ISQ INFORMATION STANDARDS QUARTERLY

FALL 2009 | VOL 21 | ISSUE 4 | ISSN 1041-0031

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ISQ

FALL 2009 | VOL 21 | ISSUE 4 | ISSN 1041-0031

NISO
How the information world CONNECTS

INFORMATION STANDARDS QUARTERLY (ISQ) is a publication by the National Information Standards Organization (NISO). ISQ is NISO's print and electronic magazine for communicating standards-based technology and best practices in library, publishing, and information technology, particularly where these three areas overlap. ISQ reports on the progress of active developments and also on implementations, case studies, and best practices that show potentially replicable efforts.

NISO MANAGING DIRECTOR and ISQ PUBLISHER | Todd Carpenter
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CONNECT
TO HAVE AN IMPACT

WHY JOIN NISO

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As a NISO member, YOU shape the agenda.

Digital content is at the heart of your operations, so you want it organized, accessible, searchable, protected, and preserved. This is what NISO technical committees and working groups ensure. NISO employs a community approach to solve some of the most vexing issues in our community. As a voting member, you help determine the priorities of projects that NISO undertakes and ensure that consensus is reached on proposed standards.

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NISO enhances YOUR IMAGE in the community.

By crediting members who are integral to developing standards and best practices, highlighting members' expertise through webinars and forums, and providing writing opportunities in NISO publications, **NISO makes it clear that member organizations are leaders in our information community.**

Your organization needs to be a driver, not a follower, of information services and technology.

Our members are THERE. They contribute their VOICE. They make a DIFFERENCE.

Todd Carpenter

FROM THE PUBLISHER

Anniversaries provide us with the opportunity to reflect on where we are and what brought us here. History not only informs the present but also provides us with a guide for the future. In this seventieth anniversary year of NISO, we looked back in the previous three issues of *ISQ* at the major milestones in the organization's past. Closing out our anniversary year in this last issue of 2009, we now look forward with a vision for NISO's future.

We spent four years working through a strategic transition at NISO. Initially, we were focused on internal issues—mission, governance, staffing, and processes. In the past year and a half, we turned our attention outward. We are reaching out to other organizations in the community, collaborating on new projects, and proactively seeking input on where standards and recommended practices can best add value.

Our entire community is also going through a transition, as we are all, sometimes painfully, aware. Digital resources, multi-media, mobile technology, fiber-optic networks, Wi-Fi, and a technology-savvy user base are all coalescing to change libraries, publishing, and related services in ways we still can't fully imagine. The need for standards has never been greater and decisions we make on formats, identification, descriptive structures, rights management, interoperability, and preservation methods will reverberate for decades to come.

In addition to the vision for NISO, this issue of ISQ contains a feature article by Rajesh Chandrakar and Jagdish Arora on the changes in higher education in India, the world's second fastest growing developing country, and how Indian libraries are on a fast track to automate and integrate electronic resources to support those changes. The authors make it clear to us that the issues we face are international in scope and common to both developed and developing countries.

Several authors have contributed opinion pieces for the issue on technology and standards, providing us with much food for thought on ILS interoperability (Annette Bailey and Godmar Back), ERMS and workflow (Jeff Aipperspach and Leslie Lapham), and digitization (Jill Hurst-Wahl). Michael Giarlo shares with us the findings of a survey conducted by the institutional repository scenario subgroup of NISO's Institutional Identifier (I^2) Working Group. The survey results give us a picture of the needs and expectations for an institutional identifier in one of the three scenarios the I^2 group plans to address with this new and much-needed identifier. The four conference reports for Fall provide further evidence of the varied challenges that our community faces as well as the many innovative experiments and solutions that are underway.

I hope that you have enjoyed our anniversary celebration this year of NISO's past. It has been a great story—one that spans a tremendous number of transformative projects and an amazingly dedicated and influential cast of volunteers. Equally challenging and interesting work lies ahead and I hope all of you will join us in NISO's current and future work. I also encourage you to share your own efforts on this journey to the future with our ISQ readers. We certainly look forward to bringing you the many stories of how our community is leading the way.

Todd Carpenter | *NISO Managing Director and ISQ Publisher*

TODD CARPENTER

NISO CELEBRATES 70 YEARS

SPECIAL ANNIVERSARY EDITION: PART FOUR

The National Information Standards Organization turns 70 this year and its publication, *Information Standards Quarterly* (ISQ) has just passed its 20th birthday. In the first three issues of ISQ this year, we shared some milestones in NISO's history from the inception of Committee Z39 in 1939 through NISO's incorporation in 1982 to present day standards projects.

In this issue, NISO's Managing Director, Todd Carpenter provides a vision of NISO's future.

WHERE TO FROM **HERE**?

Trends Impacting NISO and its Reaction to an Environment in the Midst of Tremendous Change

There can be no question that over the past two decades we have seen the beginnings of the most radical transformation of the distribution of content since Gutenberg invented the printing press. While none of us can predict how it will all turn out and what revolutionary changes are still to come, this article will lay out some of the key trends that are impacting the structures, systems, and conventions of publishing and libraries and how NISO and it community are or need to respond to those trends. Our community will need to adapt its standards and best practices to the changes already underway and those yet to come and possibly even the definition of consensus. In the past four years, NISO has positioned itself to react more quickly to changes and respond to the community's needs. However, one thing is certain in this new environment: NISO is not the keeper of all of the answers or solutions and we must work together across a broad network of fields and expertise. Engagement from all the stakeholders in the process will be critical to advancing common goals. While NISO can provide a forum and structure, the vision and legwork must come from the ground up to be successful. In large part, this is because standards development without adoption is like a meal half-cooked. Groups can and have always formed to address their own issues or those of a small community, but in this increasingly interconnected world, best practices must extend to the broadest possible community to provide real value.

NISO was formed 70 years ago, just at the time when the Depression and the onset of World War II would set in place the economic structures, the political environment, and the scientific findings that would culminate in our modern technology era. Simultaneously, formal standardization was taking off. The successes of standardization in manufacturing at the turn of the century through the 1920s were beginning to be applied in a wide range of industries. Among them were the library and publishing communities. Seven decades later, the value of standardization is apparent to almost every player in the community. However, just as in the 1930s and 40s, many competing demands on resources and attention continue to present barriers to the consensus process of standardization.

In this article I will put forward a number of environmental changes that are impacting the creation, distribution, and management of content. These trends point to a number of issues the NISO community needs to address. The article will also outline some of the responses that NISO is making to successfully navigate these challenges.

TRENDS Affecting the NISO Community

Changing information environment realities

The Web has rapidly developed as the platform for distribution of digital information. This fact underpins much of the work that will be needed from the standards community in the coming decades. The transition taking place from analog, print-based distribution to digital, web-based is now so obvious that it hardly warrants significant discussion. Just as standards and best practices that are now taken for granted in the print world did not develop overnight, neither will consensus for digital standards come quickly and easily. In some ways, the rapid rate of technology change can make it even more difficult.

Increasing infrastructure speed, decreasing cost

In an era of rapid change, it is difficult to pick out which of the multitude of changes is most important. Few if any of us are prescient enough to know in advance which changes are just passing fads or which will be quickly supplanted by something even better. (Remember the Gopher protocol?) However, waiting until a change is mature leaves us with the unpleasant task of playing catch-up. Some of the changes we are confronted with are technological; some are social. On the technological side, Moore's law and its various corollaries about price and storage space describe the exponential rate of transformation of the technology we are using to distribute content, while simultaneously the costs for speed, space, and bandwidth are declining. What had once been tremendously expensive capital expenses have now become "too cheap to meter" in the words of Chris Anderson (*Wired Magazine*). This will increasingly diminish the barriers to entry—if, indeed, they are not already currently too low to matter—for people or firms who would choose to distribute content

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While none of us can predict how it will all turn it is possible to lay out some of the key trends of publishing and libraries and how NISO and

without a traditional publisher. It will also allow for greater application of intelligent linking and discovery technology. Increasingly, the ability to store and process tremendous amounts of data will impact the nature of research and results reporting. It should also open doors for new applications for communications, such as interactive platforms, multimedia, and other ideas that are yet to be developed.

These technology trends have also led to tremendous social impacts. The interaction people are having with online information distributors of all sorts is raising the expectation levels of most information consumers. When the platform of print was ubiquitous and within a narrow range of print quality, there was little meaningful difference in the user experience from one print item to the next. However, in our current environment, there are many more options for consuming information as well as a variety of user experiences. In fact, it is possible that the platform, display technology, or structure—even a site's design—could alter significantly the user experience. It is also possible in a digital environment that these production elements could prevent a user from even getting the content, let alone reading or experiencing it.

Increasing interactivity

The interactive nature of many digital information platforms is radically transforming communication of all sorts, including traditional publishing. People are coming to expect the opportunity to engage with authors, the community of other readers, or even the underlying data upon which conclusions are based. This interactivity removes some of the formality that has developed around publishing over the past several centuries and adds a category of content over which the publisher has no direct control.

It also raises significant challenges to the established publication and preservation systems. For example, many authors are publishing their thoughts and opinions on blogs or on Twitter. There is no established mechanism for preserving this writing to ensure long-term availability. In another example, while the lively exchange of electronic comments on a scholarly article can be a more timely and robust replacement of a journal's former letter exchange, there are questions on how these comment threads are incorporated into the traditional corpus of literature, or cited, referenced, and linked.

Some standard structures and best practices are already in place to address these challenges (such as the DOI system and the Internet Archive), but there will need to be many, many more before we return to anything approaching the stability of the print systems in place in the later decades of the 20th century.

Ubiquitous creation and distribution tools

Now that technological barriers to entry to publishing have been virtually eliminated, numerous tools are springing up to further enable almost anyone to create and distribute content. No longer does one need access to printing technologies or expertise in production, web systems, or marketing to create professional-looking media and distribute it broadly. It is easy now to publish one's own content online or to take someone else's content and re-publish it (often illegally) on another site, or to an institutional repository or to social publishing sites such as Scribd.com. This proliferation of distribution channels and the ease of their use are creating problems with technical problems of version control, referencing, and linking, not to mention the difficult intellectual issues of how users can judge credibility of content and how to define or re-define acceptable re-use. At what point, for example, does a mash-up change from a type of derivative work to something new and original?

This ubiquity of publishing by anyone and everyone is challenging traditional business models. Are the value-added services that traditional publishers provide valuable enough to the community for them to financially support the needed infrastructure? In a world where free content may be considered "good enough," will the best quality content that is not free be able to survive? Best practices on versions, authenticity, access, and distribution can help address some of these issues. Standards are also likely to develop around creation and distribution tools that will even further encourage content interchange. Business models acceptable to both the creators and the users of content, though, will require much more discussion and experimentation and may require something as innovative as Google's approach to online advertising.

Transition from ownership to leased access

The trends in digital publishing and distribution are permanently shifting commonly held notions of ownership. The publishing world has been moving for some time from an ownership structure to one that is based on subscriptions, leasing, and access fees. Even when users "purchase" an electronic file, they may not have the same ownership of the file as they did with the print version. This was clearly in evidence earlier this year when Amazon deleted files of George Orwell's *1984* using their Whispernet *delivery* service from the Kindles of the users who had purchased the e-book. Similarly, many cloud-based services which people use for publishing could be abandoned or have access denied at the whim of the provider, generally without any recourse from the contributors or users.

There are many important differences between an ownership and a lease model, and unfortunately most users

out and what revolutionary changes are still to come, that are impacting the structures, systems, and conventions its community are or need to respond to those trends.

don't fully understand or appreciate these distinctions until it is too late. Licenses can be very complex and the licensees have the further difficult responsibility of ensuring that end users abide by the license terms. There is far too much content from a vast number of publishers for each license to be negotiated by every licensee. NISO's Shared Electronic Resource Understanding (SERU) and EDItEUR's ONIX for Publication Licenses (ONIX-PL) are two recently developed standards that are addressing the issues of licensing and user communication of licenses, respectively. More work will need to be done before transactions for electronic content will be as simple as print acquisitions had been.

There are also inherent responsibilities that providers of leased access need to be aware of and plan for. Community consensus about the responsibilities for both sides of the sales process will help to avoid either the significant confusion that could arise or the inevitable legal negotiation before acquisition or litigation after access is removed.

Media convergence

There has been a rapid convergence of media formats in the past decade. The lines between audio, video, image, and text have blurred in the new technology environment of multimedia. While a mass market book might have had a hardcover, soft cover, audiobook, and perhaps a movie release, this was almost never the case for more technical monographs or journals. Just as the tools for creating digital text content have expanded beyond traditional publishers, so too have the tools for creation and distribution of other media types become ubiquitous. Authors can now easily create a podcast of their journal article content or include a video of a medical procedure with their article. Increasingly scholarship is published along with the underlying data set upon which the conclusions were based—data that may be in a variety of formats and data feeds. How this additional media is identified; tied together with other component pieces; and is collected, identified, distributed, and made available for re-use are critical areas for which the community needs greater attention and consensus on approaches.

Mobility

Users' preferred methods for engaging with digital content are increasingly mobile. According to a recent survey by the Brookings Institution, the percentage of cell phone users in the U.S. who have PDAs or smart phones as of February 2009 is 18.9%. Reading technology is changing rapidly and the sale of e-book readers is finally taking off after years of predictions. Information suppliers are recognizing the need to create content that is accessible on many different platforms and even user-transferrable from one platform to another. Realistically, suppliers cannot efficiently perform post-production file transformation for every piece of content that they produce for every conceivable distribution platform—especially when many of the mobile platforms are using proprietary applications. Building content from the outset with reuse and platform independence in mind will save money for publishers and improve the user experience in the long-term, but it will require new or expanded standards. A strategy for how an organization is going to capitalize on these distribution outlets is key to successfully transitioning production workflows and for managing the associated costs. Coalescing around a very limited number of standard file formats (if not a single format) will help decrease user frustration, file obsolescence, and migration costs.

Internationalization

Globalization is also having an impact on our activities. Just as other industries are impacted by the "flattening world," the information supply community has to address a more complex and increasingly international world. Authors and contributors are feeding content from every corner of the globe and a worldwide audience is consuming it. Collaboration and e-learning is taking place across vast distances and access to content needn't be tied to a geographical location or network any longer. Many institutions, including corporate, educational, and non-profit, span continents and cultures. Increasingly, the notion of national standards is becoming anachronistic in a global industry. NISO's engagement in international partnerships and various international forums is critical to our success and to the broadest adoption of NISO's work. Although NISO represents U.S. interests for the ISO information and documentation technical committee, it also contributes internationally as Secretariat for the Identification and Description Subcommittee that is responsible for the ISBN and ISSN standards among others. While not every project is suitable for international standardization, selecting the most appropriate venue and building worldwide adoption of consensus work can go a long way to engaging a worldwide audience for a NISO-initiated project.

The critical need for metadata

Across all media and all functions, the crux of managing information is metadata. Metadata is the lubricant for the identification, retrieval, distribution, and preservation of information. The NISO community has been working on

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the organization and classification of "information about information" long before the term metadata was coined. In the digital information environment, where content can easily be repurposed, repackaged, mixed, and matched, the descriptions and details about that content are critical to ensuring the information can flow easily. Metadata can drive the sales process, facilitate the discovery of electronic content via services like Google or Amazon or in libraries, ensure rights are understood, assist in long-term preservation, or provide the basis for various analyses such as use measurement.

Despite the number of related standards in existence, there is currently much inefficiency in the creation, sharing, and reuse of metadata.

It is important to understand the rationale that a segment of the community uses for the creation and management of metadata before undertaking transformation and reuses. As described in NISO and OCLC's white paper on *Streamlining Book Metadata Workflow*, one example is the increasing push to use publisher ONIX data for bibliographic purposes. While it could reduce duplicative effort in record creation, there are also potential problems with using sales information for cataloging purposes. As a neutral space where these different communities come together, NISO can help facilitate the creation of crosswalks and exchanges between different communities.

A number of efforts are underway to upgrade existing library cataloging standards for the digital world, expand existing metadata standards and models to address additional uses such as preservation, create crosswalks between different metadata standards, and provide greater interoperability between standards across communities, such as libraries and publishing and e-learning.

How NISO is REACTING to the Trends

Realistic expectations

Despite the perception of many that technology and electronic content can be adapted and transformed easily, this is not exactly true. Although expectations of the pace of change have been impacted by the speed of technological advances and the constant release of new innovations from Silicon Valley and other places, the reality is quite different. The infrastructure costs of purchasing new systems and converting the data, particularly large information management systems at publishers or libraries, are tremendous. So too are the associated costs of transitioning from an existing system to a new one—not only in money, but also in staff time, training, workflow changes, and opportunity costs. In part this is why, according to Marshall Breeding, the average age of a library automation system is eight years. These same issues play into the relative slow uptake for some technology standards.

Even when consensus is reached fairly quickly on a standard, such as NISO's SUSHI project, it can take providers months, sometimes years, to build the standard's functionality into their systems. NISO can help to encourage adoption through education and promotion among systems purchasers, who can push implementation through the RFP and purchase processes. It can also help to provide system providers with implementation help, encourage open source code availability, and provide training opportunities for developers. All of these are part of NISO's broad education initiative. New project working groups are now tasked with developing an outreach program and implementation materials for whatever standard or best practice they produce.

Lightweight projects

As NISO considers which projects to undertake, there is a need for lighter-weight solutions that help facilitate interactions between systems and can be implemented faster. Development speed is one aspect driving this, but another is the increasing acceptance of Service Oriented Architecture (SOA) as a model for software development. Suppliers are often building systems not around a fixed monolithic structure, but around a flexible and modular structure into which services can be added incrementally as needed. These new services can have quick development, testing, and release cycles.

Such solutions also allow NISO to avoid having to develop large and complex heavy-weight systems or standards, which are envisioned to do everything in every circumstance. The differences, for example, between the OpenURL standard and the Z39.50 standard in the development timeline, the complexity of the systems, and the distinct structures is compelling. The current economic environment reinforces the need for simpler systems and standards.

Expanding the community of engagement

NISO develops technical standards for the entire information supply community. As content is increasingly repurposed and combined in a variety of formats, it is critical that the standards that are developed within NISO apply—and be used—across the range of affected organizations. Publishers, libraries, system vendors, content aggregators, booksellers, and technology companies should all play a role in the development and adoption of NISO standards. In some ways this has always been the case: NISO metadata standards have broad application; technology companies are incorporating NISO accessibility standards; library systems have long relied on NISO standards for their interactions; and content providers are utilizing a range of preservation and identification practices that NISO helps to support.

Partnerships

As has been noted, there is a need for NISO's work to engage across a broad spectrum of organizations and media. Presently, NISO is not as broadly representative of the range of affected stakeholders as it needs to be to extend its work across the entire community. In many ways, the work of NISO needs to take place in partnership with groups like the UK Serials Group, EDItEUR, the Book Industry Study Group, the International Digital Publishers Forum, the Council on Library and Information Resources, ARMA International, the Association of American Publishers, OCLC, the RIAA, the MPAA, and a host of others. Our community has a long history of working together to achieve common goals and such collaboration must be an important hallmark of NISO's work.

The FUTURE for NISO

In order for the transformations related to the exchange, delivery, and management of information to be successful, they need to be done effectively, cost-efficiently, and based on common standards. As the ANSI-accredited standards developer for systems, products, and services related to libraries, bibliographic and information services, and publishing, NISO is uniquely positioned to push forward solutions to information access and distribution. Through a variety of channels, nationally and internationally, we can impact the future of publishing and libraries.

One thing that we can absolutely be certain of is that the trends identified in this article will not slow down anytime in the near future. Their impact is only just beginning to be felt and the ramifications of these trends are still being realized. The work NISO has done to put in place a more effective infrastructure to develop, review, and monitor work will go a long way to making us more responsive to the changes underway and those yet to come. Adding to the standards portfolio such lower level consensus documents as draft standards for trial use, recommended practices, and technical reports allows NISO to provide guidance when formal standardization is not a viable development path.

Certainly, there is far more taking place in our community than could be covered in this article and issues such as accessibility, preservation, business processes, assessment, and item management will also play a role in NISO's portfolio of future work. Additionally, there will be new developments in areas such as e-books, which are only now gaining wider adoption, or research data, which are just beginning to be addressed, that will require NISO's attention in the near future. NISO will continue to scan the horizon of information management and distribution to help efficiently integrate those new forms into the existing distribution infrastructure. | FE | 10.3789/isqv21n4.200902

RELEVANT LINKS

Brookings Institution Survey on Mobile Communications
www.brookings.edu/papers/2009/09_mobile_west.aspx

DOI System
www.doi.org

Internet Archive
www.archive.org

Kindle's Orwellian Moment (WSJ Blogs)
blogs.wsj.com/digits/2009/07/17/an-orwellian-moment-for-amazons-kindle/

Moving Libraries to a Web Services Environment (Against the Grain Standards Column)
www.against-the-grain.com/2009/07/v-21-3-standards-column/

ONIX for Publications Licenses (ONIX-PL)
www.editeur.org/21/ONIX-PL/

Shared Electronic Resources Understanding (SERU)
www.niso.org/workrooms/seru

Standardized Usage Statistics Harvesting Initiative (SUSHI)
www.niso.org/workrooms/sushi

Streamlining Book Metadata Workflow
www.niso.org/publications/white_papers/

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LIBRARY

Introduction

Success of higher education depends on the presence of a well developed library system that is easily accessible from every department in the college/university. The academic library provides a number of effective and powerful user services to students, faculty, and research scholars. Thus library automation, which directly impacts the provision of library services, is indirectly connected with the higher education system.

India has a long history of higher education and libraries, which started very early with the Gurukul educational system when a huge university was set up at Takshashila (now in Pakistan called Taxila) in the sixth century BC. Nalanda and Vikramshila were established in the fourth and fifth centuries AD, respectively.[1] The Nalanda University had a huge library equivalent to a nine story building with hundreds of thousands of volumes in the collections.[1,2] Science, astronomy, medicine, logic, philosophy, Buddhism, Hinduism, and literature were the main subjects of study in these universities.[1] The Sirpur (ancient name Sripur) was another place of learning in ancient India but has until

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RAJESH CHANDRAKAR AND JAGDISH ARORA

recently had very scarce representation in Indian history.[3,4,5] In November 2000, after Chhattisgarh became a separate state of India, the state government conducted a number of excavations in the region that revealed that the Sirpur was India's oldest and biggest ancient seat of learning—far bigger than Nalanda. This 1500 years old Buddhist/Shaivite city of 4th century AD was complete with a palace, temples, houses, and a Buddhist educational center that was big enough to accommodate 10,000 students with 100 monasteries of the Mahayana sect of Buddhism. It also had four Jain monasteries and 108 Shiva temples spread over 25 sq km and is almost four times bigger than Nalanda.[5,6]

The present higher education system in India has built on this ancient tradition to become the second largest in the world and is perhaps the most complex in terms of the geographical areas covered and the linguistic, social, cultural, and economic background. The British started the modern higher education system in India in the mid-1850s with the three universities at Bombay, Calcutta, and Madras, which grew to 20 universities and 500 colleges by 1947.[1,2] The modern higher education system has expanded significantly during the past six decades since India gained independence from the British in 1947.[2] India by 2008 had 413 universities and 20,677 colleges, of which 251 are state universities, 24 are central universities, 100 are "deemed" universities, 5 institutions were established under State Legislation, and 33 are institutes of national importance established by Act of Parliament.[1] (Deemed universities do not offer degrees themselves, but are affiliated to larger universities for awarding degrees.) The Federal government has decided to further establish 30 central universities (16 new universities and 14 existing that will be upgraded as central universities), four Indian Institutes of Technology (IIT), and six Indian Institutes of Management (IIM) during the Eleventh Five Year Plan (2007-2012).[7] The work in this area has begun already with some of the existing state funded universities converted into central universities and new IITs are underway. On August 27, 2009, the Cabinet approved the establishment of seven new IIMs. According to the report, these new IIMs will be set up in 2009–10 and will become functional for the academic session of 2010–2011.[8]

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Most popular library automation systems in use in India today:

- SOUL (INFLIBNET Centre, Ahmedabad, India)
- LibSys (Libsys Corporation, India)
- Slim (Algorhythms Consultants Pvt. Ltd., India)
- Nirmals (Nirmal Institute of Computer, India)
- Autolib (developed by MC2 System)
- NewGenLib (Verus Software Pvt. Limited, KIIKM, Secunderabad, India)
- TLMS (TRANCE, Germany)
- Librarian (CR2, India Group)
- VTLS Virtua (VTLS Inc, USA)
- Alice for Windows (Softlink International, Australia)
- Koha (The LibLime and Koha Development Team)
- SUCHIKA (DESIDOC)
- TRISHNA (NISTADS, New Delhi, India)
- Troodon (Comtek Services Pvt. Ltd, Delhi, India)
- TechLib Plus (Information Dimensions Inc., USA)
- In-house developed software

Sources: Mukhopadhyay[10] and Basavanyappa[11]

Library Automation in India

The libraries within the higher education system vary as much as the institutions they are associated with in geography, size, culture, and language, and have implemented automation at varying times and degrees based on the availability of funds, manpower, and infrastructure. Library automation in India became a major topic of discussion during the 1990s. At that time, CDS/ISIS (UNESCO developed bibliographic database management software), dBase, and FoxPro database management software were the main products in use for retrospective conversion of library catalogs in the initial stage of automation. The print catalogs and accession registers were the typical sources for retrospective conversion. Later, many libraries began replacing their card catalogs with Online Public Access Catalogs (OPACs). The success of the OPAC with library users provided momentum for many software vendors to develop library automation software using the dBase and FoxPro database management systems, which most of the libraries were using for their print catalogs. CATMAN (developed by INSDOC), CDS/ISIS (developed by UNESCO), Librarian, LibSys, Maitrayee (developed by DESIDOC), MECSYS, Nirmals (developed by Nirmal Institute of Computer), Sanjay (developed by DESIDOC under NISSAT Project), Tulips, and Wilisys were the 10 most popular library management systems in India in the early '90s.[9] Some of the libraries used the ISODB3 utility, which converts bibliographic records created using the UNESCO CDS/ISIS software into dBase or FoxPro. A number of other library management systems, e.g., MINISIS, Sanjay, and Trishna, were also developed based on CDS/ISIS bibliographic records.

As Windows and Linux operating systems grew in use, newer library management software with graphical user interfaces was developed. Mukhopadhyay[10] has written about some 33 different library management software applications being used in Indian libraries and Basavanyappa[11] describes 11 applications in 115 Indian university libraries (see sidebar). Currently SOUL is the most highly used library management software followed by LibSys and Slim. Many libraries are shifting towards the use of open source software, such as Koha and NewGenLib, if they have the requisite computer-skilled manpower in the library.

The impact of library automation can mostly be seen in central universities, deemed universities, institutions of national importance, and institutes established by the State Legislation, as they are well funded and include funding for their libraries. Most of these libraries have gone beyond their initial automation and are implementing new information and communications technology for library 2.0 services such as virtual reference, interactive WebOPAC, web forms for questions and comments, and other web-based user services.

Where library automation is a problem is in the state funded universities and colleges located in the rural areas. INFLIBNET (see below) has observed in their visits to various universities and colleges across the country that only 35% of the state-funded universities and colleges—those located in urban areas—seem to have caught the automation "bus." We've noted that many libraries, especially in the colleges in the rural areas and in public libraries, have yet to see a computer. But the academic libraries in the metropolitan cities (Delhi, Mumbai, Kolkata, and Chennai) and other IT-impacted major cities such as Ahmedabad, Bangalore, Chandigarh, Hyderabad, Noida, and Pune are 90–100% automated.

DATABASES	NUMBER OF RECORDS	PARTICIPATING UNIVERSITIES
Books	11,337,463	119
Current Serials	22,471	201
Serials Holdings	57,523	112
Theses	214,898	238
Research Project	13,427	–
Subject Experts	18,828	–
NISSAT	24,137	–

TABLE 1: INFLIBNET Union Databases Holdings

Recently, the INFLIBNET Centre conducted a survey of 353 colleges (256 autonomous and 97 Colleges for Potential with Excellence (CPE)) prior to providing them with e-resources under the joint project of UGC-Infonet Digital Library Consortium and INDEST-AICTE (funded by the Ministry of Human Resource Development, Government of India under the National Mission on Education through ICT named N-LIST). The Centre received responses from 172 colleges and found that 27% (47 colleges) do not have Internet connectivity and, of those who do, 37% (63 colleges) have Internet bandwidth of only 64 Kbps to 512 Kbps; the rest of the colleges, about 36%, have 1 to 2+ Mbps bandwidth. Four colleges either do not have computers or have less than 10 computers. With respect to library management software, the survey showed that the INFLIBNET-developed SOUL software is being used in 30 colleges, and 51 colleges are using either "self-developed" software or the software is "not-known" to the respondents. Autolib, Nirmals, Slim, NewGenLib, Libsys, and Easylib were other software packages in use in 5 to 11 colleges in descending order, whereas 20 colleges have not introduced any library management software in their libraries. These latter libraries likely have no computer.

INFLIBNET's Initiative in Library Automation

The INFLIBNET Centre in Ahmedabad is mandated to promote and establish communication facilities through cooperation and involvement of academic libraries for transfer and access of scholarship, learning, research, and resources pertaining to academic pursuit.[12] The Centre, since its inception in 1991, has been helping universities and colleges in library automation and networking for sharing of library resources. Through May 1996, INFLIBNET was a project; since then it has been an autonomous inter-university Centre of the UGC (University Grants Commission). By the financial year 2000-2001, the Centre was providing funding to 142 universities for different phases of information technology infrastructure implementation and training on library automation and networking. Each university was funded with Rs. 6.5 lakhs (~$13,500 US) for purchasing the essential hardware and software for library automation and networking.[12] After training, the universities were also supported financially for five years for the salaries of the data entry operators and an Information Scientist who created electronic bibliographic records of the existing library collections. More than 65 universities were provided with core facilities grants of Rs. 1 lakh (~$2,083 US).[12] Recently, the UGC has approved funding for the remaining 29 universities. Table 1 summarizes the outcomes of the initiative.

The books, serials, and theses databases are included in IndCat, an online union catalog of Indian academic libraries. The databases are available for open access by end users through the INFLIBNET website. The book portion of the database has a free download facility for copy cataloging compliant with ISO 2709 and MARC 21 formats.

The Centre established a nationwide Very Small Aperture Terminal (VSAT) based network in December 2002, named UGC-Infonet, in collaboration with the Internet Service Provider ERNET (Education and Research Network) India and offering bandwidth from 256 Kbps to 2 Mbps depending on the location of universities and technical feasibility.[13]

SOUL 2.0 Library Automation Software

SOUL, Software for University Libraries, is integrated library management software developed by INFLIBNET Centre for the automation of Indian academic libraries. The first version of the software was released in February 2000 and various utilities and updates were released through 2007. The Centre then decided to create a new version of SOUL, incorporating many technology changes, and released SOUL 2.0 in January 2009, which contains six modules—acquisition, catalogue, circulation, OPAC, serial control, and administration.[14] Over 1765 libraries across India are now using SOUL (see Figure 1). The software features multi-lingual cataloging, RFID support, NCIP protocol support, copy cataloging in MARC 21 format, and the ability to send reports and letters through e-mail, save to a PDF file, or export to MARCXML format.[15] The software is available for minimal charge: the

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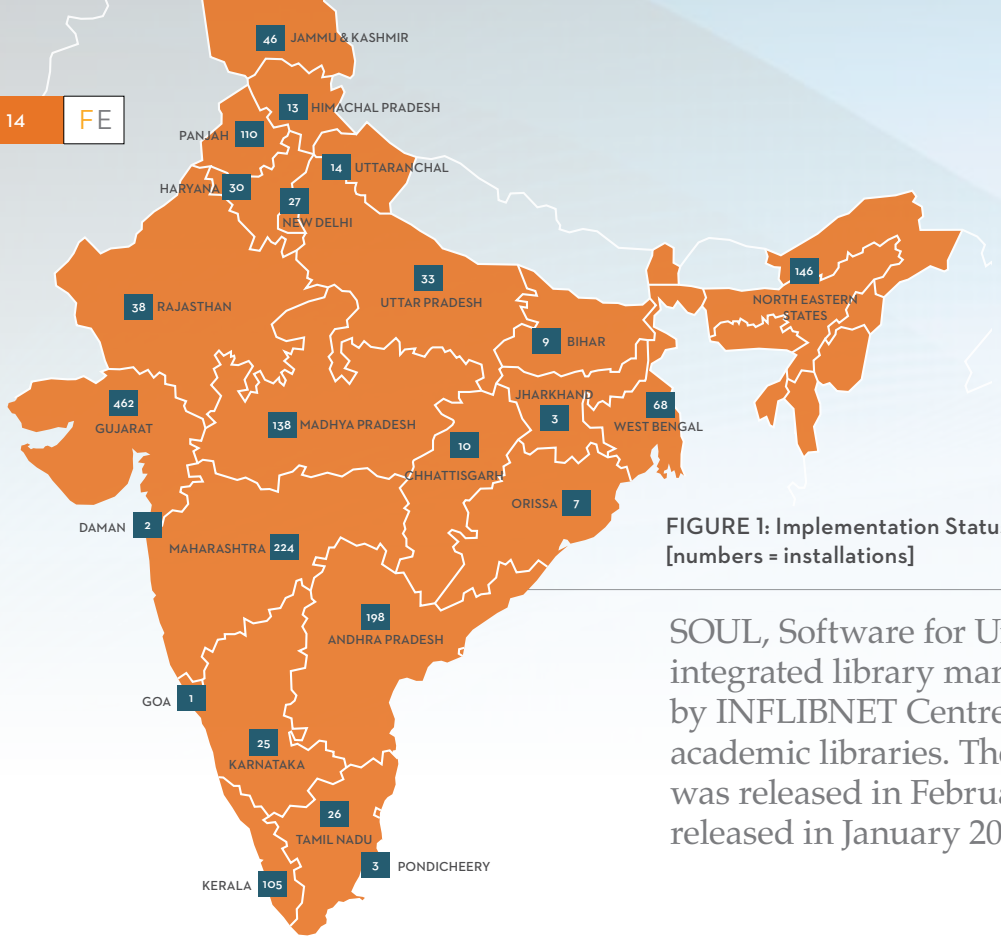

FIGURE 1: Implementation Status of the SOUL Software as of March 2009 [numbers = installations]

SOUL, Software for University Libraries, is integrated library management software developed by INFLIBNET Centre for the automation of Indian academic libraries. The first version of the software was released in February 2000 and SOUL 2.0 was released in January 2009.

CONTINUED »

network version costs Indian Rupees 80,000 (~$1,667 US) and the college / single version is available for Indian Rupees 30,000 (~$625 US), with an additional annual maintenance fee.[16] Some of the state governments have acquired SOUL software for their funded colleges, and colleges in the northeastern states and Jammu and Kashmir were given SOUL free of charge by directive of the Prime Minister.[17] Customer support is available through dedicated telephone line, an online user forum, online chat on the INFLIBNET website, six regional-level SOUL coordinators, and a dedicated SOUL support team at the Centre during weekday working hours.[18]

Digital Library Consortium

Libraries in India, like much of the world, are experiencing a "serials crisis" from the continuing rise in the cost of journals, an increase in the number of journals, and the paucity of funds available to the libraries. To address this crisis, the UGC and INFLIBNET established the UGC-Infonet Digital Library Consortium in 2003 with trial access to a bundle of electronic journals from different publishers.[19] The Consortium provides current as well as archival access to more than 5,000 core and peer-reviewed journals and nine bibliographic databases from 23 different publishers (commercial publishers, scholarly societies, university presses, and aggregators of different disciplines). At present, 157 universities out of 171 that come under the purview of UGC have been provided access to various subscribed e-resources.[20] E-resources accessible to individual universities can be identified through the UGC-Infonet Digital Library Consortium website. The consortium is fully funded by the UGC and executed by the INFLIBNET Centre.

N-LIST Project to Expand E-Resource Access

The National Library and Information Services Infrastructure for Scholarly Content (N-LIST) is a joint project of the UGC-Infonet Digital Library Consortium and the INDEST-AICTE Consortium, based at IIT Delhi and funded by the Ministry of Human Resources Development (MHRD). Under the project, a National Library and Information Services Infrastructure will be built around Central Universities, IITs, and India Institutes of Science (IISc). These institutions will serve as a nucleus for more than 6,000 government colleges and R&D institutions for the e-resources which will be made available through the INDEST-AICTE and UGC-Infonet Digital Library Consortia. The INFLIBNET Centre under UGC-Infonet Digital Library Consortium will subscribe to an additional 30 sets of 15 e-resources for 6,000 colleges.[21] The access to these resources will be provided based on access authentication methods such as IP filtering and passwords. The process of identifying the participating colleges is underway.[21]

National Knowledge Commission

The National Knowledge Commission (NKC) is a high-level advisory body to the Prime Minister of India, with the objective of transforming India into a knowledge society. The NKC in its three and a half years has submitted 300 recommendations on 27 focus area, one of which is the library.[22] The promotion of information and communication technology (ICT) infrastructure into libraries is one of the 10 recommendations of the NKC on Libraries. Setting up a National Commission on Libraries is the major

recommendation. Also included is the recommendation for the libraries' catalogs to be placed on local, state, and national websites with proper linkage. Networking of these libraries through gigabits of bandwidth and national repositories of bibliographic records with virtual enquiry handling systems should also be established.[23]

Summary

Initially, library automation in India started with the retrospective conversion of their library collections by using print catalogs and accession registers. Later, libraries started replacing the print catalog with OPACs, with many libraries maintaining both print and OPAC due to concerns about technology and power failure issues. The management of the educational institutes have begun realizing the importance of the library and are allotting greater support for computers and automation software. The reform in the education sector taking place, especially in higher education, is helping libraries and also professionals at large with employment benefits.

The INFLIBNET Centre has played a major role in developing the IT culture in libraries across the country. Funding from INFLIBNET for library computing infrastructure made a substantial impact in the community. The training programs conducted for library and computer professionals were milestones and were instrumental in advancing library automation. The user friendly SOUL software, available at minimal charge, is helping many libraries with low budgets to automate. End user access to e-resources is further enhancing the information and computing technology culture in the academic community among students, research scholars, and faculty. Additional government funded programs should assist in continued automation, additional e-resources, and greater access by academic users and the public. | FE | doi: 10.3789/isqv21n4.200901

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RELEVANT LINKS

Bibliographic Union Databases
www.inflibnet.ac.in/service/bibliographic.html

INDEST AICTE Consortium website
paniit.iitd.ac.in/indest/

INFLIBNET Centre
www.inflibnet.ac.in

N-List Project
www.inflibnet.ac.in/n-list

SOUL software website
www.inflibnet.ac.in/soul/

UGC-Infonet Connectivity Programme
www.inflibnet.ac.in/UGC-InfoNet/

UGC-Infonet Digital Library Consortium website
www.inflibnet.ac.in/econ/

CORE

CORE (COST OF RESOURCE EXCHANGE) DRAFT STANDARD FOR TRIAL USE (DSFTU)

ONE YEAR TRIAL USE UNDERWAY

We need
YOUR HELP!

To ensure that the standard is effective, easily implementable, and functional, the CORE Working Group is looking for trial participants who will be asked to implement the CORE protocol in their own organization (or with another trial implementer), participate in a discussion list during the trial to share experiences, and provide feedback on any needed changes to the protocol prior to final issuance of the standard. The Working Group will be available during the trial to provide guidance and answer questions. Please visit www.niso.org/contact to indicate your interest and provide contact information.

TRIAL USE DOCUMENT PUBLISHED

Trial Period From April 1, 2009 – March 31, 2010

The purpose of the Cost of Resource Exchange (CORE) specification is to facilitate the transfer of cost and related financial information from one system to another. This transfer may be from an Integrated Library System (ILS) Acquisitions module (the data source) to an Electronic Resource Management System (ERMS) (the data recipient), both belonging to the same library; from a book or serials vendor to the library's ERMS; or it may be a transfer of cost and transaction data among members of a consortium.

Using the defined CORE XML data schema, this standard provides a common method of requesting cost-related information for a specific electronic resource, a set of resources, or all resources that the library owns, within the boundaries of a subscription period.

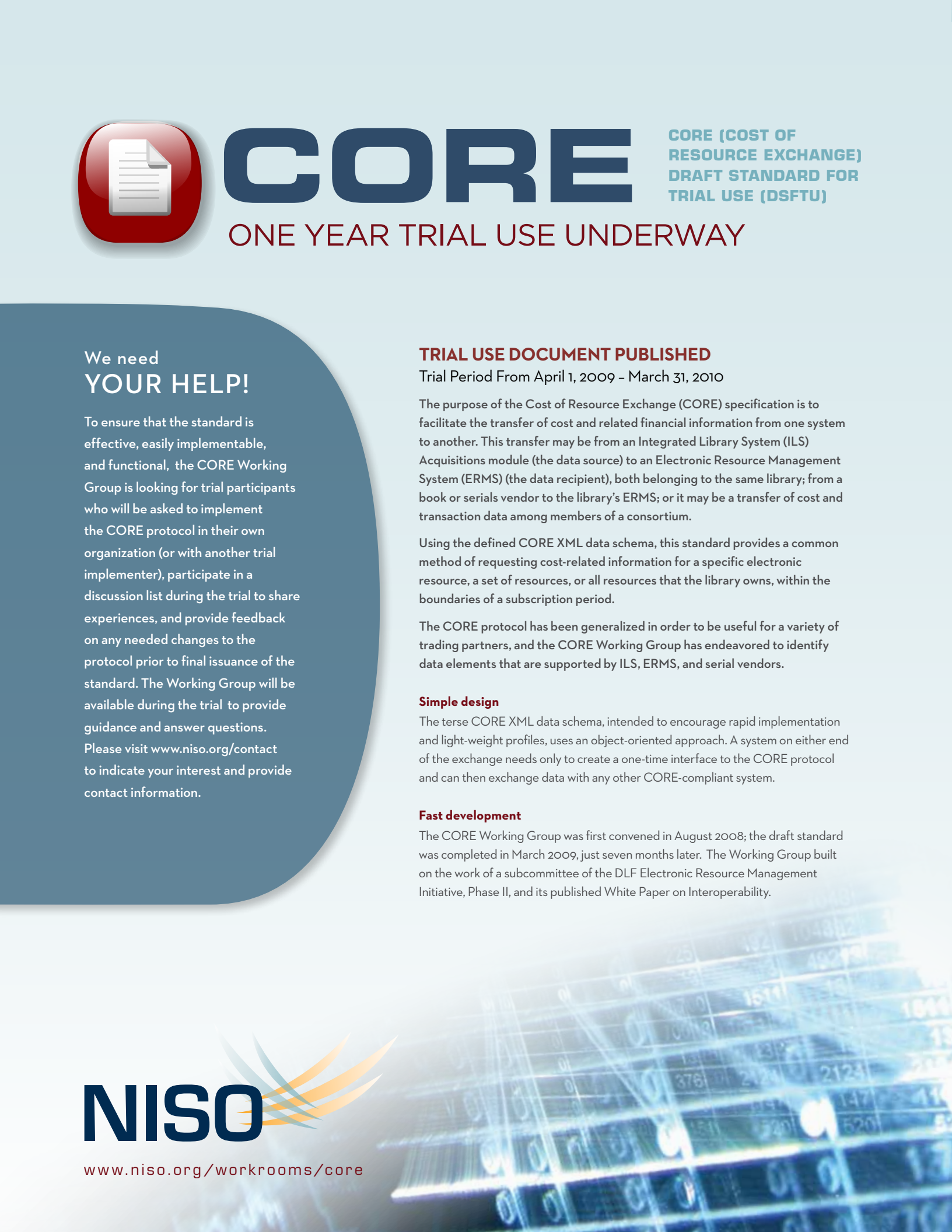
The CORE protocol has been generalized in order to be useful for a variety of trading partners, and the CORE Working Group has endeavored to identify data elements that are supported by ILS, ERMS, and serial vendors.

Simple design

The terse CORE XML data schema, intended to encourage rapid implementation and light-weight profiles, uses an object-oriented approach. A system on either end of the exchange needs only to create a one-time interface to the CORE protocol and can then exchange data with any other CORE-compliant system.

Fast development

The CORE Working Group was first convened in August 2008; the draft standard was completed in March 2009, just seven months later. The Working Group built on the work of a subcommittee of the DLF Electronic Resource Management Initiative, Phase II, and its published White Paper on Interoperability.



NISO

www.niso.org/workrooms/core

OP [OPINION]

A judgment formed about something;
a personal view, attitude, or appraisal

Annette Bailey

Godmar Back

ANNETTE BAILEY & GODMAR BACK

Rating ILS Interoperability: A Proposal

As the creators of the LibX browser plug-in and other Open Source software used in the library world, we would like to share our perspective on the current state of libraries' ability to integrate their ILS with Open Source software. We focus on three aspects: Open Source software that links library users to resources, Open Source software that integrates data from a library ILS in web pages, and software that enhances the user experience of a library's OPAC.

Linking Users To Library Resources

LibX is a Firefox and Internet Explorer browser plug-in that includes a toolbar and right-context menu, and embeds links to library resources into web pages a user visits. The LibX Edition Builder interface is a web application that allows librarians to create and maintain their own customized versions of LibX, which are called LibX editions. Most librarians configure their LibX edition so users have the ability to search their local OPAC from the toolbar or context menu. To support the many various catalog types that libraries are using, we have had to reverse engineer, often with little or no documentation, the correct syntax to formulate HTTP requests to query each OPAC. Moreover, we had to identify site-specific settings and provide edition maintainers with the necessary support for configuring these settings in the LibX Edition Builder. To accomplish this, we are using a sophisticated combination of server fingerprinting, form scraping, and other heuristics to help librarians set up their OPAC for use in LibX. This process has taken programming as well as librarian time that could have been better used for developing new services to incorporate into the LibX plug-in. By contrast, setting up an OpenURL resolver in LibX requires minimal configuration and implementation effort, due to the use of the NISO Z39.88 standard, which specifies context objects and transport protocols.

The web landscape has changed drastically in the last few years as the use of widgets and mash-ups that mix and mash information from various sources into webpages has become popular.

Processing ILS Data for Display in Webpages

The web landscape has changed drastically in the last few years as the use of widgets and mash-ups that mix and mash information from various sources into webpages has become popular. Librarians, not wanting to be sidelined, are now integrating the information maintained in their ILSs in other web contexts. The MAJAX project provides a web service and set of widgets so that customers of the Innovative Interface's Millennium system can scrape bibliographic records and holdings and easily mash the information into other web pages. MAJAX and similar systems that interact with this ILS rely on screen scraping, which is a fragile and system-specific technique that requires reverse-engineering the HTML display produced by the ILS.

Several vendors as well as Open Source ILS provide emerging solutions, such as internal APIs, that avoid the need to screen-scrape. However, these are system-specific, which requires that software for library mash-ups implement support for each individual system—a time-consuming process. Moreover, often these APIs are either limited to internal use or require non-disclosure agreements, or both, which stifles the creativity of Open Source developers and their ability to provide solutions that work with all ILS without requiring site-specific accommodations.

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SUSHI READY

ANSI/NISO Z39.93-2007
THE STANDARDIZED USAGE STATISTICS HARVESTING INITIATIVE (SUSHI) PROTOCOL

Easy Access to COUNTER Reports

SUSHI is a protocol that can be used by electronic resource management (ERM) and other systems to automate the transport of COUNTER formatted usage statistics. It can also be used to retrieve non-COUNTER reports that meet the specified requirements for retrieval by SUSHI.

Standard, Schema, WSDL...

The SUSHI standard is the high-level framework in which the SUSHI Schema, SUSHI WSDL, and COUNTER reports operate. The SUSHI WSDL describes how the client and server sides of the web services transaction will interoperate. The schema describes the XML that is used to perform the SUSHI operation. A COUNTER XML report is the actual payload of the transaction.

Available Schemas

Three supporting XML schemas are posted on the NISO website: two SUSHI schemas which are basically retrieval envelopes for the XML-formatted COUNTER report, and a COUNTER reports schema, which in turn creates an XML-formatted version of the requested report.

SUPPORT FOR IMPLEMENTATION

Schemas and Greatly Improved Supporting Materials
NOW AVAILABLE to Assist Adoption

The NISO SUSHI Standing Advisory Committee announced in November 2008 the approval and final release of SUSHI schemas (and related files) providing full support of Release 3 of the COUNTER *Code of Practice for Journals and Databases*. Notable in this latest release of the COUNTER *Code of Practice* is the requirement that content providers implement SUSHI as a means of delivering their reports (deadline: August 2009).

With the schemas now finalized, content providers can be confident about setting their development agendas for implementing SUSHI. In addition, you can now find on the SUSHI website:

- ✓ Clear graphical representations of the schemas.
- ✓ FAQs that are being updated and include sections specifically for librarians and for developers.
- ✓ And even more support documents, presentation materials, and other resources.

NISO

www.niso.org/workrooms/sushi

CONTINUED »

Enhancing the Library OPAC

Libraries focus a fair amount of attention on improving and enriching the interface to their catalogs by adding information from various sources and web services. Currently, such integration is awkward at best, relying on such techniques as direct page manipulation using JavaScript, which is system-specific and often not easily reusable across sites. A set of standards for extending OPACs would greatly facilitate the development of Open Source software that could be shared across OPACs.

We believe the library community should agree on what functionality all ILS vendors should provide to interoperate with Open Source systems and on standards that implement that functionality. Wide adoption is critical, much as the OpenURL standard (NISO Z39.88) has been adopted. Such standards need to include not only functional specifications, but concrete specifications of transports that fully define both request and response syntaxes. To facilitate integration in web pages, these interfaces should be openly accessible using the HTTP protocol and exploit both XML and JSON forms.

A Proposed Rating System for ILS

To allow ILS customers to gauge the degree of interoperability of their ILS, we propose a rating system for vendor products with zero stars being the least desirable and four stars being the best:

A **zero** star system is completely closed and provides no interface beyond the OPAC or internal, back-end client.

★ A **one** star system documents the request, or "deep-linking", syntax for searches. Alternatively, it provides an internal API so that customers can implement a proxy for deep-linking access.

★★ A **two** star system provides unrestricted, outward-facing, read-only web services or APIs with documented request syntax for at least records, holdings, and availability. A two star system should also document how to extend the OPAC's user interface.

★★★ A **three** star system uses request and response syntaxes that follow standards that have been adopted by more than one vendor. A three star system also has an OPAC front-end that can be extended using a standard interface not specific to the vendor.

★★★★ A **four** star system provides full read-write access to all ILS functionality, allowing free integration with mash-ups, third-party front ends, or discovery interfaces.

Most current systems earn one star, a few existing systems would meet the definition for two. When talking to ILS vendors, librarians should ask them about their philosophy about documenting and extending their systems and letting them interoperate with Open Source and other systems. Where does your vendor's system fit in when it comes to integrating its information and services into the biosphere of today's web?

| OP | doi: 10.3789/isqv21n4.200903

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RELEVANT LINKS

LibX
libx.org/

MAJAX project
libx.org/majax/

OpenURL (ANSI/NISO Z39.88) standard
www.niso.org/standards/z39-88-2004/

Jeff Aipperspach

JEFF AIPPERSPACH

ERMS, Workflow, and Standards: A Product Development View

The Digital Library Federation Electronic Resource Management Initiative (DLF ERMI) was a successful guide to commercial and private vendors and provided guidance in suggested resource management areas to address when designing an Electronic Resource Management System (ERMS).

One of the problems, however, of ERMI not being a true standard is that vendor interpretation can result in non-standard data elements and their definitions and ultimately in tools that cannot easily communicate with each other.

One of the reasons for those differences is that many ERMS were designed with the workflow of print resources as the foundation of development or at least it has provided a major influence on the design thinking for most ERMS. The workflow for e-resources, however, can be quite different.

Over the next few years, vendor support of services will lead to an evolution of existing services and the development of new tools and software to address the varied workflows among libraries and for different types of resources. We will see new flexibility in working with the "data" associated with e-resources, not just the resources. These data elements are critical to the resource lifecycle; examples include the underlying knowledgebase—which is the most critical element—as well as licenses, contacts associated with the resources, information around the lifecycle of a resource (trials, license restrictions enforcement, resource unavailability, etc.), and management of related information and systems (business systems, RSS feeds, ILL systems, etc.).

The next several years will also bring new flexibility in the creation and maintenance of the knowledgebase. A solid, authoritative knowledgebase is critical to the workflow and management of e-resources. Patrons and researchers require tools to get to the content and if the data in the knowledgebase powering those tools is not correct or current, researchers will become frustrated when access to content is not available and librarians will become frustrated at the amount of time required to maintain the knowledgebase, especially if multiple knowledgebases require updating to support management and discovery services.

What are some of the future trends that organizations will see in the near future?

- Data driven systems – Information related to the resource must be actionable.
- Modularity – Different functionality for different libraries; one size does not fit all.
- Flexibility – Customization of the workflow will support personnel and organizational interaction with the ERMS.
- Standards adoption – Implementation of existing standards (ONIX-PL, CORE) as well as new developing standards.

New solutions are required. There are solid solutions currently available in the market. Products are maturing and customers (librarians) are better understanding their needs in managing e-resources. They are also becoming more involved with standards organizations like NISO and the initiatives required to guide vendors in continuing to build out and develop these systems.

Consortia are gaining influence in the procurement and management of e-resources. They see the importance of being able to easily manage and share objects and information with members seamlessly. Consortia desire interoperability with outside business systems and ERMS. The data belongs to the library and vendors will be required to provide easy and complete access to and use of the data by the owner of the data.

| OP | doi: 10.3789/isqv21n4.200904

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AND WORKFLOW: TWO VIEWS FROM THE TRENCHES

Leslie Lapham

LESLIE LAPHAM

ERMS and Workflow Analysis: An Implementation View

Successful Electronic Resource Management System (ERMS) implementations require a library to examine its workflows along with the information it needs to track before creating a plan to meet its goals.

One of the challenges of ERMS implementation is that each library workflow is localized, and each library must examine its particular situation and identify how its work can best be supported by an ERMS. The ERMS is not a "magic bullet" that will solve all information management problems; it is a powerful tool that will allow a library to address challenges not met by current systems. A library must take a holistic look at its workflow and determine the best use of all its systems and resources.

During the purchase and implementation process, a library should conduct a needs assessment that includes input from all stakeholders who rely on metadata about electronic resources—from the staff who will be viewing and editing information in the system daily, to those who will rarely log in to the system or who will rely on ERMS information passed to another system. A library should also examine current policies, procedures, and workflow to determine areas for change—both to accommodate the new ERMS and to maximize existing resources. Once an ERMS is purchased, the implementation team should look at the entire e-resource management workflow and determine how the ERMS will fit with other systems, such as the ILS, library website, or services from a consortium. The proposed workflow should outline the steps of e-resource management, where information is stored, and how it is entered or updated in the ERMS. This workflow plan not only outlines specific staff tasks and responsibilities, but provides an overview of the process and a means to determine the best way to obtain a particular piece of information.

The implementation team should also make a plan for migrating existing data into the system. This may be a true migration from one system to another, such as holdings information; or it may involve information that needs to be collected, organized, or coded, such as information in email, notebooks, files, or staff memory. Data migration may need to be prioritized, with data being added over time in order of priority or readiness. Once the workflow and data migration plans have been made, a library should set dates for the new workflow to be adopted. ERMS implementation is a large task, and the library must determine which parts of the system will be most valuable and implement those first; priorities could be a part of the workflow (e.g., trials) or a type of information (e.g., licenses).

ERMS implementations and ERM workflows need to accommodate change. The workflow plan should not be seen as final, but as an organic document that can be modified as needed. Internal changes in staff and systems, as well as external changes such as new systems and information standards, require a library to assess its current needs and to update the workflow after the initial implementation.

| OP | doi: 10.3789/isqv21n4.200905

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RELEVANT LINKS

Library Workflow Redesign: Six Case Studies
www.clir.org/pubs/reports/pub139/pub139.pdf

Task-Based Strategic Planning: Changing Libraries Through Workflow Analysis
www.r2consulting.org/pdfs/Task-Based%20Strategic%20Planning.pdf

What is a Process? Why Should You Care?
www.rummler-brache.com/case-studies-and-white-papers

Jill
Hurst-Wahl

JILL HURST-WAHL

Digitization: How Many Best Practices, Guidelines, and Standards Do We Need?

Many organizations that are digitizing are using best practices, guidelines, and standards to inform the work that they are doing. By doing so, they hope to build a digitization program on the shoulders of giants that have traveled this path before them. However, is the path truly obvious?

Best Practices

When my corporate library began scanning materials in 1990, all we knew was what our hardware/software vendor taught us and what we were able to learn on our own. Our goal was to create a worthwhile repository for use internal to the organization. The need for the information was immediate and our goal was to get it done. We gave no thought to industry best practices, guidelines, or standards. Best practices to us were what worked in our situation with an expensive but temperamental scanner and OCR software that taught us how unreadable the typed word can be.

I often characterize this as the "Wild West" days of digitization, when we talked about scanning (conversion activities) and not about all of the other aspects that form a well thought out digitization program. This was also before the dominance of the Internet, so it was not easy to share best practices with colleagues and to discern if there was synergy among the rules we were creating. Over the next decade, larger organizations (often academic libraries) were able to research, experiment, and do iterative work that allowed them to create best practices that they felt meet their needs as well as the needs of other institutions. In addition, people like Anne Kenney and Oya Rieger created books and tutorials from the lessons being learned, such as *Moving Theory into Practice*.

While attention may have initially been given to the conversion process, best practices were soon developed around the selection process, metadata, outsourcing, and more. Wherever a process existed that could be documented, a best practice was able to be developed. New digitization programs looked for best practices that had been developed by organizations that were respected for their work in advancing the use of technology and doing so in a responsible manner. With the growing pervasiveness of the Internet, these best practices were more easily disseminated to a broader audience that was able to use these documented best practices as they developed their own.

At its core, a best practice is what has been determined to work well. In some circles, they are called traditions. For example, our tradition (best practice) is to digitize images into TIFF files in order to capture as much data as possible and then to archive those files. It can, however, be difficult to replace a tradition. Hence the relative slow adoption of JPEG2000, even though it is a lossless standard. Once a tradition is established, many see it as unchangeable, yet as our world changes, our traditions—best practices—should also change.

The problem with best practices may be obvious: there isn't just one. Multiple best practices existed because of the diversity of materials being digitized and the diversity of ideas around how the overall program was to occur. One digitization program may decide that 200 dpi is appropriate while another decides to use 300 dpi and still another uses 600 dpi. While we would look at 200 dpi as being generally inappropriate for archival images, a program with limited resources that used a dial-up network may have decided that 200 dpi met its needs and adopted it as its best practice. Most programs historically used 300–600 dpi because of the increased amount of data captured from the image. Recently, due to lower storage costs, 600 dpi has become more of a norm. It could be that as our equipment and storage improves that even a higher dpi will become the norm.

Guidelines

Respected organizations engaged in digitization (often academic research libraries) were able to spend time understanding the process, developing procedures, creating best practices, and writing overarching guidelines. This work resulted in a variety of guidelines, each with a different organization's stamp of approval. Often these guidelines were very similar, since organizations were referring to the same underlying best practices developed at other organizations and to industry research. Some guidelines were developed and adopted by specific consortia or by institutions that had the clout to ensure widespread acceptance.

In 2000, the Institute of Museum and Library Services created the first *Framework of Guidance for Building Good Digital Collections*. Now in its third version—updated and maintained by NISO—the Framework is intended to:

- Identify existing resources that support the development of sound local practices for creating and managing good digital collections
- Encourage community participation in the ongoing development of best practices for digital collection building

In the introduction, the authors of the Framework state:

> *There are no absolute rules for creating good digital collections. Every digital collection-building initiative is unique, with its own users, goals, and needs.*

Thus the Framework is another document from which organizations can build their own best practices and guidelines.

The development of guidelines, even though developed for a specific consortial program, can be an activity that allows a group of people to understand more about the theory and practice of a digitization program. That development can spark learning, the exchange of information, and the better understanding of best practices that have been in use. What is born out of that activity is an agreement (guidelines) that the group is willing to use. The publication of their guidelines provides one more document for other digitization programs to consult as they begin their efforts.

The Right to Reject the Practices of Others

There has been a proliferation of best practices and guidelines. In addition, there have been standards set by recognized standards organizations that affect digitization. ISO defines a standard as "a document established by consensus and approved by a recognized body that provides for common and repeated use, rules, guidelines, or characteristics for activities or their results, aimed at the achievement of the optimum degree of order in a given context."

With that definition, it becomes clear that we don't have best practices, guidelines, and standards, but standards, standards, and standards—with each agreed upon and endorsed by a recognized body and available for broader use. Each organization has the right to review what "standards" others have used and then decide for themselves what they will use. Inherent in that is the right to make an informed decision to reject the path that others have taken and to determine one's own fate.

We assume that standards will provide for interoperability, data sharing, etc., but in reality standards provide a starting point that organizations can use (or not). When we talk to people about their programs, we quiz them about the best practices, guidelines, and standards that they are using and make judgments about their work based on their answers. What we really should be asking is: What standards did they consult and what decisions did they make based on those standards.

A program team could read various standards and decide to not follow any current recommended practices because they felt those did not support the program's goals. That decision would be legitimate, although it may not be popular with others in the community.

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Moving to One?

Now that we have many standards (including best practices and guidelines), two questions need to be asked:

- What would it take for the digitization industry to develop detailed best practices and guidelines that truly would be seen as "the" standards to be used, and thus eliminate the need for many of the best practices and guidelines already in use?
- What would it mean to specific programs to drop the best practices and guidelines that they have been using in favor of the guidelines developed by the industry?

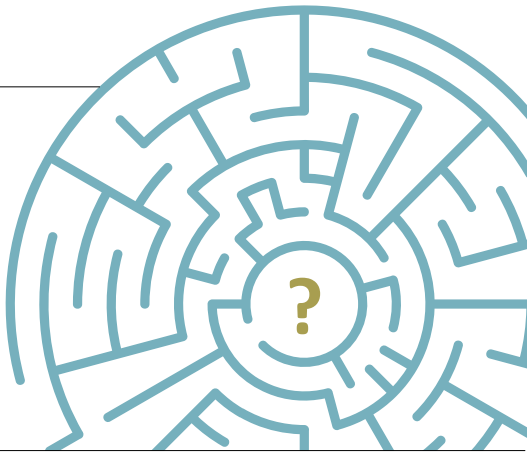
As Rick Jelliffe wrote in 2005, "To me, the two credible approaches to standardization are either for a standards organization to rubberstamp a mature and multiply-sourced non-proprietary technology (such as TCP/IP) or to collaborate on consolidating existing experience into a *new* standard."

Many of the guidelines and best practices around digitization are similar, but not exactly the same. While NISO has developed a guideline document, it is only that. Could the Institute of Museum and Library Services (IMLS), for example, spearhead an effort to create one set of best practices and guidelines? Yes. In fact, doing so could be in its best interests. All future grants could be tied to the use of their "standard," which would eliminate any reinvention of the wheel and ensure interoperability. Of course, you might be able to immediately imagine a problem with this. For example, would the guideline endorse one metadata standard or would it provide more rigorous guidelines for what the metadata should include and then allow flexibility in the implementation/schema? IMLS would have the clout to do this and could draw other highly regarded institutions into the conversation in order to ensure that the guideline could and would be widely adopted.

Existing digitization efforts should see the adherence to these more universal guidelines as being beneficial. Using these guidelines would ensure that their work could interoperate with other programs because they have been built using the same best practices. Even thinking about digital preservation (or, more appropriately, long-term access to the materials) could become easier. The problem could be those materials converted before the adoption of this universal standard. A migration path would be needed. For those materials that could not be migrated, there may be a sad recognition that they were done before the common guidelines era. In the long term, decisions would need to be made about the ferocity of their maintenance.

No, this would not be an easy path and many decisions would need to be made. In the short term, it could cause angst and division. However, in the long term, it could lower the cost of digitization and make it more of a widely supported commodity process. A move to one guideline (or a limited set of guidelines) would put us further on the path of making digitization a commodity activity. It would remove angst and eliminate discussions about how. It would allow programs to know that they were on the correct path and that it was a path being trodden by many others.

Will a move to one guideline or universal set of best practices ever occur?



In reality, how could moving to one guideline possibly occur? While we could look to thought leaders, funding organizations, and even digitization vendors for leadership, the most likely way of achieving one guideline—if indeed it is even possible—would be for those who have written the various widely accepted guidelines and best practices to meet and develop the overarching guideline. They would best know what the differences are between their guidelines and why, and be able to resolve those differences. If there were still places where programs could make their own decisions, they would be responsible for pointing those areas out and providing parameters to inform the decision-making process.

I am left wondering if a move to one guideline or one universal set of best practices will ever occur. Maybe because we're still digitizing such a wide variety of materials from institutions with different points of view that I think the answer is "no," at least for the near-term. There will, however, come a point in time when we will wonder why we had all of those best practices and guidelines in the past and find it quite normal to be using the universal guideline that we take for granted.

| OP | doi: 10.3789/isqv21n4.200905

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RELEVANT LINKS

Cornell University, Moving Theory Into Practice Digital Imaging Tutorial
www.library.cornell.edu/preservation/tutorial/

Donut Line Method of Standardization
blogs.oreilly.com/digitalmedia/2005/11/donut-line-method-of-standariz-5.html

Institute of Museum and Library Services (IMLS)
www.imls.gov

Framework of Guidance for Building Good Digital Collections
framework.niso.org

Michael Giarlo

MICHAEL GIARLO

Institutional Identifiers in Repositories: A Survey Report

The National Information Standards Organization (NISO) established a working group in July 2008 to recommend an identifier standard, with associated metadata and implementation strategy, for identifying institutions involved in information creation, sharing, and management. An institutional identifier is defined as a symbol or code that will uniquely identify institutions and that will describe relationships between entities within institutions.

The Institutional Identifiers (I^2) Working Group, co-chaired by Grace Agnew (Rutgers University Libraries) and Tina Feick (Harrassowitz), is also charged with defining what minimum set of data is required for unique identification and what other data may be used to support the business models of respective organizations. As a first step, the I^2 Working Group identified three compelling scenarios for usage of the I^2 identifier: the commercial information supply chain, library workflow, and institutional repositories (IRs). The subgroup charged with the IR scenario surveyed institutional repository managers and developers to determine the current practices and needs of the IR community regarding an institutional identifier. This article is a summary of the survey report. The complete report is available on the NISO website. The I^2 IR scenario subgroup is incorporating the survey findings and the group's conclusions into their final scenario.

Audience and Distribution

The intended audience of the survey was repository managers and developers. In order to increase the diversity of respondents, the group decided to take two approaches.

First, the group nominated a number of repositories considered prominent and augmented this short list with repositories identified via OpenDOAR, a directory of open access repositories. The directory allowed the group to associate potential survey respondents with repositories, and to choose repositories that are diverse with regard to geography, type of repository, software platform, and industry. The group decided that one hundred was a good number of potential respondents.

Second, acknowledging that any such list would be incomplete, the group identified a number of mailing lists that were likely to be followed by the repository community. These lists are enumerated in Appendix A of the full report.

The survey was distributed via the Survey Monkey website on June 18th, 2009 to the one hundred individually-chosen repository contacts and via the group to the identified mailing lists, as well as from group members' personal blogs.

The survey was distributed via the Survey Monkey website on June 18th, 2009 to the one hundred individually-chosen repository contacts and via the group to the identified mailing lists, as well as from group members' personal blogs. Survey Monkey generated one link for each of these purposes so that results from individually-chosen contacts and those from listservs and blogs could be kept distinct, which was useful for group members to gauge the success of each approach. The survey remained open until Monday, July 6th, 2009, a period of seventeen days.

It is likely that repositories from academic and research libraries may have been overrepresented in the survey results. The IR scenario group intends to include repository communities from public libraries, archives, and other less well-represented sectors in future work.

Response Analysis

29 of the 100 identified repository contacts responded to the survey, with 21 of these completing the full survey. 136 persons responded to the survey sent out to mailing lists and blogs, with 81 of these completing the survey. In total, the survey had 165 responses, of which 102 respondents answered every question.

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SELECTED FINDINGS

A detailed summary of all the questions and responses is available in the full report. Here are some selected findings of interest:

INSTITUTIONAL IDENTIFIER USAGE

58.1% of repositories include identifiers for themselves, 49.7% of which are public. 41.9% do not include identifiers for themselves.

46.1% of repositories include identifiers for their organizations, 35.6% of which are public. 62.9% do not include identifiers for themselves.

74.2% of repositories that include institution identifiers also include identifiers for institutional subdivisions. 26.9% are used only internally.

ASSIGNMENT OF INSTITUTIONAL IDENTIFIERS

37.5% use systems to assign institutional identifiers:

- Handle.net
- DSpace
- DNS
- OCLC
- ISIL
- ePrints
- EDINA
- California Digital Library

41.7% use manual processes to assign institutional identifiers:

- By the repository team
- By a single individual
- By an outside department

9.7% use a combination of manual processes and systems to assign institutional identifiers.

READ THE FULL REPORT AT:
www.niso.org/apps/group_public/document.php?document_id=2855

ISSUES POTENTIALLY SOLVED BY A STANDARDIZED INSTITUTIONAL IDENTIFIER

31.9% have yet to encounter any issues they would consider potentially solvable by standardized institutional identifiers.

14.9% state a standardized institutional identifier would have helped track institutions across name changes, disambiguate similarly-named institutions, and tie collections to institutions.

10.6% state a standardized institutional identifier would have helped identify and enumerate organizational units, especially in multi-lingual environments.

8.5% state a standardized institutional identifier would have helped tie authors to institutions.

Other issues:

- Uniqueness
- Interoperability
- De-duplication
- Persistence
- Statistics
- Indexing
- Workflow

IDENTIFIERS AND CONTEXTS

56.6% report that institutional identifiers used in the repository are not used for other library activities (e.g., electronic resource sharing, ILL, etc.)

22.6% report that these identifiers are used in other contexts.

60.3% consider it important to have a single identifier that serves all organizational purposes. 25.4% do not consider it important.

Clear Trends

The survey showed that standardized institutional identifiers are seen as important and it was agreed there is a need for them in the repository community. The need for identifiers is underscored by the ways in which repository content is shared. A clear majority of repositories include identifiers for the repository itself and many include institutional identifiers. Those that include the latter generally also include identifiers for subordinate units within the identified institution. Most of these identifiers are not used in other usage contexts—e.g., Inter-Library Loan, electronic resource management systems, etc.—but there is some agreement that it would be important for a single identifier to be used for all organizational purposes. The majority of respondents would be willing to participate in a registry of institutional identifiers provided that participation is voluntary and cost free.

Institutional identifiers already in use are largely based upon the Uniform Resource Identifier (URI) standard, whether they take the form of Hypertext Transfer Protocol (HTTP) URIs, Uniform Resource Names (URNs), CNRI Handles, or OCLC PURLs. An overwhelming majority of respondents consider resolvability of institutional identifiers important.

Metadata Elements

The core required metadata associated with an institutional identifier should be the Institution Name element, the Parent Institution element, and the Uniform Resource Locator (URL) element. A Region element is largely considered unnecessary, and pluralities consider Address and State/Province unnecessary. Most repositories are already collecting some or all of the core metadata elements considered required or preferred. There is little agreement on the necessity of the following core metadata elements: Related Institution, Variant Name, City, and Country.

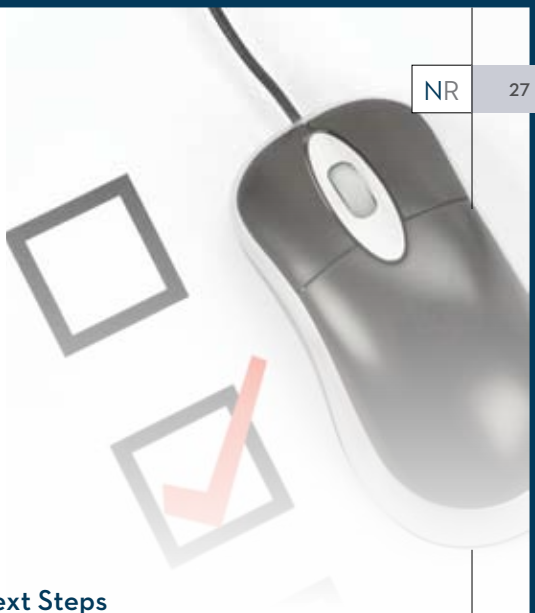
Areas with Little Agreement

Institutional identifiers are assigned in various ways: some are handled manually, others via automated processes, and others via a combination of manual and automated processes. A third of respondents would prefer to reflect institutional hierarchy in the identifiers, with nearly as many preferring to have non-hierarchical identifiers. There were a range of answers to the question of which organization would be best-suited to manage a registry of institutional identifiers.

Conclusions

After analyzing the survey results, the IR Scenario sub-group summarized their conclusions as follows:

- Participation in a registry of managed institutional identifiers should be voluntary and cost free.
- Institutional identifiers should be resolvable.
- Assignment of identifiers should be possible via both manual and automated processes.
- Each participating organization may or may not have a primary institution identifier.
- The relationship and provenance of the institution governed by the identifier should be captured in the identifier metadata, as the hierarchy may not be durable.
- Thus, an institution may use only a single identifier or may have multiple identifiers assigned to whatever division they find useful locally. Said division may be by research units, departments, institutional repositories, projects, or other division as needed by the institution.
- An institution has the right to use the primary institution identifier to represent its institutional repository or other processes as needed, if they prefer not to manage multiple identifiers.



Next Steps

All of the I² scenario work is nearing completion. The working group has already begun using the scenarios to define a set of required and optional metadata elements and to position the I² identifier with other existing identifiers. Also under discussion are the issues of registry and a maintenance/registration agency. You can follow the work of the I² working group on their public workroom page or by signing up for the I² Info interest group mailing list.

| NR | doi: 10.3789/isqv21n4.200907

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OTHER MEMBERS of the I2 IR Scenario Group are: Jessica Colati (Colorado Alliance of Research Libraries), Jody L. DeRidder (University of Alabama), Robert Harris (NJVid and William Paterson University), Amanda Hill (JISC Names project, University of Manchester), John Kunze, (California Digital Library), Lisa Macklin, co-chair (Emory University), and Linda Tadic (Audiovisual Archive Network).

RELEVANT LINKS

I² Working Group Workroom
www.niso.org/workrooms/i2

Institutional Identifiers in Repositories Survey Report
www.niso.org/apps/group_public/document.php?document_id=2855

I² Info Mailing List
www.niso.org/lists/i2info/

OpenDOAR
www.opendoar.org/

SERU

SERU: A SHARED ELECTRONIC RESOURCE UNDERSTANDING (NISO-RP-7-2008)

IT'S TIME

SERU IS FOR YOU

An alternate to e-resource licenses

Libraries and Publishers save time and money.
SERU offers libraries and publishers the option to reference a set of common understandings as an alternative to negotiating a signed license agreement.

Developed by a NISO working group comprised of librarians, publishers, subscription agents, and lawyers, SERU is a recommended practice that is designed to streamline the acquisitions/sales process.

The SERU recommended practice is available for free download from: www.niso.org/standards/resources/RP-7-2008.pdf.

Libraries and publishers rapidly adopting SERU

More than 70 Libraries • Eight Consortia • Over 30 Publishers

Publishers and librarians agree on the products for which they wish to reference SERU and forgo a license agreement. The SERU Registry helps to identify publishers and libraries interested in using SERU for electronic resources. Publishers who wish to use SERU with any of their products and librarians who would like to request that SERU apply to some of their products are quickly joining, using, and appreciating the benefits of SERU. Follow their lead and sign up to the SERU Registry today! **www.niso.org/workrooms/seru/registry/**

Benefits of SERU include:

- ✓ Easier e-resource subscription transactions
- ✓ Rapid acquisition and minimal delay for access
- ✓ Time and cost savings for both libraries and publishers

How SERU can work for you

- ✓ Sign the registry to show your interest in using SERU
- ✓ Select products or services to which SERU may apply
- ✓ Reference SERU in the purchase documents
- ✓ Link to SERU on the NISO website

NISO

www.niso.org/workrooms/seru/registry/

CR [CONFERENCE REPORT]


Lisa Carlucci Thomas


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Library and Information Technology Association (LITA) National Forum 2009

The 12th Annual LITA National Forum, held October 1-4, 2009, in Salt Lake City, Utah, brought together librarians and information professionals from across the country to present and discuss topics on the theme *Open and Mobile*. This year's conference included two exciting pre-conferences and three dynamic keynote talks, along with numerous presentations and lightning talks.

The Forum began on Thursday, October 1, with two preconferences focusing on the future of library web technologies. **Nina McHale**, Assistant Professor and Web Librarian at the Auraria Library, serving the University of Colorado Denver, Metropolitan State College of Denver, and the Community College of Denver, led *Accessibility Update: Section 508 and WCAG in a Library 2.0 World*. Attendees examined these guidelines and explored ways in which new web applications and technologies may remain accessible to those using assistive technologies. In addition, **Jason Griffey**, Head of Library Information Technology at the University of Tennessee at Chattanooga, discussed *The Future of Mobile*. Pre-conference participants examined current trends as well as "the future" where additional content is pushed to mobile devices and geo-locating software is fully utilized. These current and future mobile technologies have implications on every part of library operations including collections, reference, instruction, access, and (of course!) IT services.

Joan Lippincott, Associate Executive Director of the Coalition for Networked Information (CNI), kicked off the Opening General Session with her talk, *Mobile Technologies, Mobile Users: Will Libraries Mobilize?* Lippincott described the increasing role of mobile devices in colleges and universities today—illustrating with statistics and examples the growing need for libraries to prepare and deliver services to mobile users.

According to Lippincott, "it's a mobile world," and librarians must create a "cohesive strategy" to adapt to changing user needs and expectations.

Several examples of mobile services currently being offered by libraries were featured: SMS reference, library hours and information, patron accounts, information literacy podcasts, digital collections, scholarly resources, and QR codes. Her presentation urged information professionals to be forward-looking when planning mobile services because libraries and information providers are at the center of this changing environment. Simply stated, "the library of today might be in your cell phone instead of a building, but we need the people in the building to get it into the cell phone."

Andy Peterson, head of Library IT at Western Washington University, led a session on *If You Build It, Will They Come? How to Achieve Buy-In, Encourage Participation, and Build Successful Online Communities* where she discussed tips for building successful online communities. These include: 1) educating, empowering, and involving staff; 2) collaborating with others; 3) involving your intended audience; and 4) developing expertise with a tool that will make this possible, such as Drupal or another content management system. Peterson discussed various successful online communities at Western Washington University involving library staff as well as the larger campus community.

In *LibX 2.0: A Community Platform for Developing Library Services*, **Annette Bailey**, Digital Assets Librarian at Virginia Tech, said that libraries expend a great deal of effort to publicize themselves and to encourage users to explore the library's resources and make use of what it has to offer. She said that much of the time, however, this message is lost amid the chaos of information online, distracting users from the critical focus that libraries encourage. Bailey reviewed how the

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original version of LibX sought to remedy this situation. In the form of a toolbar for either Firefox or Internet Explorer, LibX provides an ever-present OPAC search capability plus selected links and easy access to Google Scholar. She demonstrated how installation of LibX provides a right-click menu to quickly search selected words or phrases in the home library's catalog or journal A–Z list. LibX 2.0, Bailey continued, takes the functionality to the next level. With the new version installed, LibX is able to insert library-created content, such as tutorials or podcasts, as context-sensitive assistance via a mouse right click. She then demonstrated how LibX 2.0 becomes capable of rewriting search engine results to incorporate library content, such as links to books and articles, at the beginning of the search engine results sets. Bailey said that this latest version of LibX continues her team's efforts to keep library resources within easy reach of the users as they navigate the Internet.

Timothy Vollmer, from the ALA Office for Information Technology Policy (OITP), introduced the work of the OITP and Office of Government Relations (OGR), in his presentation *Libraries and Mobile Devices: Public Policy Considerations*. Current subjects on the agenda of OITP and OGR include: Google Books, Opportunity Online Broadband Project, Net Neutrality, USA Patriot Act and Orphan Works, to name just a few.

Vollmer emphasized that "the mobile revolution is already in progress" and "policy considerations for digital content are central to the advancement of mobile devices."

Specifically, issues of copyright, licensing, privacy, and accessibility must be addressed. He encouraged librarians to innovate, experiment, and empower users, and to also "remain engaged" with the technology and policy communities as the mobile landscape continues to evolve.

NCIP, the NISO Circulation Interchange Protocol (Z39.83), is intended to provide a standard data specification for the configuration of two-way, electronic communication between libraries of circulation, interlibrary loan, and consortial borrowing information. *Achieving Interoperability: Linking Systems Using the NCIP Standard* featured representatives from a library consortium (**Susan Campbell**, Florida's College Center for Library Automation) and library ILS vendors (**Lynne Brown**, Innovative Interfaces; **Ted Koppel**, Auto-Graphics, Inc.; and **Gail A. Wanner**, SirsiDynix). The presenters are NCIP Implementation Group members and advocates of this nascent library communication standard.

» CAMPBELL provided an overview of NCIP, describing its history since inception in 1999. She said that NCIP's ultimate goal has been to allow libraries to directly interconnect, but that in reality this has been accomplished using third-party vendor tools to broker the data interchange between libraries. Campbell said that these standards are being embraced by a number of library system vendors and that the open-source applications eXtensible Catalog and Jangle are building products around the NCIP standard.

» KOPPEL stated that it is in the best business interests of vendors to create products that comply with the NCIP protocol and that fluently and transparently exchange data. He focused on the volatility found in the library vendor arena and how product development does not always (but should) place a high priority on standards compliance. He encouraged librarians to participate in NCIP 2.0 by providing information about needed interoperability between systems, becoming field testers, and encouraging vendors to comply with the standard. He predicted that new, NCIP 2.0 compliant products should begin to appear in 2010.

» BROWN described NCIP 2.0 in detail, saying that its complexity yields great flexibility. She said that 1.0 was slow in being adopted in part because each implementation required incremental further development. She outlined the new features of 2.0: new data elements, DTD becoming a schema, and the list of core NCIP 2.0 messages by which a set of core tasks supported by NCIP is defined.

» WANNER provided a selection of NCIP success stories, describing vendor products (3M, Auto-Graphics, CybraryN, OCLC, Polaris, and others) that have achieved NCIP message initiation, and those (Ex Libris, SirsiDynix, TLC, eXtensible Catalog, and others) that have provided NCIP message responses. The challenge is getting all of this to work together transparently, which has been the major focus of the work since the project began ten years ago. Wanner expects that by 2010 there will be even more successes with NCIP 2.0. The updated NCIP Implementers Group website is designed to encourage adoption of the standard by providing an implementer registry, support documentation, and tools to aid in protocol implementation.

Continuing with the mobile theme, **Cindy Cunningham** of OCLC explained in *Putting your Library on a Mobile Phone—It's More than Screen Size* that mobile sites and applications should not simply reproduce an organization's website on a smaller screen. Cunningham outlined at least five characteristics of successful mobile sites and applications: actionable items, geo-referencing components, speed, relevancy, and economy of effort. While specific content was not her focus, Cunningham commended libraries that have placed archival collections online. Appropriate planning and commitment to mobile technology as well as collaboration within and across organizations will ensure the success of these projects.

The LITA Forum Lightning Talks featured a variety of fast-paced reports of "open and mobile" library projects and technology initiatives. Presentations took place over two sessions and sparked lively reactions and discussions among audience members. A complete list of lightning talk presenters and topics can be found on the LITA Forum website.

The second keynote address of the Forum was given by **David Weinberger**, Fellow at Harvard University's Berkman Institute for Internet & Society. His presentation, *Knowledge in the Age of Abundance*, first described the way knowledge has been viewed in the past. For example, scholars assumed there was one knowledge, one correct answer, and, consequently, knowledge was the same for everyone. The Internet, however, allows for differences in knowledge, expressed by hyperlinks, where the idea of one knowledge is no longer relevant. Weinberger maintains that "right" answers still exist (atomic weight of carbon, for example) but are relatively rare these days. More common are questions of quality, such as "What is the best hotel?" In this example, we will never know of the best hotel because we disagree over what is "best." Furthermore, Weinberger discussed a number of challenges in an age of abundance. First of all, we must realize the difference in type and levels of information between questions such as "which hotel has the fluffiest pillow" and "how does one perform brain surgery." In addition, the skills needed to find and process information exacerbate the digital divide. While this is addressable, it is an obstacle that will always exist and it is our charge as educators to lessen the divide. Another criticism of abundance and the web is that we organize ourselves into fairly homogeneous groups, reinforcing the ideas we already have. Finally, the negotiation of differences via the web requires following hyperlinks to explore various viewpoints and not simply accepting one answer in our quest for comfort. Libraries and educators can help users navigate these challenges, urging users to explore the abundance of information in the world.

In *Why Reference and Instruction Librarians Hate Federated Searching and NextGen Catalogs,* **Nina McHale**, University of Colorado Denver, pointed out that reference and instruction librarians' reception to federated searching and NextGen catalogs has been "lukewarm at best." The slowness of federated searches and the absence of some databases in the results list are just two examples of concerns expressed by reference and instruction librarians. Usability testing has shown that library users often operate under a different mental model than reference and instruction librarians as to what results are expected. However, discovery tools are undergoing improvement and better understanding of user needs and increasingly sophisticated tools will hopefully lessen the skepticism surrounding the use of federated searching and NextGen catalogs.

Michael Doran, Systems Librarian at the University of Texas, Arlington, presented *Unlocking Your ILS Data: Mobile Access via Handheld Interfaces* on the development of a tool, called Shelflister, for mobile devices to use for inventorying or shelf-reading. Doran said that he was motivated to develop this application because Endeavor (which later merged with Ex Libris) seemed to have no plans to produce a mobile client for any of their ILS products. He discussed how the application was designed and that the open nature of the Ex Libris Voyager ILS made it possible to construct an interacting application. Doran encouraged those who are interested to download Shelflister and to consider developing additional applications and making them available to the user community via GNU Open Source Licenses.

In *Collaborating in the Cloud*, **Robin M. Hastings**, Missouri River Regional Library, discussed the concept of collaboration 2.0 where web-based tools allow for distributed computing around the world or even in the same room. Because the list of available tools is so lengthy, organizations are encouraged to standardize their operations by identifying specific platforms for their employees to use. Hastings discussed a variety of tools including wikis, shared calendars, and social bookmarks that allow for collaboration in the cloud.

Kenning Arlitsch, University of Utah, and **Kristin Antelman**, North Carolina State University, presented *The Future of Libraries Is IT (and some people just don't get it)*, focusing on their findings from a survey and series of interviews of library staff regarding their ability to integrate new technology into the services their libraries provide. Their work was inspired by the Association of Research Libraries (ARL) Research Library Leadership Fellows Program, meant to engage those who have the desire and potential for leadership at ARL libraries. Through survey responses and video vignettes of staff members' responses to questions about their libraries' organizational culture, Arlitsch and Antelman showed that many libraries continue to focus on low-value functions and fail to effectively implement emerging technologies. Their findings showed that the traditional library organization often thwarts the new librarian's efforts to be effective proponents of technology. They proposed that libraries should emulate IT-focused organizations, their strategies, and their workforce development, all of which would ensure the continued relevance of libraries as institutions.

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In *Libraries to Go*, **Kristine Ferry**, **Lisa Sibert**, and **Holly Tomren** from the University of California, Irvine, presented a wide range of mobile-optimized content, applications, and products currently available for and by libraries, including mobile catalogs, licensed resources, location services, and digital exhibits. Mobile-friendly content providers discussed in their talk include Project Gutenberg, uCentral, RefMobile, arXive, PubMed, IngentaConnect, IEEE Xplore, National Library of Medicine, JSTOR, ScrollMotion, up2date, Hippocrates, and HighWire Press. In addition to monitoring developments in mobile content, UC Irvine librarians are leading the way in describing mobile resources in the library catalog. Best practices for cataloging mobile resources were addressed in their presentation, along with specific examples of MARC records for mobile products.

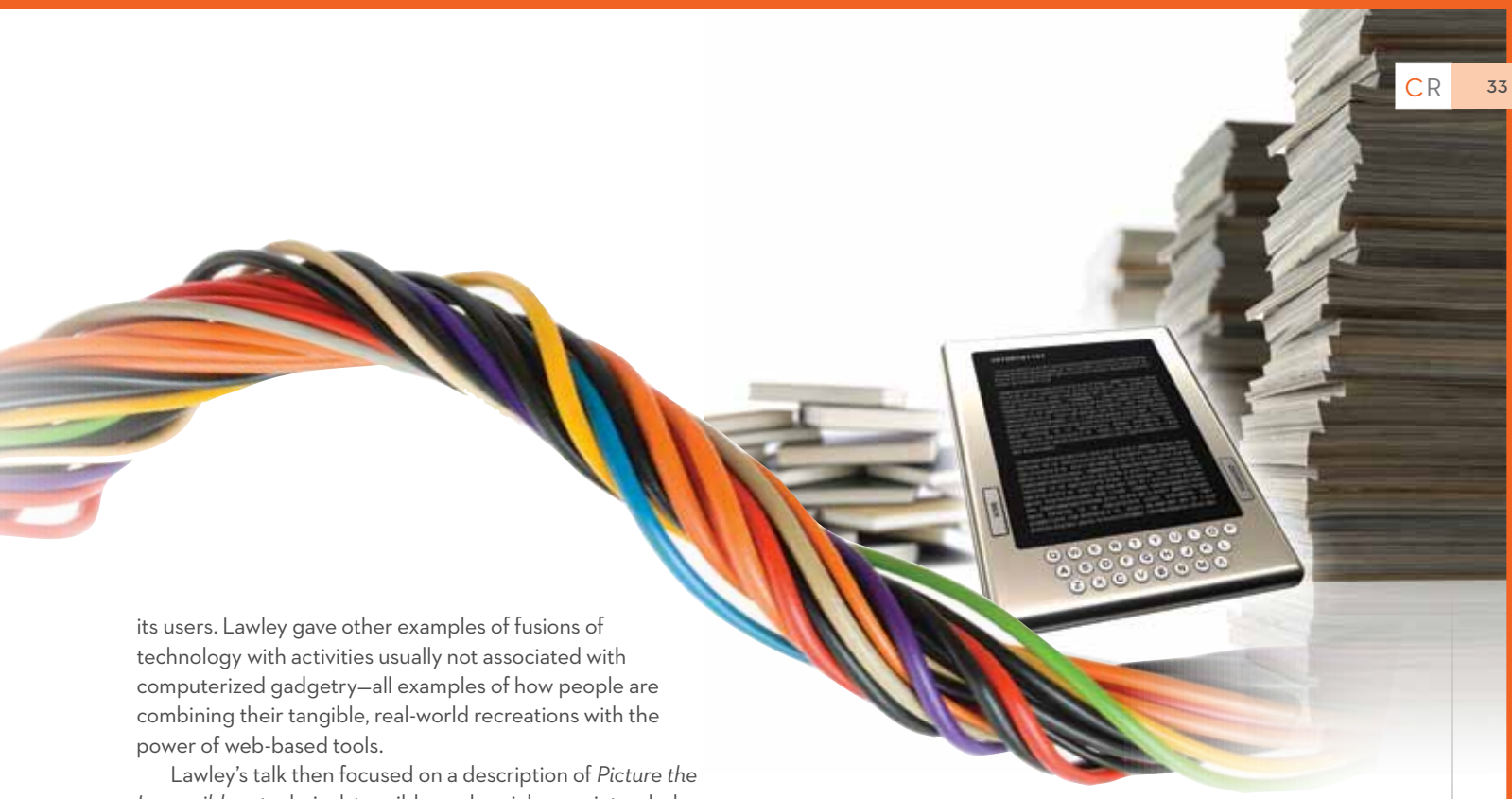
Jenny Emanuel and **Peggy Steele**, University of Illinois at Urbana-Champaign, and Paige Weston, Consortium of Academic and Research Libraries in Illinois (CARLI), presented the implementation of VUFind, an open source, next-generation catalog interface developed by Villanova University. The VUFind project, winner of a $50,000 Mellon award for Technology Collaboration, was chosen by the CARLI consortium (153 member institutions, 76 using VUFind) to overlay their Ex Libris Voyager ILS as a discovery layer. The presenters reviewed the functionality of VUFind, which uses a scripted extract of the bibliographic database to fuel a search/index engine. Results sets then dynamically hook back to the Voyager ILS to retrieve item status and holding information and, using Ajax, add that information to the display. The description of VUFind showcased the interface's facet display, used to refine searching by genre, material, date, subject classification, and other customizable criteria. Weston said that VUFind is intended to be ILS-neutral, with drivers being developed for Ex Libris' Aleph, Innovative's Millennium, and SirsiDynix's Symphony as well as for Voyager. Emanuel and Steele stated that usability testing of VUFind at the University of Illinois showed a strong positive reaction to the new interface. The only improvement suggestions were for a more polished appearance, direct export to RefWorks, and more prominent appearance of URLs.

Michel Nguessan, Governors State University, presented his analysis of over 100 academic libraries' strategic plans in his talk, *Academic Libraries' Strategic Planning in the 21st Century: The Role of Information Technology*. Nguessan investigated "how library strategic planners perceive technology and the role it can play in libraries" by examining how information technology is represented in each library's strategic plan documentation. He discovered that all libraries perceive IT to have an important role, but the extent varies by institution and is weighed against other priorities, such as increasing and improving physical spaces and services, enhancements to library human resources, diversity initiatives, and collection development.

Nguessan emphasized that "we are in a technology driven culture, and need to give technology the right place in our libraries;" in order to do so, there must be support at the top levels of the institution. "You could have been a good reference librarian for 30 years," said Nguessan, "but today you will be challenged by technology."

Andrew Nagy, from Serials Solutions and **Scott Garrison**, Western Michigan University presented *Next-Gen Catalog is Half the Solution: Making E-Resources Truly Accessible*, a discussion of the problem of information findability in complex library systems. They contended that most library information interfaces have failed to meet rising user expectations and that the rigid search parameters favor known item searching rather than browsing and serendipitous exploration. The problem is compounded by each new database, search interface, or research tool that is introduced, creating multiple silos that must be learned and, in turn, taught to users. In response, libraries have begun implementing interfaces that seek to streamline the search process. Nagy discussed VUFind—the open-source, ILS-independent library search interface he developed while at Villanova University—and demonstrated its installation at Western Michigan University. He described its advantages as facets for narrowing a search, incorporation of social tools such as tagging, and a more appealing user interface. The next evolutionary phase, Nagy stated, is to bring together all of a library's resources into a single, unified search interface, which is achieved with Summon, produced by Serial Solutions. Garrison demonstrated the Summon implementation at Western Michigan University, which provides web-scale resource discovery. One unexpected result of using such a powerful tool was that it revealed problems in the bibliographic database that require follow-up.

The Forum's closing keynote was delivered by **Liz Lawley**, Director of the Lab for Social Computing and Assistant Professor of the Department of Information Technology at Rochester Institute of Technology. Her current teaching and research interests focus on social computing technologies such as weblogs, wikis, multi-player games, and collaborative information retrieval. Lawley's talk centered on the creation of tangible experiences connected with IT. She explained the concept using the iPhone as an example, where the very physical, tactile, and human experience of using the iPhone is as compelling as the technological advances it incorporates. The satisfying physical experience of using this device is further coupled with an emotional connection it makes with



its users. Lawley gave other examples of fusions of technology with activities usually not associated with computerized gadgetry—all examples of how people are combining their tangible, real-world recreations with the power of web-based tools.

Lawley's talk then focused on a description of *Picture the Impossible*, a technical, tangible, and social game intended to use mobile technology to mobilize participants to partake in a community project to build community awareness and interconnection. The RIT Lab for Social Computing found the perfect partner for this project in the Rochester Democrat and Chronicle newspaper. The project targeted young professionals and high school and undergraduate students, with the goal of increasing these populations' community awareness and appreciation of the newspaper and library. Lawley described how the game was built upon the active verbs: learn, explore, give, and socialize and used web-based and newspaper-based games and activities, as well as activities in the community that highlight the history of Rochester and its many innovations and contributions. She concluded with a recap of the project's success thus far, saying that about 2,000 people have registered, 150 "photosynths" (experiences created through a series of photos) have been created, hundreds of photos recreating historic Rochester "firsts" have been submitted, and a cookbook of player-submitted recipes will be published. Above and beyond these activities are the donations (tied to points earned by players in the various activities) provided to local charities. Lawley concluded by saying that *Picture the Impossible* brought people, technology, institutions, and worthy causes all together in a new and special way that required little of anyone except donations of their time, effort, and experience.

In conclusion, the 2009 LITA National Forum lived up to LITA's reputation of providing highly informative content about cutting edge technology and services. The presentations and discussions inspired librarians to consider opportunities for open and mobile initiatives at their institutions. Moreover, the Forum offered valuable insight into the increasing importance of mobile information technology in libraries. | CR | doi: 10.3789/isqv21n4.200908

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RELEVANT LINKS

LITA Forum 2009 website
www.ala.org/ala/mgrps/divs/lita/litaevents/forum2009/

LITA Forum 2009 presentation materials
connect.ala.org/node/83274

LITA Blog on Forum 2009
litablog.org/category/lita-forum-2009/

LITA on Facebook
www.facebook.com/pages/Library-Information-Technology-Association-LITA/172404066809

Microsoft® Photosynth
www.photosynth.net

Shelflister application
rocky.uta.edu/doran

NCIP Implementers Group
www.ncip.info

VuFind at Western Michigan University
catalog.library.wmich.edu/vufind

Priscilla Caplan

PRISCILLA CAPLAN

International Activity in Digital Preservation: the iPRES Conference

The International Conference on Preservation of Digital Objects (iPRES) has become the "must-do" event for those actively working in digital preservation. The sixth annual iPRES was hosted by the California Digital Library and held in San Francisco on October 5th and 6th, 2009, attracting 300 attendees from around the world. The conference anchored a host of related events, including a three-day Sun Preservation and Archiving Special Interest Group (PASIG) meeting, an open meeting of the International Internet Preservation Consortium (IIPC), a workshop on JHOVE 2 (a format identification and description tool), and the first PREMIS Implementation Fair. This article reports on iPRES and the PREMIS Implementation Fair.

iPRES offered an action-packed two days with plenary talks and panels, two tracks of submitted presentations, a poster session, and an hour of "lightning talks." The opening keynote was an interesting, if somewhat marginal, talk by Maryland business school professor **David Kirsch** on the importance of saving corporate archives from disappearance. He noted that corporations don't want to save records that can be used against them in lawsuits, and electronic records management regimes will destroy records when the cost to maintain them exceeds their value to the business. However the public also has an interest in these private records, particularly when businesses fail. He noted that for our bailout money, U.S. taxpayers should at least get the company records.

In another plenary session, **Henry Lowood** of Stanford University discussed the difficulty of preserving virtual worlds. Unlike simple video games, long-running multiplayer games like World of Warcraft are holistic historical environments. Preserving the software and server side data alone does not recover important information about the players, player culture, player interaction, the players' relationship to game developers, and the history of game events. Preserving the game requires preserving a cluster of related materials such as demos, replays, and players' blogs.

Two plenary panel discussions gave perspectives on the economics of digital preservation and on distributed digital preservation using private LOCKSS networks. The latter session took an unexpected turn when a question from the audience clarified that the projects represented were engaged in bit-level preservation only. This led to a plea from panelist **Liz Bishoff** not to dismiss bit preservation, which may be all that many institutions can afford to do at this time. The exchange highlighted a gap between U.S. and Europe, as a majority of European projects involve some manner of preservation planning, format transformation, and/or platform emulation.

The bulk of the conference consisted of shorter presentations divided into two simultaneous tracks. Many were case studies, updates on ongoing projects, or reports of research results. Highlights included **Stephen Abram**s' description of the California Digital Library's "micro-services" approach to digital curation infrastructure, **Paul Wheatly**'s report on the LIFE3 model for predicting long-term preservation costs, **Esther Conway** on software preservation, and **Ardys Kozbial** on the Chronopolis project which is testing the use of grid storage. There was no track focused on standards and only two presentations in which standards were primary. **Rebecca Guenther** presented on best practices for embedding PREMIS preservation metadata in METS containers, and **Joseph Pawletko** described the TIPR (Towards Interoperable Preservation Repositories) project which is testing a potential standard format for transferring information packages from one repository to another.

A novel and quite successful session was an hour of "lightning talks." Any attendee could sign up on the spot to give a 5-minute presentation, with or without slides, to an interested and involved audience. It would be good to see lightning talks on the agendas of future conferences.

The conference website includes abstracts of all presentations and an "Amplified Conference" page with links to tweets, Flickr photos, and blog posts pertaining to the conference. Planning is already ongoing for iPRES 2010, which will be held September 19–23 in Vienna, Austria.

The PREMIS Implementation Fair was a day of demonstrations and presentations by and for implementers of the *PREMIS Data Dictionary*. PREMIS is a de facto standard for preservation metadata developed by an international workgroup and maintained by an Editorial Committee under the auspices of the Library of Congress.

This was the first PREMIS event for experienced implementers and the fact that there were 60 registrants from 14 countries indicates a healthy degree of uptake. Several tools were demonstrated, including a PREMIS-in-METS toolkit developed by the Florida Center for Library Automation with support from the Library of Congress and a tool developed by Statistics New Zealand that combines the output of several open source file identification and description programs to produce a PREMIS object description.

Two projects reported on their use of PREMIS in exchanging packages among heterogeneous repositories. The NDIIPP (National Digital Information Infrastructure and Preservation Project) funded Echo Depository Project has developed a "Hub and Spoke Framework" tool to pull a package from one repository, enhance it with metadata, convert it to a neutral format, and reformat it for ingest by a second repository. Using a slightly different model towards the same purpose, the Towards Interoperable Preservation Repositories (TIPR) project funded by the Institute of Library and Museum Services (IMLS) is developing a common exchange format that repositories themselves could develop conversion routines for.

The Fair also included case studies from the U.S., Italy, Finland, and Great Britain; examples of PREMIS use in two preservation repository systems (Rosetta and DAITSS); and a discussion of possible future changes to the PREMIS data model. All the PREMIS speakers' slides are available on the meeting webpage. | CR | doi: 10.3789/isqv21n4.200909

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RELEVANT LINKS

California Digital Library's Curation Micro-Services
www.cdlib.org/inside/diglib/

Chronopolis project
chronopolis.sdsc.edu/

Echo Depository Project
www.ndiipp.illinois.edu/

International Internet Preservation Consortium (IIPC)
www.netpreserve.org/

iPRES 2009 website
www.cdlib.org/iPres/

iPRES 2010
www.ifs.tuwien.ac.at/dp/ipres2010/

JHOVE 2
confluence.ucop.edu/display/JHOVE2Info/

LIFE3
www.life.ac.uk/3/

LOCKSS
www.lockss.org/

PREMIS
www.loc.gov/standards/premis/

PREMIS Implementation Fair
www.loc.gov/standards/premis/premis-implementation-fair2009.html

PREMIS-in-METS toolkit
pim.fcla.edu

Sun Preservation and Archiving Special Interest Group (PASIG)
sun-pasig.ning.com/

Todd Carpenter

TODD CARPENTER

Society for Scholarly Publishing's IN Meeting: INnovate, INteract, INspire

In September, the Society for Scholarly Publishing held its first IN meeting in Providence, RI. This meeting is a transformation of the successful Top Management Roundtable event that SSP has held for many years in the fall. Approximately 60 publishing industry managers and executives came together to consider the challenges and opportunities impacting our community in a creative and informal setting.

Setting the stage for the meeting was John Madea, the recently-appointed Dean of the Rhode Island School of Design (RISD). His keynote presentation set a creative tone for the meeting. Madea discussed the culture at RISD and how it was distinct from the engineering culture at the MIT Digital Media Lab, where he previously worked as a professor. The creative culture has impacted his leadership style and he detailed some of the initiatives he launched to encourage openness and sharing within the RISD community. He also touched on the distinct differences between the business world and academia: action and decision are stressed in the former while critique and education are the focus of the latter. Each community, he emphasized, has valuable lessons to learn from the other.

Another keynote, on the second morning, was presented by **John Wilbanks**, Director of the Science Commons project at Creative Commons. Wilbanks touched on larger issues of copyright and reuse of content and the need for license applications for scientific information based on the principles of the Creative Commons license set. One particularly interesting point that Wilbanks made is that successful media companies need to focus their offerings on the customers' needs and expectations and not on the packages supplied to the community. He stressed that in many ways traditional publishing is still focused on the distribution of the physical package—the book, the journal, the newspaper—and companies that are slow to adapt to the new digital environment, where the content not the package is key, will likely be supplanted by another organization, possibly from another sector that better understands the customer's implied needs. Wilbanks pointed to Apple, a technology company, as an example; they are now a leader in supplying music content, something unimaginable 10 years ago.

The attendees of the meeting were gathered together in a variety of industry-player groups—a large corporate publisher, a search engine, a society publisher, an aggregator, a social media company, and a grant funding organization—to do role playing and small group brainstorming. Each participant was deliberately assigned to a group that was outside of his or her background and experience. The groups were each given tasks to address key industrial changes, strategic challenges, and tactical responses that could be undertaken by our various industry "persona." The format allowed for a great deal of creative problem solving and group interaction. There was also a reasonable bit of fun-natured jockeying among groups to be creative in their responses, with different groups playing off the activities of the others.

Interestingly, the group exercise produced a consensus around some key issues, despite the varied backgrounds of the participants and the varied roles they were playing. These included:

- The growing perception that "good enough is good enough," which usually comes down to the content that is most accessible, though not necessarily the highest quality. This applies to both the peer review process and other value-adds that publishers bring, such as copy editing and layout. There is a need for publishers to address this culture and highlight the value that is brought to the process by their activities.
- Another inescapable trend is the need to incorporate social media. In the scholarly environment, this is particularly acute, since sharing is ingrained in the academic culture. The tools for online communication and collaboration need to be enhanced and publishers need to find ways to facilitate

this exchange. In some ways, this is a return to the original purpose of a journal, which was to bring together the letters and exchanges among scholars of their day.

Another creative highlight of the meeting was a lunch field trip held at AS220, an arts collaborative in downtown Providence. During lunch, we were provided an opportunity to hear from Bert Crenca, AS220's founder and artistic director, who spoke about how AS220 operates in providing living, studio, and performance space. AS220 receives hundreds of requests per week for showings and has a calendar booked out months for the performance space and two years for gallery space. Crenca touched on issues of control of content that are not unlike what publishers deal with: copyright, licensing, and dealing with communities of creators. He emphasized that a singular vision and related innovation are key to success.

The opportunities to step back and—in a structured way—think creatively about our industry along with the actions and potential strategies of the various players in the community are relatively infrequent. In many ways, the event reminded me of a business school program, but in a very specific industry-related case study perspective. The interactive format was a refreshing alternative to the typical long series of PowerPoint slides and presentations of many other meetings. It gave us all an opportunity to have real-world networking beyond just the coffee breaks. The creative group approach allowed us to step outside our comfort zone and spend time reflecting on the bigger issues we face. While we may not have the resources imagined within the group exercises, they allowed us the freedom to explore alternate strategies. That the conversations of the different groups began to coalesce around some key themes indicate some consensus about the biggest challenges we face. Unfortunately, we didn't find a clear solution in our brief two day meeting. Perhaps that's where the creativity like that of the artists at RISD and AS220 needs to be applied to our industry. | CR | doi: 10.3789/isqv21n4.200910

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RELEVANT LINKS

AS220
as220.org/

Creative Commons
creativecommons.org/

Rhode Island School of Design
www.risd.edu/

Science Commons
sciencecommons.org/

Society for Scholarly Publishing (SSP)
www.sspnet.org/

Helen Henderson

HELEN HENDERSON

The Association of Learned and Professional Society Publishers International Conference 2009

The second ALPSP International Conference took place just outside Oxford from September 9-11, 2009. It included an impressive lineup of speakers from the popular to the academic.

1 Surviving and Thriving with Social Media

John Blossom of Shore Communications is one of the most widely recognized content industry analysts and he referenced his book *Content Nation* and the social media as a channel for influence. He listed seven secrets (of social media's success) which included:

- **INFLUENCE:** People want to influence others, be it the 59 million people blogging who set out with this purpose or the 74 million who use other social networks. Mentos got real brand advantage by quickly endorsing the Diet Coke Plus and Mentos YouTube video. Dell's IdeaStorm solicited ideas and received 20,000 ideas in the first few weeks.
- **CODE OF HONOR:** The need for community rules to ensure the "law of the campfire" with, for example, Wikipedia now monitoring content.
- **CONTEXTS:** The ability to add context to content through mash-ups—at a local or national level—creating new insights.
- **MASS CONTEXTUALIZATION:** Self-identified communities are creating value out of content. However it isn't all positive, with networks for terrorists as well as the good guys. The advent of crowd-powered media is illustrated by websites such as NowPublic where users assemble stories in real-time.
- **"BIG SOMBRERO" LIFECYCLE OF SOCIAL ECONOMIES:** In this model, the "flat" (niche) brim creates as much shade as the "tall" (popular) crown. Small regional markets are just as important as large centralized markets.
- **PERSONALIZED CONTENT:** Personal contacts are important as well as the contextualizing of them.
- **CONVERSATIONS:** Social media benefits people who know how to have conversations that mature into new products. Wikipedia moved from being the "wild west" to having juried content. O'Reilly Rough Cuts, which has collaboration between experts (tutors) and the community, is an example of how you can get the conversation going to create quality content from community engagement.

Blossom's last point was to leave room for dissent and dialog and focus on the context of your content. Don't put copyright before valued uses as owning relationships may be more valuable than owning intellectual property.

The business models in publishing clearly have to change and expand because the next generation thinks you can "access anything for free."

2 A 360 Degree View of Scholarly Publishing (or Will Anyone Pay for Anything?)

The morning plenary featured **Fred Dylla**, Executive Director of the Institute of Physics, who came to publishing from a background in physics as a working scientist. He knew the input side [to publishing] very well, but had to confess he never thought about copyright and never thought about who pays the bill. The business models in publishing clearly have to change and expand because the next generation thinks you can "access anything for free." Journals have always required patrons, from *Transactions of the Royal Society* (King Charles) to *PLoS* (Gordon Moore, Intel). Journals created a community out of a process of scholarly communication that had previously been binary (letters). He noted depressing similarities between 1665 to now: peer review, volumes/issues/articles, linear text (most web is still a page facsimile), references, and business model. Physics

has grown even more rapidly than most disciplines, mainly because of growth in China whose submissions now exceed that of any other country. Dylla questioned if repositories will have an effect on the publishing business, as even ArXiv only represents 15–20% of physics titles (accepting 5,000 papers per month). The most interesting point is that Cornell has hosted ArXiv for 10 years and is now exploring selling subscriptions to ArXiv.

In principle there should be a move toward increased access based on sustainable business models, a recognition of diversity within the industry (no one-size-fits-all solution), and experimentation with expanded access, including author deposits and embargoes. Effects should be measured and modifications made as necessary for developing, implementing, and promulgating broad use of metadata standards for interoperable platforms.

In answer to the question "Will anyone pay for anything?" he thinks that the academics will pay for the services of registration, certification, peer review, and archival record. Services will evolve with the evolving workflow of scholars, including enhanced connectivity between publisher and IR platforms and there will be a renewed social compact—the energy invested over access issues should be invested in innovation!

In conclusion Dylla cited a brilliant letter from Einstein to the editor of the Physical Review, complaining about having been peer reviewed.

3 Responding to the Credit Crunch: What Now for Librarians and Libraries?

Richard Gedye summarized the results of an ALPSP survey of librarians. On the question of big deals, there has been a 150% increase in the take-up of big deals in the last three years, but there is an expectation that this will decrease in 2010. More people cancelled big deals in 2009 than ever before. These cancellations were based on overall usage rather than cost per use. A much larger group of journals are now accessible through big deals and there is a significant decrease in single journal subscriptions. The only single journal deals tend to be at specific faculty request. On the question of open access memberships, some responded that they didn't know what this was.

Panelist **Rick Anderson** of the University of Utah commented that his institution is moving to patron based purchasing, especially with book buying. In the past only 50% of the books picked by librarians had been used, so now they are installing an Espresso Book Machine® for instant purchase.

Another panelist, **Colin Story** of the Chinese University of Hong Kong, pointed out that they had one of the biggest collections of electronic resources, having moved away from print at a very early stage, and they are buying all the big deals they could.

4 Quality Metrics in Research-Based Publishing

While the journal Impact Factor (IF) has been well established for many years as an important value metric for the scholarly community, **Stuart Taylor** from The Royal Society (chair) set the scene for this session by saying that it was not surprising—in light of the migration of research content to the web in the last decade or so—to see a number of new and emerging approaches to the assessment of quality and importance appearing on the scene.

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The University of Utah is moving to patron based purchasing, especially with book buying. In the past only 50% of the books picked by librarians had been used, so now they are installing an Espresso Book Machine® for instant purchase.

Richard Gedye discussed several research projects on usage-based metrics. The PIRUS project is looking to define a global measure of individual journal article usage. The recommended approach is for a COUNTER-style report at the article level combined with a mechanism for delivering such reports, and that each of the various repositories offer a given article for download, to be aggregated in a central reporting facility. Following an initial investigation that concluded in January 2009, PIRUS now has funding to undertake a second phase of work to try to make this service a reality. At the journal level, the UKSG-initiated Usage Factor project is now moving beyond market research and into data analysis and modeling. There are a number of critical data issues to explore as part of this next phase of work, and a number of challenges still to address, including detecting and deterring gaming of the process, and the issue of multiple journal hosts. A full report is due by April 2010.

Jevin West gave a lively overview of the Eigenfactor, a measure that attempts to take account of where a journal's citations come from, not just a simple count of those citations. Sophisticated mathematical tools can now analyze citation "networks" to identify the relative overall importance of one journal against another. Using data from Thomson Reuters, the Eigenfactor Project team has calculated the amount of time an average researcher ought to spend reading content from a given journal, on the basis of citation patterns in the literature over a given period of time. Jevin concluded by emphasizing the potential of this and other new bibliometrics to help users navigate the scholarly literature more effectively in the future.

Pam Macpherson-Barrett from HEFCE bravely talked us through the first half of her presentation without slides, due to a data projector that refused to play ball. HEFCE is working to develop new arrangements for the assessment and funding of research across all subjects—the Research Excellence Framework (REF). A pilot project to test three different bibliometric models was recently completed. The major finding was that there are too many discrepancies for bibliometrics to be used formulaically or to replace expert review. Rather, there is scope for them to inform expert review, although the usefulness of these measures does vary by discipline.

5 Publishing to Mobile Devices

A parallel session on mobile devices had **George Lossius** of Publishing Technologies looking at the application to scholarly publishing. He pointed out that very few people have e-book readers but everyone has a mobile and 95% of them have web access. He believes that e-book readers won't take off because, fundamentally, you don't need them.

Tag McEntegart of INASP commented that in developing countries children share a handset, and each owns a SIM card. The devices are widely used for learning English among children who can't get to schools. We need to learn from how children—particularly in developing countries—are already using mobiles to make sure we are developing our content in line with their needs.

Pippa Scoones of Wiley Blackwell is working on a cross-organization initiative, driven by sales and publishing staff. There is low but increasing sale of Wiley's consumer book content for Kindle and they are now also making available some scholarly, reference, and textbooks. They have developed iPhone apps for some content, for example Frommer's travel guides, including a reader feedback section, and Cliff's Notes for revision applications, but nothing scholarly as yet.

Jevin West gave a lively overview of the Eigenfactor, a measure that attempts to take account of where a journal's citations come from, not just a simple count of those citations.

6 Open Access Revisited: What Can We See Now that the Dust Has Settled?

Mary Waltham opened the session by explaining the difference between public access, meaning free to read, subject to terms and conditions, and open access, specifically digital, online, free of charge and copyright to the end user, and allowing reuse. The Federal Research Public Access Act was reintroduced to the U.S. Congress in June and requires public access after a six month embargo. It was noted that this applies to peer-reviewed manuscripts, not necessarily the final version. In her opinion the recession will lead to even greater demand for public access.

Michael Jubb of the Research Information Network picked up the topic noting that it has been a pretty good decade for research funding with marked increases compared to the previous 50 years. The reasons were political drivers, with the recognition of the connection between research and innovation and maximizing returns on publicly funded research. Michael's view of open access is as a means of enhancing research speed

"We're thinking a lot about ice cream," says Frances Pinter. Plain vanilla ice cream is the core book that's online free of charge. The ice cream sandwich is the print edition and for that they charge. The money in the future would come from the ice cream sundae—the enhanced e-book content.

and efficiency and fostering collaboration. He is concerned that open access should maintain quality assurance, whether by peer review or, more progressively, through other mechanisms. Research assessment and evaluation is increasingly important and institutions are increasingly keen to manage ("recapture") their information assets (repositories). Doubts exist about the sustainability of both systems (current and OA) with winners and losers in the research landscape in both scenarios.

Claire Bird of Oxford University Press (OUP) Journals gave a detailed practical presentation about OUP's experiences. Open access charges range from $500 to $3,000+ per article. OUP, for example is currently publishing some 1,000 OA articles in *Nucleic Acids Research* with ~ $2,670 in author charges per article. This is up from $1,500 in 2004. Examples of several other full OA titles were also reviewed. Where OA is optional, the fees tend to be higher and about half of publishers offer a discount to subscribers or members. It has been a challenge to balance raised author charges with the need to break even. Authors aren't that bothered about the open access angle; they are more concerned about reputation, impact factor, speed of publication process, and quality of peer review. Where OA is optional, uptake is low. Embargoed free access may be a factor in this. Uptake is stronger in the STM markets and OUP has had good uptake, probably because of discounts which make the OA option accessible and because of marketing to authors. With the *Journal of Experimental Botany*, the average increase in full text usage for OA versus non-OA is 40%. It isn't clear where this usage is coming from or if the content is actually useful to these extra accessers.

Phil Davis of Cornell University commented on how OA content is being used. Free access articles are assumed to have the "OA citation advantage," because the articles are more widely distributed. The observational studies concluding this were basic, however, if this is true, it would impact how scientists publish and purchase, how agencies fund, and how institutions promote authors' work. In a randomized controlled trial of 36 journals with 712 free articles and 2,542 subscription-based articles, there were twice as many downloads of the freely available articles (but half were from robots). There were also 30% more unique visitors and 60% more PDF downloads, but a 20% decrease in abstract views. The citation advantage, however, was not significant except, interestingly, with those articles picked for free access by the editor (rather than randomly) where there was a significant OA citation advantage.

It appears that lots of the people who benefit from OA do not cite; they tend to be "general public" readers. Those who cite already have access to the literature, so OA equals more readers, but does not equate to more citations.

7 It's Never Been a Better Time to Publish Scholarly Books

Frances Pinter, Publisher at Bloomsbury Academic, talked about their new e-books venture where, unlike newspaper publishing, they are in an enviable position because they know who funds the purchases and know scholars want to retain publishing input. Outsell figures show that e-book sales are up 50% year over year; the AAP estimates e-books sales in 2009 will equal $100M revenue for major publishers.

Bloomsbury Academic is a start-up within a bigger company and has a license to try something new. "We're thinking a lot about ice cream," she said. Plain vanilla ice cream is the core book that's online free of charge. The ice cream sandwich is the print edition and for that they charge. The money in the future would come from the ice cream sundae—the enhanced e-book content. This is the same well-used model for trade publishers and academics like Nature, premium content surrounded by free content. Bloomsbury has inverted it—free content at the core, premium content around it. The key issues are licensing and funding. Licensing is moving from exclusive to non-exclusive. Funding is navigating a dangerous

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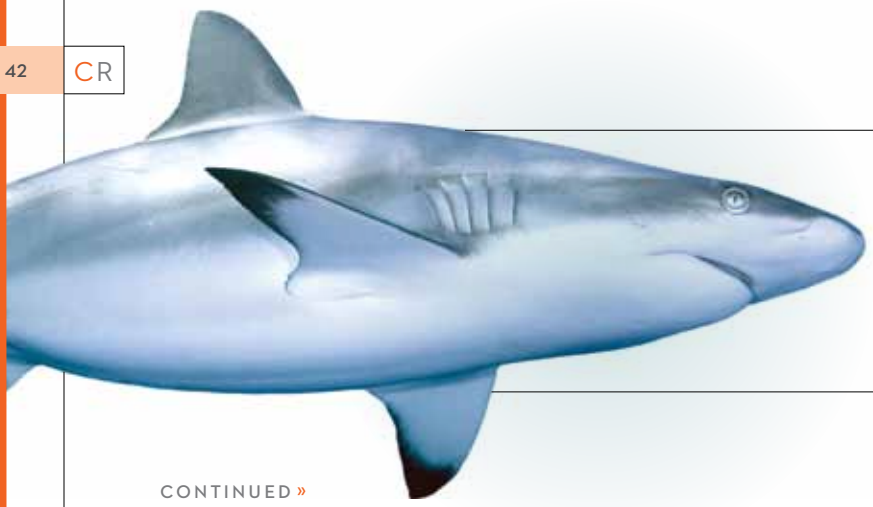

Stephen Welch, Executive Editor of CHEST started his talk with a picture of a shark, emphasizing his mantra "have no fear."

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waterway, but if publishers get it right the huge potential for e-books will be realized. In closing she exhorted, "Keep on experimenting."

Joachim Engelland discussed whether publishers should keep their e-book publishing totally under their control or outsource areas such as selection, dissemination, and publicity. Looking at revenues, market sizes, and business models may be distracting when others are already clearly willing to invest in our content and build functionality—Google Book Search, Amazon Search Inside, journal and e-book aggregators—people who invest in enhancing content that book publishers provide. Advantages of allowing others to work with your content include harnessing their creativity, little investment or development effort, access to enhanced sales / marketing resources, and no organizational changes. The disadvantages include shared revenues, no internal staff development, and limited branding.

Toby Green of OECD gave a history of what's been happening at OECD since transitioning from print business to information service. Ten years ago they had declining revenues but economists were convinced that it was just a matter of price elasticity—finding the point of inflection at which sales would take off. So prices were cut (to the point where it was not cost effective) and sales went through the floor, an example of a broken business model. E-books have changed all that. They are also seeing rising print sales following e-book publication, but that could simply be because people can now find the book. E-books allow localization for editions around the world, and, combined with print-on-demand (POD), people don't have to wait six weeks for a book to arrive. It means no more massive warehouses with poor estimates of how much stock would be required in country X. Green believes that POD will become popular in the specialist publisher space because it saves the strain of trying to predict very small print runs. For example, OECD's *Factbook* and *StatLink* delivered a million Excel files from those books last year, and it is likely to be 2 million this year. When OECD launched its iPhone app (without any publicity) there were 3,500 downloads in 2 weeks. Converting OECD to multiple publishing formats has required complete reorganization—internally, and of the supply chain. Subscriptions have recovered massively since providing a range of online formats and purchasing options and this helps to fulfill their objective as public body. Readership has gone up from 0.25M to over 4M from a range of access points including Google Books, and the massive readership there is having no impact on the ability to sell individual books elsewhere. Books are exciting again, but it still requires a flexible view of what a book is, what the business models are, and what to do with them.

8 Brand X – Trust and Authority in Scholarly Publishing

Stephen Welch, Executive Editor of CHEST started his talk with a picture of a shark, emphasizing his mantra "have no fear." The re-branding that they carried out at the American College of Chest Physicians was based on the need to create a clearly definable presence in the market place for their books, journals, conferences, and membership. A coherent brand equates to customer loyalty, growth, the ability to hire and retain employees, focused activities, more market share and perceived value, and decreased price sensitivity. The results of the re-branding have achieved these goals and resulted in increased subscriptions, increased impact (including appearances on the Daily Show and House), and increased rejection rates for the journal.

Carol Tenopir of the University of Tennessee asked what is important to readers and showed results that indicated the brand only matters for a minority who are at the top of their game. Browsing as a discovery tool is going down, and interactions with colleagues, e-mail, and blogs are going up. Citation discovery is also increasing. The younger researchers are mainly using electronic resources and web access and do not have personal subscriptions. There is a higher percentage of use of resources from undergraduates than faculty and the majority of usage starts with a reading list or faculty recommendation. The ranked importance of journal article attributes was:

- Journal prominence
- Author reputation
- Author affiliation
- Speed of publication
- Publication type (society, commercial, no publisher)

Quick quality clues are more important than ever, along with a meaningful abstract.

Geoff Bilder of CrossRef sees brand as a proxy for trust. The current environment is amplification without attenuation and a loss of signal in the noise. He maintains that researchers practice "reading avoidance" and that brand can quickly indicate: Is it relevant? Is it good? Is it important?

9 The Transformation of Scholarly Practice

Nicholas Jankowski of the University of Nijmegen reviewed some of the rationales for web-based publishing of "enhanced" journals and showed examples where readers comment on preliminary versions of a text, and further comments get built on this until it is eventually locked down to a "final version." A recently launched MIT Press publication *International Journal of Learning and Media* is more diverse than most as the content is intended for practitioners AND academics. Content is divided into keywords, missives, and news; it will start to be a challenge for the editorial board to define what constitutes scholarship worth publishing. Reactions have been muted to Elsevier's *Article of the Future*, mainly focused on negatives like the costs of "converting manuscript into eye candy." Journals in different disciplines may need to be enhanced in different ways, depending on the needs of that community. The e-article should not be an end in itself but a vehicle for other objectives. The place of social media is not yet determined and he is not sure whether there is a place for it.

Barend Mons of the Netherlands Bioinformatics Centre commented on Geoff Bilder's "reading avoidance" by saying that publishers should be in the business of "writing avoidance." The Semantic Web is still text oriented and requires reading and Elsevier's project is an Article of the Past because it also requires too much reading. A group of pharmascientists are demanding that we should tear down firewalls between different researchers—open data, open source—to reduce the costs of pharmaceuticals development. The problem with this is that while everybody wants structured data, nobody wants structured data entry—even filling in the most basic of registration forms is a drag. So how do we get from free-text-entry blogs and tweets to structured data?

Leiden University has created a tool that uses multiple data sources to structure data as you type, translating what you enter and asking, "Is this what you really meant?"

Brian Kelly of UKOLN talked about the increasing use of social networking in the research community. Examples included the value of Twitter for making real-life connections at conferences, for making us concise and more effective in our communications, and as a discoverability tool for finding more comprehensive information. Posting summaries of articles to blogs allows comments, trackbacks, and better monitoring of impact. Researchers are starting to use the social web to support a wide range of activities. But will there be tensions between those who want to use the general public stuff that's already there (e.g., You Tube) and those who think institutions should have their own versions?

Summary

It is clear from this conference that scholarly publishing is still in the midst of a major transition—balancing the needs for print and electronic—and is struggling with appropriate funding models and even content scope in a web-based, mobile world. While there is no easy or single solution, many innovative experiments are underway that will shape the future of scholarly publishing.

| CR | doi: 10.3789/isqv21n4.200910

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The author wishes to acknowledge that substantial assistance for this article was received from Charlie Rapple, Head of Marketing Development, TBI Communications, Oxford, and James Culling, Client Services Director, DataSalon Ltd, Oxford.

RELEVANT LINKS

ALPSP 2009 Conference Program and audios/slides
www.alpsp.org/ngen_public/article.asp?aid=84675

ALPSP Survey of Librarians
www.alpsp.org/ngen_public/article.asp?aID=112716

ContentNation
www.contentnation.com

Eigenfactor Project
www.eigenfactor.org/

Elsevier Article of the Future (beta)
beta.cell.com

NowPublic
www.nowpublic.com

O'Reilly Rough Cuts
oreilly.com/roughcuts

Espresso Book Machine
www.ondemandbooks.com

PIRUS Project
www.jisc.ac.uk/whatwedo/programmes/pals3/pirus.aspx

UKSG Usage Factor project
www.uksg.org/usagefactors

NW [NOTEWORTHY]

NEW! on the NISO Website

Bibliographic Control Alphabet Soup Webinar presentation slides and Q&A

www.niso.org/news/events/2009/bibcontrol09/

DAISY (Talking Book) Standard Revision Update – Open Teleconference recording

www.niso.org/apps/group_public/download.php/3024/NISOopentelecon_daisy9nov09.mp3

Data Migration and System Population Practices Webinar presentation slides and Q&A

www.niso.org/news/events/2009/datasystems09

E-Resources Licensing Two Part Webinar presentation slides and Q&A

Part 1: www.niso.org/news/events/2009/eresources09
Part 2: www.niso.org/news/events/2009/licensing09

Library Resource Management Forum presentation slides

www.niso.org/news/events/2009/lrms09/agenda

NCIP Open Teleconference recording

www.niso.org/apps/group_public/download.php/2943/NISOtelecon_ncip12oct09-trim.mp3

SUSHI Server Registry updates

sites.google.com/site/sushiserverregistry/

www.niso.org

EPUB Standard Receives New Endorsements and a Maintenance Agency

The International Digital Publishing Forum (IDPF) has appointed the DAISY Consortium to be the maintenance agency for the EPUB standard. EPUB is a group of three open standards that allow publishers to create electronic publications with "reflowable" content, which can be easily reformatted for different display devices.

George Kerscher, the director at DAISY will be the chair of the EPUB Standards Maintenance Working Group. DAISY was one of the founding members of IDPF and is a leader in developing and promoting digital talking book technology for the visually impaired. DAISY is also the Maintenance Agency for the NISO standard, *Specifications for the Digital Talking Book* (ANSI/NISO Z9.86). Among the objectives of the working group is tracking and resolution of issues, identifying requirements and new features for future revisions, developing conformance tests for EPUB rendering, and support for the implementation and promotion of the EPUB standard.

The EPUB standard has also received two new endorsements: by Google for more than a million public domain books in its Google Books service and from Sony who announced support for EPUB on its Reader Digital Book. Sony is the first major e-book device supplier to support the open EPUB standard. Sony also announced it will convert its entire eBook store backfile to the EPUB format by the end of the year. The move by both companies is seen as a challenge to Amazon and their Kindle reader, which does not yet support EPUB. ■

RELEVANT LINKS

EPUB Maintenance Working Group Charter
www.idpf.org/idpf_groups/epubmaint.htm

EPUB Specification
www.idpf.org/specs.htm

International Digital Publishing Forum
www.idpf.org

DAISY Consortium
www.daisyconsortium.org

CrossRef, SAGE, OUP, CLOCKSS and Portico Collaborate on Archive for Discontinued Journal Articles

One of the key features of a Digital Object Identifier (DOI) is persistence, which can only be achieved if the DOI's resolving location is updated when the linked resource is moved. One event that requires such a DOI update is the discontinuation of a journal title and the movement of its content to an archiving service.

SAGE and Oxford University Press (OUP) have worked with CrossRef and the repository services CLOCKSS and Portico to ensure that when their titles are discontinued a trigger event occurs to ensure that the titles are almost immediately available from the repository services and the DOI metadata is updated.

The titles that triggered were *Auto/Biography* and *Graft* from SAGE and *Brief Treatment and Crisis Intervention* from OUP. All three are now available for free from both archives. These were the first trigger events from both publishers. CrossRef's multiple resolution service allows users following a CrossRef DOI link to choose whether to access the archived copies through Portico or CLOCKSS. ■

RELEVANT LINKS

CLOCKSS Triggered Content
www.clockss.org/clockss/Triggered_Content

Portico Triggered Content
www.portico.org/news/trigger.html

CrossRef Multiple Resolution example
mr.crossref.org/iPage/?doi=10.1191%2F0967550706ab044oa

PLoS Introduces Article-Level Metrics

The Public Library of Science (PLoS) has begun supplying usage data at the journal article level to support their belief that research articles "primarily be judged on their individual merits, rather than on the basis of the journal in which they happen to be published." Called Article-Level Metrics, the available data, which can be found under the 'Metrics' tab of each PLoS article, currently includes:

- Article usage statistics – HTML pageviews, PDF downloads, and XML downloads
- Citations from the scholarly literature – currently from PubMed Central, Scopus and CrossRef
- Social bookmarks – currently from CiteULike and Connotea
- Comments – left by readers of each article
- Notes – left by readers of each article
- Blog posts – aggregated from Postgenomic, Nature Blogs, and Bloglines
- Ratings – left by readers of each article

PLoS is planning to develop further measures and to refine tools that will allow users to search and sort articles on the basis of these metrics. ■

More information is available at: http://article-level-metrics.plos.org/

The new SLA Taxonomy Division will focus on issues related to planning, creating, maintaining, and using taxonomies.

SLA Forms New Professional Interest Group for Taxonomy Professionals

Special Libraries Association (SLA) has announced the formation of a new Taxonomy Division that will focus on issues related to planning, creating, maintaining, and using taxonomies, thesauri, ontologies, authority files, and other controlled vocabularies and information structures.

SLA Divisions conduct professional development, networking, and knowledge programs during the association's Annual Conference & INFO-EXPO. The new Taxonomy Division, chaired by Marjorie M.K. Hlava, will build a corpus of best practices and applicable knowledge for taxonomy professionals. According to Hlava, "Taxonomies are widely used and increasingly proven to cut search time by more than 50 percent, increase worker productivity up to seven fold, and allow for location and application of mission-critical information throughout an organization."

The Taxonomy Division will focus on both traditional and emerging approaches to organizing information, and the full range of settings in which taxonomies are applied. Areas of interest include:

- **Strategies for planning and creating taxonomies.** For example: identifying and articulating the need for taxonomies, demonstrating and communicating their value, analyzing existing vocabularies to inform the creation of new ones, and selecting technologies and tools to support them.
- **Implementation, maintenance, and use of controlled vocabularies** for all types of information and all relevant contexts, such as support for search and navigation.
- **Standards, governance, and management** of taxonomies and other controlled vocabularies.
- **New and emerging approaches** to organizing information, such as the semantic web, ontologies, folksonomies, and tagging, including relationships between user-generated tags and formal controlled vocabularies. ■

To follow the division's activities, visit their wiki at: wiki.sla.org/display/SLATAX/Taxonomy+Home

Ithaka Study Advises on Print Journal Withdrawals

Ithaka S+R, the strategy and research arm of ITHAKA, has released a study, *What to Withdraw? Print Collections Management in the Wake of Digitization*, that aims to assist libraries in space planning and retention of print journals.

With digital journals often providing the main access, the issue becomes when to retain print formats for preservation. The study identifies five criteria for retaining print versions: the need to fix scanning errors; insufficient reliability of the digital provider; inadequate preservation of the digitized versions; the presence of significant quantities of important non-textual material that may be poorly represented in digital form; and campus political considerations. The recommendations also include risk profiles and time horizons for the preservation that "indicate the need for at least one print copy of well-digitized digitally preserved text-only materials to be available for at least 20 years." However, in a scenario where the digitization quality is inadequate, the time horizon could be 100 years and re-digitization of the materials would be needed.

The report takes a system-wide perspective, realizing that the value to any individual library of preserving a journal may not be cost-beneficial. Thus the authors recommend a strategy of aggregating mechanisms for storage and de-duplication. Issues related to apportioning responsibility and providing revenues would need to be addressed, but a number of current projects provide possible models.

In conclusion, the report recommends specific action steps that can be taken for journals with immediate withdrawal potential, steps to increase the withdrawal potential of other journals, and building a consortial repository system. ■

The study is available online from: www.ithaka.org/ithaka-s-r/research/what-to-withdraw/

NSTC Releases Strategy for Digital Scientific Data

Digital imaging, sensors, analytical instrumentation, and other technologies are becoming increasingly central to all areas of science. Increases in computing power drive advances in modeling and simulation that extend the reach of science. Improvements in networking increase access to information, instrumentation, and colleagues around the globe. Digital data are the common thread linking these powerful trends in science.

The National Science and Technology Council (NSTC) released a report describing a strategy to promote preservation and access to digital scientific data. The report, *Harnessing the Power of Digital Data for Science and Society*, was produced by the NSTC's Committee on Science under the auspices of the Office of Science and Technology Policy (OSTP) in the Executive Office of the President.

OSTP is working to create a central, online repository—data.gov—where the public can download government data in open, structured formats. The report provides a strategy to ensure that digital scientific data produced by and for the Federal government and made available via data.gov and agency websites can be reliably preserved for maximum access in catalyzing progress in science and society.

The report includes three key recommendations to pursue this vision. The first is to create an Interagency Subcommittee under NSTC that will focus on goals that are best addressed through continuing broad cooperation and coordination across agencies. The second is for departments and agencies to lay the foundations for agency digital scientific data policy addressing the full data management life cycle and make the policy publicly available. The third key element is for all agencies to promote a data management planning process for projects that generate scientific data for preservation. ■

The report, available from www.nitrd.gov/About/Harnessing_Power.aspx, represents the combined effort of representatives from 22 Federal agencies working together under the Interagency Working Group on Digital Data.

ARL Publishes SPEC Kit on E-book Collections

The Association of Research Libraries (ARL) has published E-book Collections, SPEC Kit 313, that examines the current use of e-books in ARL member libraries; their plans for implementing, increasing, or decreasing access to e-books; purchasing, cataloging, and collection management issues; and issues in marketing to and in usage by library clientele.

Of the 75 responding libraries, 73 (97%) reported including e-books in their collections. According to survey responses, most institutions entered the e-book arena as part of a consortium which purchased an e-book package. Purchasing at the collection level allowed libraries to acquire a mass of titles with a common interface, reducing some of the transition pains to the new format. The downside of collections is that libraries find they are often saddled with titles they would not have selected in print; also, each collection might have a different interface, adding to user frustration.

Those libraries reporting success with individually selected e-book titles cope with other problems: lag time between print and electronic publication (with electronic the lagging format), restrictive digital rights management, loss of access by ILL, and limited printing top the list of concerns. However, responses indicate a preference for title-by-title selection as a more efficient use of funds.

The SPEC Kit includes documentation from respondents in the form of collection development policies, e-book collection webpages, e-book promotional materials, training materials for staff and users, and e-book reader loan policies. ■

The table of contents and executive summary from this SPEC Kit, along with ordering information, are available online at: www.arl.org/bm~doc/spec-313-web.pdf.

DAISY Book Samples Available

The DAISY Consortium has posted a number of sample DAISY book files for content creators, developers, and end users who need sample content for testing purposes. The samples include a simple version 2.02 book; a DAISY 3 book with image, text, and audio synchronization; a 2.02 book with skippability and structural elements such as multi-level headings, pages, footnotes, producer notes, and sidebars; a Japanese book with Ruby annotations, vertical text, and audio; a DTBook-XML with image, image descriptions, text, and headings; and a very large 2.02 text and audio book with over 835 TOC items and more than 1200 pages. | NW |

Access the samples from: www.daisy.org/z3986/samples/

SS [STATE OF THE STANDARDS]

In Development or Revision

Listed below are the NISO Working Groups that are currently developing new or revised standards, recommended practices, or reports. Refer to the NISO website (www.niso.org/workrooms/) and *Newsline* (www.niso.org/publications/newsline/) for updates on the Working Group activities.

WORKING GROUP	STATUS
Cost of Resource Exchange (CORE) Co-chairs: Ed Riding, Ted Koppel	**Z39.95-200x, Cost of Resource Exchange (CORE) Protocol** Draft Standard for Trial Use (DSFTU) through March 31, 2010
DAISY/NISO Standard Advisory Committee Chair: George Kerscher	**Z39.86-201x, Specifications for the Digital Talking Book** Standard revision in development.
Institutional Identifiers (I²) Co-chairs: Tina Feick, Grace Agnew	**Z39.94-201x, Institutional Identifiers** Standard in development.
Knowledge Base And Related Tools (KBART) *Joint project with UKSG* Co-chairs: Peter McCracken, Sarah Pearson, Charlie Rapple	Recommended Practice in final editing; publication expected in January 2010.
ONIX-PL (Publication Licenses) *Joint project with EDItEUR* Chair: Alicia Wise	**ONIX-PL** v1.0 issued by EDItEUR in November 2008. Available at: www.editeur.org/21/ONIX-PL/ **OPLE (ONIX-PL Editor)**, v1.0 available for installation. Pursuing educational activities to promote adoption.
Physical Delivery of Library Materials Co-chairs: Valerie Horton, Diana Sachs-Silveira	Recommended Practice in development.
Single Sign-on (SSO) Authentication Chair: Harry Kaplanian	Recommended Practice in development.
Standardized Markup for Journal Articles Chair: Jeff Beck	**Z39.96-201x, Standardized Markup for Journal Articles** Standard in development.

Five-Year Review

The following published and approved NISO standards were reviewed by the managing Topic Committees in 2009, in accordance with Periodic Maintenance procedures. These standards were put to ballot in November 2009. Any users of these standards are encouraged to comment on them at: www.niso.org/contact/. More information on the managing Topic Committees can be found at www.niso.org/topics/.

DESIGNATION	TITLE
ANSI/NISO Z39.18-2005	**Scientific and Technical Reports – Preparation, Presentation, and Preservation** Managing Topic Committee: Content & Collection Management
ANSI/NISO Z39.19-2005	**Guidelines for the Construction, Format, and Management of Monolingual Controlled Vocabularies** Managing Topic Committee: Content & Collection Management
ANSI/NISO Z39.29-2005	**Bibliographic References** Managing Topic Committee: Content & Collection Management
ANSI/NISO Z39.84-2005	**Syntax for the Digital Object Identifier** Managing Topic Committee: Content & Collection Management
ANSI/NISO Z39.88-2004	**The OpenURL Framework for Context-Sensitive Services** Managing Topic Committee: Discovery to Delivery

ISQ CALL FOR CONTRIBUTIONS

The editor of *Information Standards Quarterly* (ISQ) is seeking contributions from the NISO and general information communities to future issues of ISQ.

AUTHORS ARE ENCOURAGED TO E-MAIL THE EDITOR <EDITOR@NISO.ORG> WITH PROPOSALS PRIOR TO SUBMITTING FULL MANUSCRIPTS.

***ISQ* is NISO's print and electronic magazine for communicating standards-based technology and best practices in library, publishing, and information technology, particularly where these three areas overlap. *ISQ* reports both on the progress of active developments and also on implementations, case studies, and best practices that show potentially replicable efforts.**

■ **THE STANDARDS / BEST PRACTICES** covered in *ISQ* are not limited to those produced by NISO. Discussions of formal and defacto standards and best practices of any organization in relevant areas of library, publishing, and information technology are candidates for inclusion.

■ **FEATURES** may be case studies, implementation experiences, best practice sharing, descriptions and explanations of standards or technology, comparisons or evaluations of standards or technology, summaries of recently issued reports or recommendations, or progress reports on ongoing research or development activities that have reached some significant milestone. Articles pertaining to a particular "product" should be presented as a case study or an implementation experience and not come across as marketing for the product.

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