systems. Most of these manufacturers also produce shelving to be installed on their systems, except for TAB, which offers either Aurora or Estey shelving as standard with their mobile systems.

The author, Gloria Novak, is a library buildings consultant in Nevada City, CA. Before setting up her own consulting firm, Novak was the Library Space Planner for the University of California, Berkeley.

**July/August 1999**

**“Integrated Library System Software for Smaller Libraries, Part 2:  
School, Academic and Public Libraries”  
by Karl A. Beiser**

This issue presents the second part of a two-part series of reports on integrated library systems for smaller libraries. (The first part was published in the March/April 1999 issue and emphasized those systems with features particularly well-suited for special librarians, but with some also suitable for public and academic libraries as well). Emphasized in this issue are those systems aimed at the school library market, some of which are also suitable for academic and public libraries.

The following vendors and software are included in this report: Book Systems, Inc., Concourse; CASPR, Inc., LibraryWorld 98; Chancery Software, Library Pro; COMPanion Corporation, Alexandria 5; Follett Software Company, Circulation Plus/Catalog Plus for Windows; Kelowna Software Ltd., Library 4 Universal; New Generation Technologies, Inc., LibrarySoft; Precision Computer Service, Inc., Surpass; Sagebrush Technologies, Inc., Athena; Winnebago Software Company, Spectrum.

**May/June 1999**

**“Security Technologies for Libraries: Policy Concerns and a Survey of Available Products”**

***By Richard Boss***

In this issue, longtime LTR contributor and library automation consultant Richard Boss discusses some basic security policies that could be applicable to libraries of various types and sizes. He follows this with technology discussions and descriptions of a large number of products currently or soon to be available.

For the product survey part of this report, we were dependent upon the vendors for supplying the illustrations. Some are better than others. In a couple instances, we had to go with photocopies from product literature.

**March/April 1999**

**“Integrated Library System Software for Smaller Libraries, Part 1: Special, Academic and Public Libraries”**

***By Karl A. Beiser***

This issue presents the first part of a new series of reports on integrated library systems for smaller libraries, an area of library

technology that we have covered in detail since 1986 and before. The emphasis of this first part is on those systems that have features particularly well suited for use in special libraries. Some of these systems are also suitable for public and academic libraries.

The following vendors and software are included in this report: Comstow Information Services, Inc., BiblioTech Pro; Daikon Systems, PCCCWin; Electronic Online Systems (EOS) International, GLAS; Inmagic, Inc., DB/TextWorks Library Guide; Keystone Systems, Inc., KLAS; Lex Systems, Inc., LexiFile/LexWin; The Library Corporation, Library.Solution; MC<sup>2</sup> Systems, Auto Librarian; and On Point, Inc., TLC.

**January/February 1999**

***“Availability and Cost of Web-Based Bibliographic Search Services”  
by William Saffady***

This report is the sixth in a series of LTR commissioned studies on the availability and cost of computer-based reference services: its predecessors were published in Sept/Oct 1979, Jan/Feb 1985, May/June 1988, March/April 1992 and May/June 1996. This version deals exclusively with the newest development in computer-based reference service: bibliographic search services that operate on the World Wide Web.

This report is divided into two sections:

Part 1 is a survey of web-based bibliographic search services. It describes the types of information resources that such services offer and discusses their competitive positions. The survey covers multi-disciplinary services, news and business information services and specialized subject oriented services.

Part 2 examines the costs associated with web-based bibliographic searching. It reviews the most important fixed and variable cost components, emphasizing the different pricing models employed by web-based search services. A concluding section presents a cost comparison of web-based search services with other computer-based reference methodologies.

**November/December 1998 “Test Reports on 15 Models of Bracket-Type Steel Library Bookstacks”**

***By Carl A. Eckelman and Yusuf Z. Erdil***

One of the very first projects to be undertaken by LTR in the mid-1960's was the testing of library shelving. Subsequent testing was performed in 1988 and the results were published in 1990. The standards developed by LTR were successfully balloted by NISO to become *The American National Standard for Single-Tier Steel Bracket Library Shelving ANSI Z39.73-1994*.

This issue contains the first test results to be published since the adoption of the ANSI/NISO standard. For this test program, Gloria Novak, a California-based library building consultant, was hired by LTR to contact library shelving vendors to see if they would be interested in participating. Eleven vendors were identified - 10 of the 11 that had participated in the 1990 study, plus a Swedish company that had recently opened a US office. The vendors were told that LTR would pay for one sample of their shelving to be tested at Purdue University and that they could have additional models tested at their own expense but under the complete control of LTR. Eight vendors accepted and together submitted 15 samples. As with the previous test program, the testing was performed under the direction of Purdue Professor Carl A. Eckelman with the help of Purdue Graduate Research Assistant Yusuf Z. Erdil.

In addition to the individual test reports, there is a short introduction, which explains how the tests were carried out, followed by a Summary of Laboratory Findings. At the beginning of each individual report there is a brief statement about the vendor along with photos or drawings of the shelving. The vendors furnished this information, which has been presented with only minor editorial changes. A web site is furnished for every vendor.

The vendors included are: BC Inventar, Inc., Borroughs Inc., Library Bureau Steel, MJ Industries, Montel, Inc., Southern Metal Industries - FEI Division, Spacesaver Corporation, Tennsco Corporation.

**September/October 1998 “Guide to Outsourcing in Libraries”**

***by Richard Boss***

In recent years, the term outsourcing has meant different things to different people but has taken on some very negative connotations, especially when it has been clear that the main intent was to merely save money, regardless of the consequences. In this report, the author has identified 16 specific activities that have been successfully outsourced in libraries without adversely affecting their core operations.

Boss emphasizes how important it is for all parties to understand what specific tasks are to be done, the quality of work that is expected, the total costs, etc. One way to accomplish these objectives is through the careful drafting of an RFP or at least a list of requirements that can be agreed upon before that work is begun. For each of the 16 candidate activities for outsourcing, Boss furnishes a model RFP or a list of requirements that can be tailored to the specific needs of the institution.

**July/August 1998**

**“Tools for Managing the Digital Library: Guidelines and Sample RFPs”**

***By David Barber***

The digital library is a new area of library technology that is still being defined. New tools and techniques will have to be adopted. This report addresses some very basic decisions which library managers will have to face in the not-to-distant future and furnishes practical answers along with annotated model RFPs.

**May/June 1998**

**“Commercial Sources of Cataloging Data B Bibliographic Utilities and Other Vendors”**

***by William Saffady***

This issue contains the latest in a series of periodic, in-depth studies of computer-based cataloging products and services. This issue covers eight utilities. It also contains reports about CD-ROM cataloging products, which offer a highly functional and potentially cost-effective alternative to the bibliographic utilities in some library applications.

March/April 1998

**“How to Buy Photocopiers”  
by *Buyers Laboratory, Inc.***

This report attempts to make a copier buying experience easier by way of a simple five-step selection approach. The buying advice is supplemented with reference material, including an overview of basic copier and related technologies, vendor profiles, and a glossary of commonly used terms. The goal of this report is to provide a complete compendium of advice and data about copiers.

Following this report are test reports on a selected group of machines in various sizes. These machines are representative of the quality of photocopiers that are available to the consumer. These reports are intended primarily to give the reader some sense of what to expect and questions to ask.

This study is divided into two parts, each featuring an introductory essay followed by vendor reports. Part 1 discusses the broad range of services offered by eight bibliographic utilities: A-G Canada (the Impact/MARCit service, the successor to Utlas), Auto-Graphics (the Impact/ONLINE CAT service), Brodart Automation (the Interactive Access System), Data Research Associates (Open DRA Net), the Online Computer Library Center (OCLC), the Research Libraries Group (the Research Libraries Information Network), The Library Corporation (the ITS.MARC service), the Western Library Network (WLN). Part 2 reports on six vendors of CD-ROM cataloging products: Brodart Automation (the Precision One Cataloging System), Gaylord Information Systems (SuperCat), GRC International (LaserQuest), the Online Computer Library Center (CatCD for Windows), The Library Corporation (ITS for Windows and BiblioFile), and the Western Library Network (LaserCat and FastCat).

The study concludes with a lengthy bibliography of references cited in the text.

January/February 1998

**“Model Technology Plans for Libraries”  
by *Richard Boss***

For a variety of reasons and purposes, librarians are being called upon to prepare technology plans for their libraries. ALA's Public Library Association (PLA) has been especially active in encouraging its members to undertake these initiatives.

This report starts out with a short essay on the value of technology planning and continues with an exposition of where we've been and where we appear to be going in regard to the use of modern technology in libraries. The author then presents three model technology plans that are intended to be used as starting points in the formulation of customized local plans for specific libraries or library agencies. These model plans provide sample elements that are representative rather than definitive. Each model station is, of course, different, and it is expect that these models will be modified to match local resources, requirements, and priorities.

Nevertheless, it is easier to edit and critique a work that is already in print, and it is our hope that these model plans will make the task of writing local technology plans less daunting. Using this report as a guide, our readers should find it easier to prepare local documents that will be useful in future planning and resource allocation. One further caveat which cannot be overemphasized is that technology planning is not a one-time activity. Plans should be living documents with frequent review and amendments.

**November/December 1997 "Stability, Care and Handling of Microforms, Magnetic Media and Optical Disks"**  
***by William Saffady***

This report replaces a study with the same title that originally appeared in the January-February 1991 issue of Library Technology Reports. Like its predecessor, it summarizes scientific findings and other information about the stability, care and handling of three major categories of non-paper media: microforms, magnetic media, and optical disks.

The report relies on a variety of sources, including national and international standards; books, journal articles, conference papers and other publications; and product documentation and other information obtained from vendors. Full bibliographic references

are provided at the end of the report.

**September/October 1997**    **“An Overview of Z39.50 for Consumers”**  
*Joan Frye Williams*

To help readers understand how this new kind of software fits into the overall information retrieval landscape, the first part of this issue provides an overview of the Z39.50 standard and its implementation. This overview highlights the Z39.50 concepts and issues of greatest interest to consumers who are considering a purchase of Z39.50 - based software.

Complementing the overview and located in the Appendix is a list of sources of additional information for readers who would like to investigate Z39.50 topics in greater depth. These sources include both background information and implementation reports.

**“Z39.50 Clients: Comparative Study”**  
*by Stuart B. Soffer*

The main report in this issue is a comparative study of Z39.50 clients. The study outlines criteria for evaluating client software and describes in detail a number of the client products designed for the library market. Particular attention is given to ease of installation/configuration, clarity of displays and ease of use.

**July/August 1997**

**“Options for Acquisitions and Serials Control Automation in Libraries”**  
*By Richard W. Boss*

For this study, the author looked at 29 items for acquisitions and 26 items for serials control. These functions are those that librarians most note they look for and for which they would consider spending money to automate. The responses for the 40+ systems whose vendors replied are summarized by the author and also presented in graphic form. The author concludes, on the basis of the 40+ responses he received, that the current acquisitions and serials control functionality offered by many of these systems is really quite rich.

May/June 1997

**"Vendors of Integrated Library Systems for Minicomputers and Main frames, Part 2"**  
*by William Saffady*

This is the second part of a two-part report on vendors of integrated library systems. This issue contains reports on eight vendors: Contec Data Systems, Data Research Associates, Endeavor Information Systems, EOS International, Fretwell-Downing Informatics, Geac, Innovative Interfaces and VTLS. Each report provides company background, description of the computing environment in which each vendor=s integrated systems operate, a survey of important system characteristics, a discussion of each vendor's installed base, and an analysis of the vendor=s competitive position.

March/April 1997

**"Vendors of Integrated Library Systems for Minicomputers and Mainframes: An Industry Report, Part 1"**  
*By William Saffady*

This is the first of a two-part report on vendors that offer integrated library systems for minicomputers and mainframes. It updates a two-part report on the same topic which appeared in the Jan/Feb and Mar/Apr 1994 issues of LTR.

This issue opens with a state-of-the-art survey that explains integrated system concepts, reviews the history of integrated systems, and describes the characteristics and capabilities of available products for minicomputers and mainframes. The state-of-the-art survey is followed by detailed examinations of the products and services of eight vendors of integrated library systems: Ameritech Library Services, Best Seller, CARL Corporation, Comstow Information Services, Ex Libris Limited, Information Dimensions, International Library Systems (ILS), and SIRSI Corporation. Each vendor report concludes with a competitive analysis that highlights the most important characteristics of specific vendors= offerings and assesses that vendors market position. Part 2 of this study will include reports on additional vendors and will be published in the May/June 1997 issue.

Issue	Reports
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January/February 1997	<p><b>“The Graphical User Interface (GUI) in Library Products - Part 1 Microcomputer-based Integrated Systems, Additional Evaluations”</b> <i>By Joseph R. Matthews</i></p>
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	<p><b>“The Graphical User Interface (GUI) in Library Products - Part 2 Client/Server Products, Additional Evaluations. “</b> <i>By Joseph R. Matthews</i></p>
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	<p><b>“Microcomputer-based Integrated Library Systems - Character- based Systems”</b> <i>By Joseph R. Matthews</i></p>
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This issue contains reports on three microcomputer-based systems with GUIs that have not previously been evaluated. One of these systems, Catalog Plus and Circulation Plus from Follett Software, at the time of this evaluation had a GUI only for its Online Catalog module. Along with these reports are four reports on Client/Server products to complement those reports published in the March/April 1996 issue.

In addition to the seven reports on systems with GUIs, we have evaluated two systems, Mandarin and Precision One, which, at the time of this evaluation, were still character-based with GUIs promised for future delivery.

The LTR ratings provided in these and previous reports are intended to be used to compare a product at the time of its evaluation to a specific set of criteria. The individual ratings are not intended to rank one product against another and any such implied ranking is a misuse of the information.

November/December 1996	<p><b>Canon Microfilm Scanner 400 with Fileprint 300 Printer InfoGraphics 500 Microform Reader/Printer Minolta RP603Z Complete Universal Microfilm System Canon Microprinter 60 Microform Reader/Printer Minolta RP600Z Microform Reader/Printer Canon Microprinter 90 Microform Reader/Printer Minolta RP605Z/RP606Z Microform Reader/Printer</b></p>
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*By R.A. Morgan Company*

**“The Procurement of Book Copying Equipment for a Library and RFP for a Library Copier Vending Service and Self Service Bookcopiers: A Survey of Available Equipment”**

*By Hari Rorlich*

This issue contains laboratory test reports on six conventional microform reader/printers and a microform scanner/laser printer duo that not only is good for viewing and making hard copy prints, but can also digitize the screen image for direct transmission by telfacsimile or for storage and manipulation in a computer. The scanner/printer we tested is the Canon Microfilm Scanner 400 with Fileprint 300 printer. Minolta, Eastman Kodak, and others have similar machines which we have not yet tested. Fugifilm has also developed a scanning device for microforms that uses a microcomputer system for display and printing, but it has not been tested yet either. Three of the test reports on microform equipment are new and four are updated reports on machines tested previously that are still being sold as new equipment. The testing was done by R.A. Morgan Company in Palo Alto, California, which has been testing microform equipment for LTR more than 25 years.

September/October 1996

**“Building a Digital Library: Concepts and Issues”**

*by David Barber*

The purpose of this issue is to assist library managers to appreciate the inherent problems of building digital libraries. It addresses the problems of mounting individual types of content, such as the services that need to exist for geographical data. The report also describes general types of approaches, such as search engines or DBMSs (Database Management Systems) that can be used to mount any type of content. It then discusses the kind of infrastructure that is required. The infrastructure problem is discussed in terms of (1) the kind of software needed to address common issues like security or integrated search of multiple sources, and (2) assessing the kind of servers, terminals, networking, and staff needed. In its consideration of how to develop a digital library strategy, the report describes different levels of effort that a library can undertake, ranging from that of a large research library to that of a smallish

special or public library. Finally, the reader is invited to view these issues in relationship to an overall strategy for dealing with technological change and be prepared to view the technological answers as continually evolving.

**July/August 1996**

**“Standards for Automated Library Systems and Other Information Technologies”**

***by Richard W. Boss***

The purpose of this report is to provide a practical handbook for persons writing standards specifications as part of a procurement for an automated library system or other information technology. It is also intended to be useful for persons seeking to check on a specific standard which has been encountered in vendor product literature or a professional library publication. It is not intended to be a history of standards nor a description of the standards setting process. Not included are standards which do not relate to automated library systems and information technologies, including those for shelving, microform equipment, and library bindings-all important, but beyond the scope of this report.

**May/June 1996**

**“The Availability and Cost of Online Search Services”**

***by William Saffady***

This report is divided into two sections: Part 1 is a survey of online services available to North American libraries. It describes the types of data bases that such services offer and discusses their competitive positions. The survey covers multi disciplinary services, news and business oriented services and specialized services. Part 2 examines the costs associated with library-based online searching. It reviews the most important fixed and variable cost components, emphasizing differences among available online search services as well as recent trends in search service pricing. A concluding section considers the competitive relationship of online search services and local implementation of specific data bases.

**March/April 1996**

**“Graphical User Interfaces (GUI) in Library Products - Part 2, Client/Server Products”**

***by Joseph Matthews***

This report is presented in two parts. Part 2 comprises reports on nineteen additional products that feature graphical user interfaces. These products are all client/server based. In the client/server computing environment, the client typically is assigned the task of presentation of the information and this is enhanced with a GUI. In addition to being client/server-based and having graphical user interfaces, the products covered by these reports are an interesting group in a very active segment of the library automation industry. When these systems were being tested, there were four fully-functioned integrated systems that could be scaled up or down for widely differing sizes of libraries. They are Contec C2, a New Zealand import; Horizon from Ameritech; Unicorn from SIRSI; and Voyager from Endeavor. These systems have been evaluated, not only on their graphical user interfaces, but also on their functionality using the same test procedures that the author has used on microcomputer-based systems, including the systems evaluated in Part 1 of this report.

January/February 1996

**“Graphical User Interfaces (GUI) in Library Products - Part 1, Microcomputer-based Integrated Systems@”**  
**by Joseph Matthews**

This report is presented in two parts. Part 1 contains a short essay on user interfaces along with a list of references and a glossary of terms followed by individual reports on seventeen microcomputer-based integrated library system products with graphical user interfaces (GUI). The twelve products which have graphical user interfaces for all existing modules are evaluated on their total functionality as well as their effective use of a GUI to improve ease of use. The five front-end or single-module products are evaluated primarily in terms of their GUI.

November/December 1995

**“Technical Services Functionality in Integrated Library Systems”**  
**By Richard W. Boss**

This issue explores the functionality of the technical services modules of online integrated multi-user library systems. The framework of this study comprises the technical services portion of the *LTR* Model RFP:

cataloging, acquisitions, serials control, and standards and interfaces, annotated for greater clarity. The responses of twenty-three U.S. and nine foreign library systems vendors are included in this report.

**September/October 1995    “Electronic Commerce in Library Acquisitions with a Survey of Bookseller and Subscription Agency Services”**  
*by David Barber*

Describes electronic commerce technologies as they have been applied to library needs. An overview of EDI implementations in the book and serials industries is included along with an extensive overview of how the Internet is affecting electronic commerce.