ISQ INFORMATION STANDARDS QUARTERLY

WINTER 2010 | VOL 22 | ISSUE 1 | ISSN 1041-0031

SPECIAL EDITION: STATE OF THE STANDARDS AND YEAR IN REVIEW

PLANNED OBSOLESCENCE: A NEW MODEL FOR ACADEMIC PUBLISHING

DCMI: BEYOND THE ELEMENT SET

E-BOOKS: THE ETERNAL NEXT BIG THING

Z39.7 LIBRARY METRICS & STATISTICS DATA DICTIONARY

OPENURL KNOWLEDGE BASES RECOMMENDED PRACTICE

NISO
How the information world CONNECTS

2010 Library Assessment Conference

Building Effective, Sustainable, Practical Assessment

Baltimore, Maryland

October 25-27, 2010

The conference goal is to support and nurture the library assessment community through a mix of invited speakers, contributed papers and posters, workshops, and engaging discussion.

CALL FOR PROPOSALS

Deadline: February 15, 2010

www.libraryassessment.org

Vendors interested in sponsorship opportunities to maintain low registration fees please contact Martha Kyrillidou at martha@arl.org

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University of Virginia Library

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Library Assessment Blog

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libraryassessment.info

ISQ

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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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DESIGN | B. Creative Group, Inc.

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www.niso.org/news/events

Todd Carpenter

FROM THE PUBLISHER

[SPECIAL EDITION]
STATE OF THE STANDARDS AND YEAR IN REVIEW

The future of the book has been a theme of many a conference or seminar in recent years. There are significant transformations and developments that are converging around digital content creation, publishing, and distribution. While these changes have been impacting the back-end production side of publishing for more than two decades, they are now becoming apparent to both authors and readers. The traditional definition of a book is broadening and users are demanding more than a passive reading experience.

Kathleen Fitzpatrick in her terrific article on *Planned Obsolescence* highlights the changes to the book and proposes a new model for digital academic publishing. She shares her experience with creating content on an open platform and details the successes and failures in working with the new digital formats. She also gives some perspective on how these transformations and models might impact scholarship. However, the implications are much broader. Works of all sorts are being transformed by the interactive and communication capabilities of the digital medium. Improved discovery through semantic descriptions, covered in Corey Harper's article on the Dublin Core Metadata Initiative (DCMI), is one area having an increasingly apparent and powerful impact on all digital information, including e-books. Dale Askey in *E-books: The Eternal Next Big Thing* adds some skepticism to the discussion, arguing that the current hyped wave of e-book readers is still not ready for mass consumption.

Our tradition with the first ISQ issue of the year is to highlight the state of the information standards landscape both within NISO and outside. And what a year 2009 was! NISO launched more standards projects in the past year than in any single year of its history. As a result, we have more members of our community now engaged in active development and maintenance groups than ever before. Likewise, this issue of ISQ is our biggest ever. I hope you will find the content informative and engaging.

Todd A. Carpenter | *NISO Managing Director and ISQ Publisher*

KAREN A. WETZEL

SPECIAL EDITION: NISO 2009 YEAR IN REVIEW

This comprehensive report on NISO's standards and initiatives appears in the first issue of the year of ISQ to keep you informed of the scope and status of NISO's program on an annual basis. If you have questions about any of the standards or development programs, contact the NISO office by phone (301.654.2512), via e-mail (nisohq@niso.org), or visit the NISO website (www.niso.org).

ERM Data Standards and Best Practices Review Working Group

Approved: June 30, 2009

Business Information Topic Committee

Chairs: Ivy Anderson, Tim Jewell

This project is an outgrowth of the Digital Library Federation's Electronic Resource Management Initiative (ERMI), first begun in 2002. A second phase of the Initiative was completed in late 2008. In follow-up discussions between **Todd Carpenter**, NISO's Managing Director, and **Peter Brantley**, Executive Director of DLF, regarding the future of ERMI, NISO agreed to perform a needs assessment with respect to ERMI and broader ERM-related data needs and standards, and to assume any appropriate maintenance responsibilities. A subgroup of NISO's Business Information Topic Committee was tasked with surveying this landscape to determine what, if any, further steps should be undertaken by NISO. This new project is an outcome of that initial ERMI landscape. The Working Group began a "gap analysis" in November 2009 regarding ERM-related data and standards and will make recommendations regarding the future of the ERMI data dictionary within that broader context. The analysis will begin with a review of the ERMI data dictionary as it presently exists, and a mapping of ERMI data elements to those within relevant related projects (e.g., CORE, SUSHI, ONIX-PL, etc.). The deliverable will be a report for the Business Information Topic Committee and the NISO community highlighting current work that provides solutions for specific areas of ERM use, identifies gaps where work has not been done, and recommends appropriate further work.

DAISY Standard Revision Working Group

Approved: August 29, 2008

Content & Collection Management Topic Committee

Chairs: Markus Gylling, George Kerscher

ANSI/NISO Z39.86-2005, *Specifications for the Digital Talking Book*—more commonly known as the DAISY standard—is undergoing a revision in order to modularize it for easier and more flexible use, as well as to take advantage of current technologies to enable a significantly better user experience. The specification will be divided into two parts: Part A, *Authoring and Interchange*, and Part B, *Distribution*. Both parts will be released as Draft Standards for Trial Use and will remain in these phases until both are ready for submission to NISO for formal approval. It is expected that Part A will be released in April 2010, with Part B available by December 2010. The working group held its first face-to-face meeting in March 2009 adjacent to the CSUN conference, and meets via conference call every two weeks. The group has published three working drafts, with the latest produced in December 2009.

CORE Working Group

Approved: May 30, 2008

Business Information Topic Committee

Chairs: Ted Koppel, Ed Riding

The Working Group completed the CORE (Cost of Resource Exchange) draft standard (NISO Z39.95) and associated schemas in March 2009. Following approval by the Business Information Topic Committee, a trial period was launched April 1, 2009, to end March 31, 2010. During this time, the Working Group continued to promote use and be available for trial questions, though vendor software development cycles have caused some delay in implementation. In 2010, four implementations are expected; the Working Group is now considering an extension of the trial period by six months.

Educational Programs

This past year was a great success for NISO's education programs. With the support of the Education Committee, NISO held three in person forums, including the third annual NISO/BISG forum at ALA Annual, as well as thirteen webinars—one each month (except July), with May and September having special two-part webinar events. Over 300 people attended NISO's forums, and an additional 1,100 sites registered for NISO webinars. With an average of three people viewing the live webinars at each site, that's a grand total of over 3,500 people benefiting from NISO's education events! To learn more about the fantastic programs held in 2009, visit the related feature in this issue on page 47.

ONIX-PL Standing Committee

ONIX-PL *Publications License format, version 1.0*

Chair: Alicia Wise

The first version of the ONIX-PL format specification was released in November 2008 by EDItEUR, and this joint NISO/EDItEUR committee focused in 2009 on promotion of the XML format and the related OPLE (ONIX-PL Editor) open source tool. The year ended with the NISO webinar, *ONIX for Publication Licenses: Adding Structure to Legalese*, held December 2009.

SSO Authentication Working Group

Approved: April 22, 2009

Discovery to Delivery Topic Committee

Chairs: Harry Kaplanian, Steven Carmody

This project is the focus of the 2009 Chair's Initiative. **Oliver Pesch**, Board of Directors Chair 2008–2009, identified user authentication as the issue that he would like to see NISO address. The goal of this Working Group is to explore practical solutions for improving the success of SSO authentication technologies for providing a seamless experience for the user and to promote the adoption of one or more of these solutions to make the access improvements a reality. To achieve this objective, the group will explore the problem and deliver one or more Recommended Practice documents. The Working Group first met in October 2009, and has spent a good deal of time refining and further defining the goals of the group and identifying leads for specific work outcomes.

NCIP Implementation Group

ANSI/NISO Z39.83-1 2008, NISO Circulation Interchange Part 1: Protocol (NCIP)

ANSI/NISO Z39.83-2 2008, NISO Circulation Interchange Protocol (NCIP) Part 2: Implementation Profile 1

Chair: Gail Wanner • Maintenance Agency: EnvisionWare

This year the NCIP Standing Committee was able to transition from a development working group to a group focused on ways to encourage implementation and promotion of the NCIP standard, parts 1 and 2. This included outreach, development of a new website, and a move to continuous maintenance (approved by the group in 2009 and endorsed by ANSI in January 2010). In addition, the group modified its internal procedures in April 2009 to ensure an active and engaged standing committee, and work began on an implementer registry, supporting documentation, and updating of the RFP guidelines for NCIP. Perhaps the biggest outcome of the group's work in 2009 was defining a core message set of nine messages that together support the majority of the current functionality for resource sharing and self-service applications. Responding applications need only implement this core set of messages to be NICP-ready, which reduces the effort needed to implement NCIP. Initiating applications may still use additional messages, but the definition of a core set of messages will increase interoperability and enable librarians to expect support for a common baseline workflow.

Information Standards Quarterly (ISQ)

In 2009, NISO unveiled a new design for the *Information Standards Quarterly* (ISQ) magazine to coincide with the celebration of NISO's 70th anniversary. Highlighted in the four issues of ISQ was a special running feature celebrating NISO's achievements since the first Z39 standard was published in 1935. In addition, the ISQ website was redesigned to provide improved access to contents and links to resources discussed in the issues.

SUSHI Standing Committee

ANSI/NISO Z39.93-2007, *The Standardized Usage Statistics Harvesting Initiative (SUSHI) Protocol*

Chairs: Adam Chandler, Hana Levay, Oliver Pesch

In 2009, the SUSHI Standing Committee focused its efforts on creating support for the standard and its users in order to ensure ease of implementation. This was done so that implementers could meet the deadline of August 31, 2009 in order to be compliant with release 3 of the COUNTER *Code of Practice for Journals and Databases*. A SUSHI Server Registry was created, providing information from report providers on how to access and use their server implementation of SUSHI. Although security is outside the scope of the protocol, an informative appendix in the standard provided some suggested security approaches. With greater implementation experience, the standing committee was able to publish an erratum to this appendix with best practices for SUSHI server authentication. A number of implementation tools and aids were created or updated including web client toolkit, server software development kit, open source code for the client, a SUSHI FAQ, COUNTER FAQ, and other helpful documentation. The SUSHI Developers e-mail list remains very active in assisting with implementation questions.

I^2 Working Group

Approved: January 10, 2008

Business Information Topic Committee

Chairs: Grace Agnew, Tina Feick

The I^2 (Institutional Identifier) Working Group was established to develop a robust, scalable, and interoperable standard for identifying a core entity in any information management or sharing transaction—the institution. The group first met in July 2008. During the first phase of their work in 2008-2009, the group developed scenarios to represent the most compelling use cases for institutional identifiers that will engage all relevant stakeholders and identify their institutional identifier needs. Three sub-groups of working group members and appropriate non-members were created to engage in the initial scenario development and to survey the community to ensure that the use cases would be fully developed; these groups focused on: E-Resources, Institutional Repositories, and Library Resource Management. E-learning, originally a fourth subgroup, was instead considered as part of each of the three scenario groups' work.

The next phase of this group's work—finalizing the standard—is commencing in 2010. At that time, **Tina Feick** will step down from the role of co-chair (though she will remain an active member of the group), and **Oliver Pesch** will assume that role.

Standardized Markup for Journal Articles Working Group

Approved: September 2, 2009

Content & Collection Management Topic Committee

Chairs: Jeff Beck, Tommie Usdin

The goal of this Working Group is to take the currently existing National Library of Medicine (NLM) Journal Archiving and Interchange Tag Suite version 3.0, the three journal article schemas, and the related documentation and fast track them through the NISO standardization process. The group first met in December 2009 and has been reviewing and revising a list of changes that have been suggested for the journal article tag sets.

New Members

In the midst of a major recession, the work of NISO's community attracted five new voting members:

- American Chemical Society (ACS)
- American Institute of Physics (AIP)
- Cengage Learning
- Emerald Publishing Group
- Microsoft Corporation

and four new Library Standards Alliance (LSA) members:

- Memorial Sloan-Kettering Cancer Center Library
- NIH Library
- Nylink
- Southwest Research Institute

At the end of 2009, NISO had a total of 83 voting members and 30 LSA members.

Open Teleconference Series

In 2009, NISO launched a monthly Open Teleconference series. These free calls provide members and others who are interested in NISO activities with updates on current work and an opportunity for casual conversation with NISO staff to provide feedback and suggestions. Held the second Monday of each month, NISO makes the recordings of these open calls available on the website.

Physical Delivery of Library Resources Working Group

Approved: September 1, 2009

Discovery to Delivery Topic Committee

Chairs: Valerie Horton, Diana Sachs-Silveira

Building on the efforts of three recent projects—Moving Mountains, Rethinking Resource Sharing's Physical Delivery Committee, and the American Library Association's ASCLA ICANS' Physical Delivery Discussion Group—the NISO Physical Delivery Working Group will be developing a Recommended Practice related to the delivery of library materials. The Recommended Practice will include areas such as: packaging, shipping codes, labeling, sorting, and more. This Working Group was kicked-off in its first call in November 2009. In the few months since that call, the group has provided written feedback to ballot comments available on their website and is near completion of the document outline.

KBART Working Group

Approved: January 18, 2008

Discovery to Delivery Topic Committee

Chairs: Peter McCracken, Charlie Rappel

The KBART (Knowledge Bases and Related Tools) Working Group was established following the publication of the UKSG-sponsored research report, *Link Resolvers and the Serials Supply Chain*. The report identified inefficiencies in the supply and manipulation of journal article data that impact the efficacy and potential of OpenURL linking. The KBART working group was charged with developing a Recommended Practice that contains practical recommendations for the timely exchange of accurate metadata between content providers and knowledge base developers. On September 11, 2009, a final draft was sent to the KBART Interest Group list, with a note that the group was seeking to confirm that organizations remain interested in testing our recommendations. At that time, active testing took place and feedback was solicited and received. Based on that feedback, a final edit was prepared, with the report formally released on January 18, 2010. NISO's Discovery to Delivery Topic Committee and the UKSG (co-sponsor of the working group) have approved the NISO Recommended Practice: NISO RP-9-2010, *KBART: Knowledge Bases and Related Tools*.

Phase 2 of the project will begin in 2010 with Sarah Pearson as chair. With some continuing and some new members, the working group will focus on some of the more complex issues and undertake educational and promotional activities.

OpenURL Quality Metrics Working Group

Approved: December 8, 2009

Business Information Topic Committee

Chair: Adam Chandler

This project will build on work already underway by **Adam Chandler** (Database Management and Electronic Resources Research Librarian, Cornell University Library) to investigate the feasibility of creating industry-wide, transparent, and scalable metrics for evaluating and comparing the quality of OpenURL implementations across content providers. This is envisioned as a two-year project. At the end of two years an evaluation process will be conducted, to be provided in a published NISO Technical Report, and a decision will be made on whether or not to continue the work.

The Working Group first met in December 2009. The existing log processor and reporting software is being transitioned to NISO, along with the supporting data already gathered. A new site, niso.openurlquality.info, will be available shortly.

SERU Standing Committee

NISO RP-7-2008, *SERU: A Shared Electronic Resource Understanding*

Chair: Judy Luther

During the first half of 2009, this standing committee remained active with promotion of the SERU Recommended Practice, including presentations and support on the SERU information electronic discussion list. The group is looking to reconstitute in 2010 with additional members in order to pursue the creation of a logo, the development of an ONIX-PL encoded version of SERU, a survey of use in the U.S. and internationally, and more. Over 50 organizations joined the SERU Registry in 2009; the registry now has 40 publishers and content providers, 8 consortia, and 114 libraries.

Standards Under Review

In 2009, five standards underwent their periodic reviews. All five standards were recommended for reaffirmation by their respective managing Topic Committees. The voting pool ballots to determine reaffirmation end in early 2010. The five standards were:

- ANSI/NISO Z39.18-2005, Scientific and Technical Reports—Preparation, Presentation, and Preservation
- ANSI/NISO Z39.19-2005, Guidelines for the Construction, Format, and Management of Monolingual Controlled Vocabularies
- ANSI/NISO Z39.29-2005, Bibliographic References
- ANSI/NISO Z39.84-2005, Syntax for the Digital Object Identifier
- ANSI/NISO Z39.88-2004, The OpenURL Framework for Context-Sensitive Services

RELEVANT LINKS

Information Standards Quarterly (ISQ)
www.niso.org/publications/isq

NISO Education Programs
www.niso.org/news/events

NISO Standards
www.niso.org/standards

NISO Recommended Practices
www.niso.org/publications/rp/

NISO Workrooms (all active working groups and committees)
www.niso.org/workrooms

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[SPECIAL EDITION]

TC46 YEAR IN REVIEW

NISO has been the U.S. liaison group for ISO's Technical Committee 46 (TC46) on Information and Documentation for decades. Officially designated by ANSI as the U.S. Technical Advisory Group (TAG) for TC46, NISO submits the U.S. votes and comments on all TC46 standards, based on the ballot results from the U.S. NISO voting members. In 2009, NISO submitted U.S. votes and comments on 19 draft standards, 10 systematic reviews, and 3 new work items. ▸

TC46

TC46 Information and Documentation

Secretariat: Association Française de Normalisation (AFNOR)

Françoise Pellé, Director of CIEPS - ISSN International Centre, was appointed the new Chair of TC46 for a period of 6 years starting on 2009-02-10.

TC46 plenary meeting week was held in Nairobi, Kenya on May 11-15, 2010.

Standards published or approved for publication:

- ISO 16245, *Boxes, file covers and other enclosures, made from cellulosic materials, for storage of paper and parchment documents*

Systematic review confirmations:

- ISO 233-2:1993, *Transliteration of Arabic characters into Latin characters – Part 2: Arabic language – Simplified transliteration*
- ISO 11800:1998, *Requirements for binding materials and methods used in the manufacture of books*
- ISO 11940:1998, *Transliteration of Thai*

New projects:

- Revision of ISO 11799:2003, *Document storage requirements for archive and library materials*
- Fifteen transliteration standards were identified for revision.
- Ten other standards are also in the process of revision or have been approved to start revision projects.

Thirteen standards were approved for withdrawal.

Formation of new liaisons approved:

- Internal with TC68, Financial services (for relationships of country and currency codes)
- External with ICANN (Internet Corporation for Assigned Names and Numbers), IETF (Internet Engineering Task Force), ISAN-IA (International Standard Audiovisual Number International Agency), and OASIS (Organization for the Advancement of Structured Information Standards)

SC4

SC4 Technical Interoperability

Secretariat: Standards of New Zealand

Standards published or approved for publication:

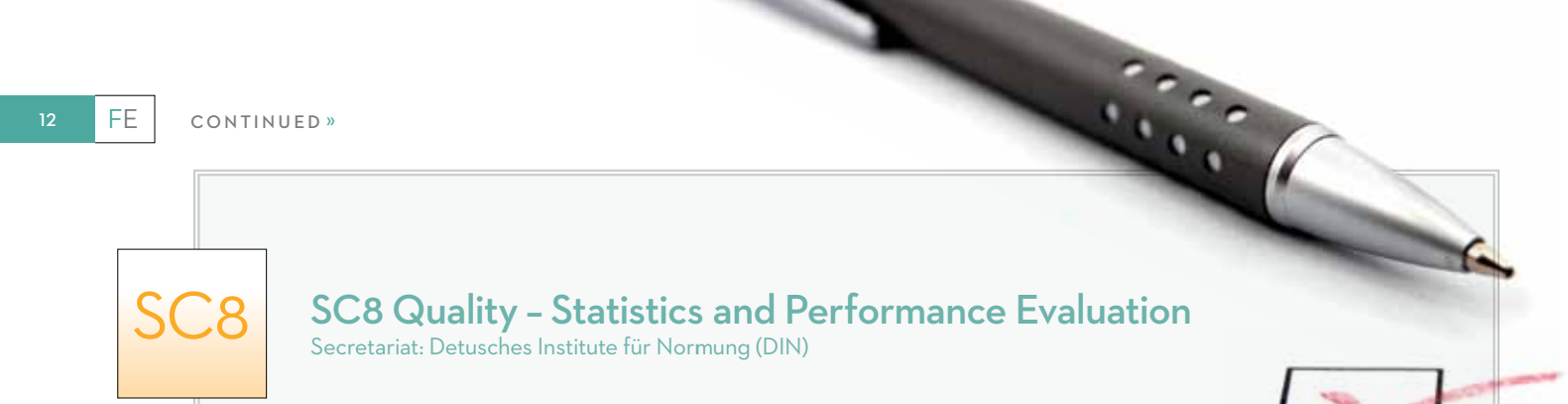
- ISO 8459:2009, *Information and documentation – Bibliographic data element directory for use in data exchange and enquiry* [revision and merger of 5 previous parts]
- ISO 15511:2009, *Information and documentation International standard identifier for libraries and related organizations* (ISIL) [revision]
- ISO 15836:2009, *Information and documentation – The Dublin Core metadata element set* [revision]
- ISO 20775:2009, *Information and documentation – Schema for holdings information*
- ISO 28500:2009, *Information and documentation – WARC file format*

Systematic review confirmations:

- ISO 6630:1986, *Documentation – Bibliographic control characters*
- ISO 23950:1998, *Information and documentation – Information retrieval (Z39.50) – Application service definition and protocol specification*

In development:

- ISO/PRF 2146, *Information and documentation – Registry services for libraries and related organizations*
- ISO/DIS 28560, *Information and documentation – RFID in libraries* [3 parts]



SC8 Quality – Statistics and Performance Evaluation

Secretariat: Detusches Institute für Normung (DIN)

Plenary meeting held March 27, 2009 in Berlin, Germany.

Standards published or approved for publication:

» ISO/TR 28118:2009, *Information and documentation – Performance indicators for national libraries*

In development:

» ISO/AWI TR 19934, *Information and documentation – Statistics for the use of electronic library services*

New projects:

» ISO/NP TR 14873, *Information and documentation – Statistics and quality issues for web archiving*

SC9 Identification and Description

Secretariat: ANSI/NISO

Plenary meeting held May 14, 2009 in Nairobi, Kenya.

Standards published or approved for publication:

» ISO 10957:2009, *Information and documentation – International standard music number (ISMN)* [revision]

» ISO 21047:2009, *Information and documentation – International Standard Text Code (ISTC)*

Systematic review confirmations:

» ISO 4:1997, *Information and documentation – Rules for the abbreviation of title words and titles of publications*

» ISO 10324:1997, *Information and documentation – Holdings statements – Summary level*

In development:

» ISO/FDIS 690, *Information and documentation – Guidelines for bibliographic references and citations to information resources*

» ISO/NP 3901, *Information and documentation – International Standard Recording Code (ISRC)*

» ISO/DIS 25964-1, *Information and documentation – Thesauri and interoperability with other vocabularies – Part 1: Thesauri for information retrieval*

» ISO/NP 25964-2, *Information and documentation – Thesauri and interoperability with other vocabularies – Part 2: Interoperability with other vocabularies*

» ISO/DIS 26324, *Information and documentation – Digital object identifier system*

» ISO/DIS 27729, *Information and documentation – International standard name identifier (ISNI)*

» ISO/CD 27730, *Information and documentation – International standard collection identifier (ISCI)*

New registration authority:

» International ISTC Agency Limited, IIA

AFNOR filed an appeal to stop the distribution of the DOI standard (ISO/DIS 26324) due to concerns about overlap with other identifier standards. The appeal failed to reach the required number of votes from the TC46 member bodies.

SC11

SC11 Archives and Records Management

Secretariat: Standards Australia

Plenary meetings held May 14, 2009 in Nairobi, Kenya and October 19-22, 2009 in Orlando, Florida. The Orlando meeting was co-hosted by ARMA International and NISO.

David Moldrich, Foster's Group Limited, was re-appointed as Chair of TC46/SC11 through 2013.

Approval was obtained to publish the SC11 standards as a Management Standards System (MSS)—a family of related standards building on one another that together encompass a coordinated system for managing records.

Standards published or approved for publication:

» ISO 23081-2:2009, *Information and documentation – Managing metadata for records – Part 2: Conceptual and implementation issues*

Standards in development:

» ISO/AWI 13008, *Digital records conversion and migration process*
» ISO/DTR 13028, *Information and documentation – Implementation guidelines for digitisation of records*
» ISO/AWI TR 13069, *Information and documentation – Risk assessment for records systems*
» ISO/CD 13390, *Information and documentation – Management system for records – Fundamentals and vocabulary*
» ISO/CD 13391, *Information and documentation – Management system for records – Requirements*
» ISO/DIS 16175, I*nformation and documentation – Principles and functional requirements for records in electronic office environments* [3 parts]

TC46 will hold its 2010 plenary meeting week in Jeju Island, South Korea from May 11–14. The Korean Agency for Technology and Standards (KATS) will host the meeting.

RELEVANT LINKS

International Organization for Standardization
www.iso.org/

ISO TC46 webpage
www.iso.org/iso/standards_development/technical_committees/list_of_iso_technical_committees/iso_technical_committee.htm?commid=48750

NISO International Standardization
www.niso.org/international/

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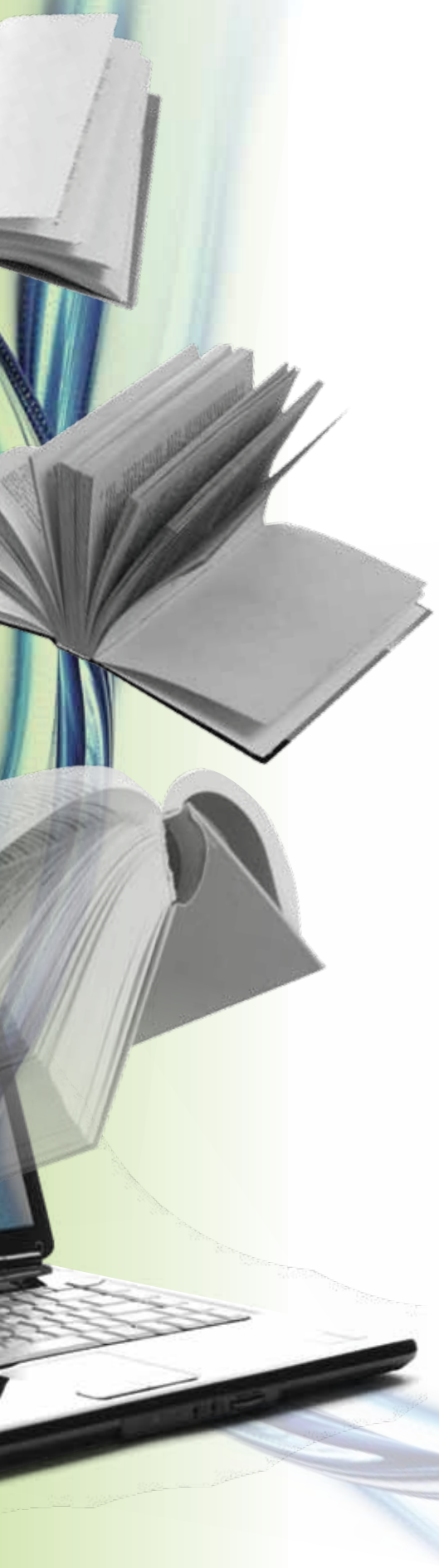
KATHLEEN FITZPATRICK

Planned OBSOLESCENCE:

a **new** model for academic publishing

THE SCHOLARLY MONOGRAPH IS IN TROUBLE. This isn't news to anyone who's been paying much attention to the state of university presses and university libraries over the last decade or so, of course. Libraries, already struggling with the exponentially rising costs of journals, especially in the sciences, have had their budgets cut, and have had as a result to reduce drastically the numbers of monographs they purchase.

In fact, as Jennifer Crewe points out in *Scholarly Publishing: Why Our Business Is Your Business, Too*, sales of university press books to libraries in 2004 were less than a third of what they had been two decades prior—and that figure of course predates the latest round of budget crises. The impact of these reduced sales on presses has been devastating, particularly as it has come at the very same time that budget cuts have slashed or eliminated university subsidies to their presses, effectively requiring them to live for the bottom line. As a result, more and more presses are making more and more publication decisions based not on the objective quality of a submitted manuscript, but instead on the potential for book sales that the manuscript represents.



YET IN THE MIDST OF SUCH CRISIS, the monograph remains an essential form, one that cannot simply be abandoned in favor of the less troubled economics (a relative concept, that) of the scholarly journal. A number of fields in the humanities still base their tenure decisions on a junior faculty member's ability to publish a book with a reputable scholarly press, and while many scholars recognize the problematic nature of this standard, few institutions will be willing to change their practices until the highest-ranking among them have done so — and they show no signs of budging. Beyond the impact that the troubled economics of scholarly book publishing might have on the careers of young academics, however, lies the impact that it might have on the development of new scholarship. Book-based fields depend on the form's expansiveness to explore sustained arguments, and while there are no doubt a large number of books that could have been published to the same or even greater effect as a series of journal articles, only the book has historically allowed its author to synthesize multiple smaller arguments in one coherent text.

A number of scholars are beginning to look for a digital form that might supplement or even supplant the printed book. These scholars — myself among them — are not only looking for a means of escaping the catastrophic economics of conventional scholarly publishing, but also hope to produce a form that allows for speedier publication, more immediate feedback from readers, and better interactions between authors and readers as well as amongst readers themselves. This crisis is the motivating force behind the book-length manuscript I've recently completed; this manuscript, entitled *Planned Obsolescence: Publishing, Technology, and the Future of the Academy*, explores the social and institutional changes within the academy in the United States that would be required in order for such a digital form of scholarly publishing to be fully accepted. Among the changes that I argue would need to take root are shifts in the ways scholars conceive themselves as authors (understanding themselves less as individual, discrete producers and more as participants in an ongoing, collaborative conversation), the ways that we think of an individual text (allowing it to grow and change over time, for instance, rather than being singular and static), the ways that we understand preservation (being no longer the sole responsibility of the library post-publication, but instead a key component of textual production itself), and the ways that we structure publishing within the university mission (as a core component of its infrastructure rather than a cost recovery center).

Perhaps the most important change for scholars, however, will be a necessary change in the ways that we conceive of and execute peer review online. The process, I argue, must understand and work with the open design of the network, favoring what Clay Shirky has called a "publish, then filter" model, and taking advantage of the potential for open discussion of a text that can, like the text itself, develop over time. These changes may be alarming for many scholars, accustomed as we are to the closed, anonymous, pre-publication vetting processes of traditional peer review, but I argue in the manuscript that such processes, if imported into networked publication, will keep academic discourse from being an important part of intellectual life online.

In August 2008, I received an advance contract from NYU Press to publish *Planned Obsolescence* in book form, but I argued that the project needed to put its money where its mouth was, so to speak: that the book needed to go through the open, conversational peer review process I promote in the text. With NYU's support, in October 2009, I published the entirety of the text online for open comment and review.

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Our intent has been to develop that community as the basis of a new mode of digital scholarly publishing centered around the open discussion and review of new texts.

Publishing *Planned Obsolescence* online thus not only served as an instantiation of the book's own arguments, but also as a test-bed for the publication and review processes that MediaCommons Press will employ.

In doing so, I took advantage of another of my projects, MediaCommons, a digital scholarly network that my co-founder Avi Santo and I have been developing with the support of the Institute for the Future of the Book, the National Endowment for the Humanities' Digital Start-Up Grants, and the NYU Libraries Digital Library Technology Group. MediaCommons is a digital scholarly network, promoting interconnection and dialogue amongst scholars and students of media studies, as well as other interested participants. With Drupal as its core architecture, MediaCommons's emphasis to this point has been on the community aspects of the network, developing a rich network of peers interested in working in open, collaborative ways. Our intent has been to develop that community as the basis of a new mode of digital scholarly publishing centered around the open discussion and review of new texts.

MediaCommons Press was thus founded in October 2009 as a venue for the publication and open peer review of writing in media studies ranging from article-length to book-length, whether single- or multi-authored, and whether purely text-based or multimodal. MediaCommons Press uses the Institute for the Future of the Book's CommentPress, a freely available open-source plug-in for WordPress, that allows readers to comment in the margins of an online text at a range of granularity, from the paragraph to the page to the text as a whole. As the text itself is published as WordPress "pages"—i.e., outside of a blog timeline—the system's blog functions allow for further community discussion of the text as well.

Publishing *Planned Obsolescence* online thus not only served as an instantiation of the book's own arguments, but also as a test-bed for the publication and review processes that MediaCommons Press will employ. **Along the way, we've run into a number of issues that highlight ongoing needs for development of both our technological and our scholarly systems.**

ISSUE #1: Labor

The first issue to note is the most basic: despite the relative ease of use of both WordPress and CommentPress, there's still a tremendous amount of labor required to transform a lengthy written text from a word-processed document to a working website. The text has to be loaded into a significant number of WordPress pages, through a tedious, messy, and error-prone process of cutting and pasting, and each page will very likely require some degree of reformatting in order to translate manuscript conventions to the conventions of online discourse.

Perhaps the most time-consuming part of this process as I put together the *Planned Obsolescence* website was coding the text's many footnotes. Jeremy Boggs of the Center for History and New Media at George Mason University gave me a very nice, lightweight script that produces tooltip-style pop-up footnotes, but the text and marker of each footnote still had to be cut, pasted, and hand-coded.

Altogether, building the book site took about 24 hours of labor, after the software was installed and configured. On its own, this figure doesn't sound too unreasonable. However, labor is already one of the greatest costs in existing publishing operations, and access to labor is one of the greatest difficulties facing new digital publishing models. For a press to add 24 hours of extra labor to the production process of each text it publishes would be prohibitive—much less for the press to add that extra labor at the review stage, when it's still considering whether or not to publish the text. And while 24 hours isn't that much for an individual scholar to tack onto the process of writing and preparing a book manuscript, the technical nature of the task may wind up causing a fair number of scholars to look for someone else to do the work for them. (Whether that should be the case is a another issue entirely; my sense is that these publishing technologies are rapidly becoming the word-processors of the early twenty-first

century, and thus that scholars pressing the production of their digital publications onto staff will soon go the way of scholars employing typists. But that's perhaps a subject for another article.)

In any case, whether the digital publication is being created by an individual scholar or by a press, a need exists for tools that can help automate the process. There's some interest in the digital humanities community in building a WordPress plug-in that would allow a user to import RTF documents into WordPress posts; such an import tool would greatly reduce the overhead of producing lengthy CommentPress publications. And reducing that overhead will likely be necessary for the form to proliferate.

ISSUE #2: Community Participation

Once the site was fully built and operating on our development server, I asked a small group of readers whom I knew to be interested in the subject to take the first crack at reading and commenting on the text. Once they had seeded a dozen or so comments in various parts of the text, we migrated the data to the live server and announced the text's availability.

The seeded comments served two primary purposes, the first of which was to demonstrate to readers potentially unfamiliar with the CommentPress form how the discussion system might be used. As MediaCommons Press publishes subsequent texts, this purpose for the staging-and-seeding process may fade away; readers will have other examples available to them, demonstrating how commenting works. However, the second reason for having a few committed readers seed comments was simply to prime the pump, so to speak—to get the conversation started.

The challenges involved in fostering discussion are no small matter; motivating and sustaining the desire in users to participate in online communities has been the issue over which many innovative digital projects have stumbled. Even more, motivating scholars to participate in the frankly selfless processes of peer review has long been a challenge within scholarly publishing, as any journal or university press editor can confirm.

The question, ultimately, is how new modes of scholarly publishing can work to inculcate generosity. This is easier said than done, perhaps; as a commenter on Twitter noted after hearing me give a talk about peer-to-peer review, "being helpful is not really part of academic culture." Persuading scholars to take the time to participate in the process of reviewing, discussing, and assisting in the development of other scholars' work won't be easy—unless doing so is somehow in their interest.

There are two potential means that we can see for encouraging such self-interested altruism. The first is ensuring that the network within which scholars are publishing and commenting is composed of a community to which they are committed, and to which they feel responsible—the community of their peers. Noah Wardrip-Fruin, who conducted an experimental blog-based review of his book-in-progress, *Expressive Processing*, noted that prior such experiments had sought to create new communities around the texts as they were published, and argued that "this cannot be done for every scholarly publication," and, moreover, that there are in many cases existing communities that can be drawn upon to great advantage. Such communities might include existing online social networks, but they might also include the clusters of scholars who already interact and discuss projects with one another in different formats, via disciplinary organizations and other professional groups, field-based listservs, and even more informal writing groups. Making use of such existing communities will be necessary to motivating participation

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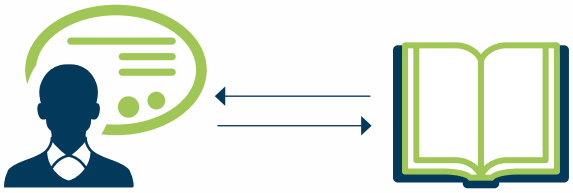
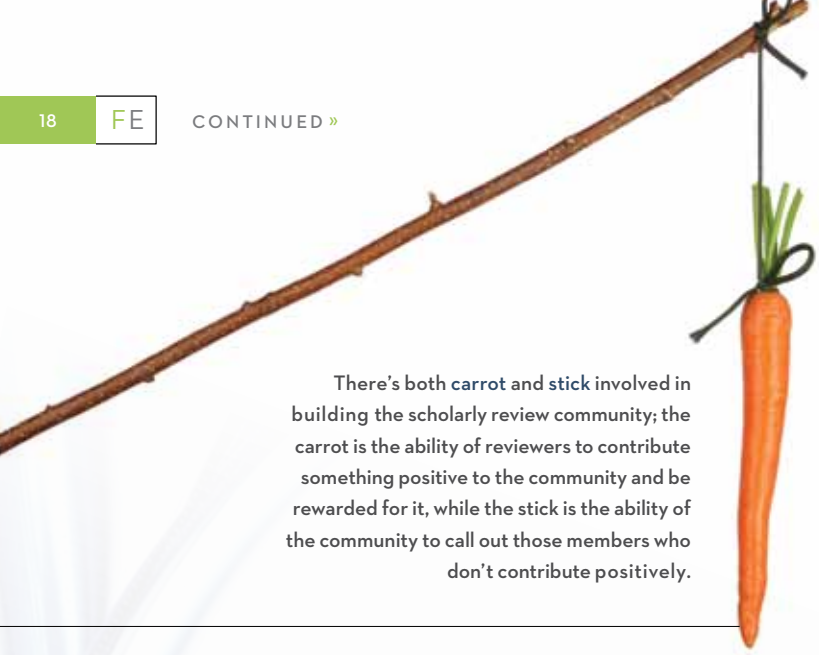


Linking the peer reviews that scholars write on MediaCommons Press texts to their MediaCommons profiles will allow those texts' authors and readers to better contextualize the reviews, understanding through those links the perspective from which the reviews have been written.



There's both carrot and stick involved in building the scholarly review community; the carrot is the ability of reviewers to contribute something positive to the community and be rewarded for it, while the stick is the ability of the community to call out those members who don't contribute positively.

in online review precisely because scholars are already committed to the success of those groups, and to the opinion that those groups hold of their own work.

Beyond such professional responsibility, however, I argue in *Planned Obsolescence* that a key factor in motivating participation in new modes of online peer review will be the visibility that these processes will provide for what is now an unrecognized—indeed, an invisible—form of academic labor. Allowing scholars to receive "credit" for the reviews they do, both in the sense of making visible reviewers' critical role in the development of arguments and texts and in the sense of rewarding good reviewing, could help foster a culture in which reviewing is taken seriously as a scholarly activity, and which therefore encourages participation in review processes.

ISSUE #3: Linking Text and Network

Of course, in order to foster such a culture, we need to determine and to demonstrate by example what "good reviewing" is, such that we can reward it. That determination will require that this publishing system develop some means not just of reviewing a text, but of assessing the comments that are left by reviewers. This process of reviewing the reviewers will be crucial to any open publishing and review process, as authors and readers will need to be able to judge the authority of the commentary that a text has received.

There's thus both carrot and stick involved in building the scholarly review community; the carrot is the ability of reviewers to contribute something positive to the community and be rewarded for it, while the stick is the ability of the community to call out those members who don't contribute positively. This community regulation of peer review standards—not just the standards that texts under review are held to, but the standards that reviews themselves are held to—has the potential to greatly improve the quality of scholarly communication in a broad sense, reducing thoughtless snark and focusing on helpful dialogue between authors and readers.

In order for that community regulation to develop, however, we need to have reliable knowledge of who our reviewers are and what work they've done within the publishing network. For that reason, we're working on building a bridge between the CommentPress system in use at MediaCommons Press and MediaCommons's Drupal-based scholarly network. That network provides an extensive profiling system—one might describe it as "Facebook for scholars"—that allows members to define their research interests, to import RSS feeds from their blogs and other online writing, and to develop an online portfolio with citations and links to their scholarly publications. These profiles are a means for scholars to find one another, to share their work, and to create new collaborations.

Linking the peer reviews that scholars write on MediaCommons Press texts to their MediaCommons profiles will allow those texts' authors and readers to better contextualize the reviews, understanding through those links the perspective from which the reviews have been written. Moreover, including the reviews in the information in a scholar's profile—and, further, including the community's assessment of those reviews—will allow the community to see clearly which members are active in the reviewing process, which members are highly thought of as reviewers, and which members could stand either to become more active or more helpful as reviewers.

In this way, the stick in the carrot-and-stick approach to encouraging participation in an online reviewing process might allow the community to develop a "pay-to-play" relationship between reviewing and publishing, in which the right to publish one's own texts within the network can only be earned by participation in the review process.

It goes without saying that such a system will need to balance the desire to make the scholarly community self-regulating with certain fail-safes to prevent abuse of the system—avoiding logrolling, cliquishness, exclusionary behavior, and so forth. But we hope that by making all aspects of the reviewing system public and visible, and by tying the reviewing process to the community itself, we can promote an ethos of collegiality that will help guide the system's development.

ISSUE #4: Creating Assessment Metrics

Beyond developing and regulating the system of publishing and review, however, we need to find ways to communicate the value of the work that is produced within this publishing network to the scholarly community at large. Much of the resistance of scholars to new modes of digital publishing tends to focus around concerns that texts published in such venues won't be taken seriously, and therefore be seen to "count," by their colleagues, their departments, their deans and provosts, and their promotion and tenure committees. And worse, to some extent, they're right: scholars and administrators accustomed to evaluating print-based research products often don't know how to assess the quality or

impact of born-digital scholarship, and tend therefore to underestimate its value to the field.

Numerous attempts to close that gap in the assessment of digital scholarship are underway, through projects sponsored by disciplinary organizations such as the Modern Language Association, as well as through policies developed at individual institutions. The documents being produced and circulated by these groups are helping to reshape the thinking of many review bodies with respect to the tenurability of scholars who work in digital forms.

However, such documents tend to emphasize "peer review" in a fairly traditional form, and ensuring that promotion and tenure committees take seriously the kinds of open review that texts such as those published by MediaCommons Press will undergo will no doubt require further intervention. But as Michael Jensen of the National Academies Press has argued, web-native scholarship has the potential to provide a much richer and more complex set of metrics through which the importance of scholarly texts can be judged. Such metrics, which form the basis of what Jensen has called "authority 3.0," will make use of a range of data including numbers of hits and downloads, numbers of comments, numbers of inbound links, etc., gauging the impact a text has had by the degree of its discussion around the web. But it will also make use of more sophisticated, less popularity-driven data, including such factors as the "reputation" of a press, an author, or a reviewer. As a result, these developing metrics will not focus simply on quantity—how many people have read, discussed, or cited a text—but also on the quality of the discussions of a text and the further texts that it has inspired.

The "review of the reviewers" that MediaCommons proposes to develop might help provide some of those new metrics of scholarly authority. By computing a reviewer's reputation based on the community's assessment of the quality of his or her reviews, we can then bring that reputation to bear on subsequent comments by that reviewer, indicating clearly to readers involved in promotion and tenure processes which opinions are generally considered authoritative by the community. The use and interpretation of such metrics will never be as simple as the binary measurement that traditional peer review provides—either a text was or was not published in a peer-reviewed venue—but they will enable us to develop a much more informative picture of the impact a scholar's work is having on the field.

NEXT STEPS:

The next project MediaCommons Press will publish is meant to be a direct intervention into the kinds of peer review processes employed in scholarly publishing. *Shakespeare Quarterly*, a print-based journal that has been in publication since 1950, will publish a special issue focusing on "Shakespeare and New Media," edited by Katherine Rowe of Bryn Mawr College, and the editorial board has agreed to experiment with our open review process for essays included in this issue. It is our hope that authors, editors, reviewers, and readers alike will find the process fruitful, and that this experiment with a hybrid digital/print publication mode might encourage other publishers to test out open review as well.

We are actively seeking further projects at MediaCommons Press, and will over the next year develop new tools to address the needs we uncovered in the publication of *Planned Obsolescence*. In the end, we hope that our work might help pave the way for the production of new systems and new structures that will support the scholarly monograph well into the future. | FE | doi: 10.3789/isqv22n1.201003

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COREY A. HARPER

DUBLIN CORE METADATA INITIATIVE:

BEYOND THE ELEMENT SET

Dublin Core Metadata Initiative®

BACKGROUND »

The Dublin Core Metadata Initiative (DCMI) had its origins at a time when the World Wide Web was in its infancy. Over 15 years ago, in October of 1994, a hallway conversation took place at the 2nd Annual World Wide Web conference in Chicago. This discussion centered around the need for infrastructure to enable discovery of resources on the then nascent Web, despite the fact that it only included approximately "500,000 addressable objects" at the time. A few months later, a workshop was held to discuss a very basic metadata format for describing resources on the Web, and thus DCMI was born.

Between 1995 and 2001, DCMI held a series of workshops and meetings to discuss this need and to develop an extensible and broadly applicable standard. The perceived need was very specific, and focused on simple description for discovery purposes. By 1999, the set of 15 metadata elements was finalized and published as an RFC. *The Dublin Core Metadata Element Set* (DCMES) became a national standard in 2001 (ANSI/NISO Z39.85) and an international standard in 2003 (ISO 15386).

Shortly after the original publication of the element set, the DCMI broadened its scope to metadata practice and research, and added a peer-reviewed conference track and tutorials to its Workshop Series.

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The linked data approach has since seen rapid uptake throughout the web community, from players including Google, Yahoo, Thompson Reuters, New York Times, BBC, and libraries. As library data increasingly enters into this giant global graph of linked data, their users—and the systems developed for them—can reap the benefits of the "follow your nose" principles Ed Summers wrote about in ISQ one year ago.

Criticisms of Dublin Core

DCMI has received a fair amount of criticism since the inception of the DCMES, particularly from the library community, mainly focused on the overly simple structure and format of the element set. It is true that early discussions within the Initiative were very focused on this element set, though parallel to those discussions the organization began to put a premium on more broadly applicable metadata research.

Much of the criticism posits DCMI's overly-simplistic and generalized set of elements as a central weakness, noting that the standard does not offer the richness and specificity required for resource description. Often, such criticism illustrates this drawback through comparisons with MARC and other standards in use in the library community.

While valid, these criticisms only apply to the DCMES metadata *format*. The DCMI's own initial focus on a simple set of elements led to misconceptions about the initiative's purpose and the nature of the Dublin Core. As a result, the element set's shortcomings sometimes lead to a misevaluation of the usefulness of the Initiative itself.

Despite these criticisms, the DCMES has been widely used in many communities and has formed the basis of more specialized metadata element standards, which was DCMI's original intent.

Indeed, the focus in the early years of 1995 to 1999 on the fifteen elements was justified by the assumption, articulated in 1996 by Carl Lagoze, Clifford Lynch, and Ron Daniel in the so-called Warwick Framework, that simple Dublin Core descriptions would provide just one among potentially several resource description "packages", of varying richness and granularity, associated with a given resource. The Warwick Framework idea was one source of inspiration for work on a new Resource Description Framework (RDF) at W3C in 1997—a parallel development which, as discussed below, redefined the scope of DCMI itself.

DCMI has grown far beyond the set of 15 elements bearing its name. Today the Initiative provides a framework and model, as well as a set of principles for designing metadata. It is also a diverse community bound by a common interest in developing the underpinnings of rich, interoperable metadata. The real value proposition of Dublin Core lies in its commitment to interoperability, as well as in applicability of the organization's guidelines and recommendations to any metadata scheme, element set, or implementation syntax.

RDF and the Semantic Web

In recent years, some information professionals—particularly those outside of the library community—have begun to change their conceptualization of metadata. Historically, records—and not the statements about resources that they aggregate and package—have been treated as the central components of metadata. This was necessary, and to an extent still is, due to the attention being paid to how these packages are transmitted from one system to another. The MARC format has been central to library metadata in large part because of its usefulness as a communication medium for transmitting metadata, usually through a Z39.50 service. The problem with this conceptualization of metadata is that it arbitrarily limits the edges of description to what can be effectively packaged and transmitted in a record.

Instead of focusing on the aggregation of individual pieces of metadata, DCMI and the Semantic Web community are advocating a focus on the smallest components of a resource's description. The *RDF Concepts and Abstract Syntax* document, one of a suite of specifications that collectively define RDF, defines the syntax of RDF as being made up of triples—statements composed of a subject, predicate, and object where properties serve as predicates (e.g., dc:title), the subjects are denoted by URIs defining the resources about which statements are made, and the objects can either be textual strings or additional resources. For example, as can be seen in *Figure I*, this article has a triple with the subject being the article, a predicate of dc:identifier and an object of the doi:10.3789/isqv22n1.201004. A second triple for the same subject has the predicate dc:title and the object of "DCMI: Beyond the Element Set".

The architecture of the World Wide Web allows statements to be linked together and woven into a rich tapestry of

descriptions, forming a *graph* that extends its reach across data from myriad sources. This terminology is significant. In the "graph" paradigm, it becomes easier to envision how library metadata interacts with other metadata on the open web. As the graph grows, systems interested in metadata packages and records have a more diverse selection of descriptive information to utilize when building these structures.

The value of RDF lies in its use of URIs to identify both resources and properties. Unique URIs provide "hooks" for linking statement data from multiple sources. However, the unfamiliar language of formal modeling, the complex RDF documentation, and the difficulty of its XML representation presented a hindrance to widespread adoption of RDF. In 2000, Roy Tennant included RDF in a list of "dead" technologies, stating that obscure concepts like "directed labeled graphs" would limit uptake.

Despite the lack of widespread deployment, the Semantic Web community continued to refine their thinking and further develop the specifications. By 2006, Tim Berners-Lee had published a design note in which he reframed the Semantic Web discussion in much more useful terms by succinctly articulating both the simplicity and elegance of *linked data*. This design note focused on assigning URIs to resources, providing useful descriptive information at those URIs, and including links to other URIs. The linked data approach has since seen rapid uptake throughout the web community, from players including Google, Yahoo, Thompson Reuters, New York Times, BBC, and libraries. As library data increasingly enters into this giant global graph of linked data, their users—and the systems developed for them—can reap the benefits of the "follow your nose" principles Ed Summers wrote about in ISQ one year ago. Tennant has since published a pair of follow-up articles re-evaluating his initial conclusions due to the appealing nature of linked data.

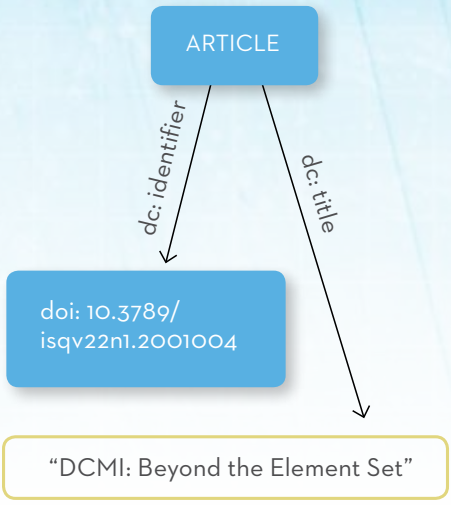

Figure 1. This article has a triple with the subject being the article, a predicate of dc:identifier and an object of the doi:10.3789/ isqv22n1.201004. A second triple for the same subject has the predicate dc:title and the object of "DCMI: Beyond the Element Set".

Metadata as Format vs. Metadata as Vocabulary – Qualified Dublin Core

In the early days of the DCMI, the connection of Dublin Core to RDF and the Semantic Web was not obvious, and many participants likely did assume that DCMES as a format was the end goal of their efforts. However, when early DCMI participants such as Eric Miller began working on RDF in 1997, some members of the community began to shift the focus of the conversation from a metadata *format* to a metadata *vocabulary*—a collection of carefully defined properties that could be used to make descriptive statements about resources. Subsequently, the DCMI and Semantic Web communities progressed on parallel tracks and influenced one another a great deal.

These changes in DCMI's own conception of its work began in the late 1990s, and are demonstrated by the notion of Qualified Dublin Core, which appeared on the DCMI website in July 2000. This introduction included both Element Refinement Qualifiers, which add specificity to the refined element, and Encoding Scheme Qualifiers, which provide constraints on the value space drawn on when populating the data of an element. The introduction of metadata element qualification marks DCMI's evolution into an organization with a broader scope.

In 2000 and 2001, as the DCMI began to discuss the implications of Qualified Dublin Core, the Initiative undertook efforts toward understanding how metadata practitioners would adjust and mold metadata schemas to meet particular application needs. In contrast, many in the library community saw Qualified Dublin Core as nothing more than a more detailed metadata format. As a result, libraries wanted a comprehensive schema defining how the format was to be used with record exchange protocols such as the Open Archives Initiative Protocol

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When early DCMI participants began working on RDF in 1997, some members of the community began to shift the focus of the conversation from a metadata *format* to a metadata *vocabulary*—a collection of carefully defined properties that could be used to make descriptive statements about resources.

Take, for example, a digitization of a photograph of a famous painting. The 1:1 principle posits that a distinct record should be created for each manifestation of the object in question (i.e., the painting, the photograph of the painting, and the digitized version of the photograph), and that relation and/or source elements should be used to create linkages between each discrete record.

for Metadata Harvesting (OAI-PMH). This disparity further highlights the gulf between the record-based and vocabulary-based schools of thought concerning metadata interoperability. During these formative years, the DCMI prioritized its efforts to demonstrate that these viewpoints are not incompatible.

In a 2004 article, Jeffery Beall described the notion of qualifiers as local extensions that "defeat the purpose of using DC as a common language for data exchange, as your local customizations will likely be sufficiently different from everyone else's." While this is marginally true in the context of a record *format*, it misses the point of combining elements from an ever-growing pool. The elements form a vocabulary for resource description, which can be drawn upon to build more ad-hoc metadata formats according to the specific needs of a given application or community. This does *not* defeat the purpose of DC as a common exchange mechanism, but rather makes the concept more powerful by moving the definitions and specifications to a level that is more granular than a specification defined at the level of the aggregation. This notion of mixing and matching is familiar to users of XML specifications, who have a long history of defining XML elements per namespace and allowing a document to draw on elements from a variety of namespaces. The idea of mixing namespaces is generalized to the construction of metadata for all contexts in the Dublin Core notion of *application profiles*.

Dublin Core Application Profiles

In 2000, Rachel Heery and Manjula Patel introduced in an *Ariadne* article the concept of "application profiles as a type of metadata schema." This was the first published discussion of how to make well-modeled statement-based metadata in the context of record-based systems. With an application profile, the metadata *record* becomes an application-specific aggregation of statements that draw on the properties defined by Dublin Core *and* on properties that are defined elsewhere. This concept does not conflict with the need for many systems to exchange metadata records, and also allows external descriptive information to be linked on the basis of any particular resource's identifier. It enables management of metadata at a granular level while taking advantage of the web's open infrastructure. This increased specificity allows for customization of the vocabularies used in a description. Additionally, graphs can be merged to combine pieces of description (statements) from other sources. Application profiles allow projects to specify constraints to how elements from a vocabulary are used. In the most generic DCMES-based format, for example, all properties are optional and repeatable, but an application profile might specify that the "title" element is required and non-repeatable.

The "1 to 1" Principle

Among the first indications that RDF-based thinking was entering the DCMI dialogue was a spirited debate centered on something called the 1:1 principle. The general problem addressed by the 1:1 discussion is that of how to describe complex objects with regard to various metadata elements. The debate emerged around the creator element (i.e., for describing the affiliation of the creator of a resource), but applies to a variety of other elements.

Take, for example, a digitization of a photograph of a famous painting. The 1:1 principle posits that a distinct record should be created for each manifestation of the object in question (i.e., the painting, the photograph of the painting, and the digitized version of the photograph), and that relation and/or source elements should be used to create linkages between each discrete record. This principle, though often challenging to encode in a metadata record in the "document" sense, can be seen as an important contribution to the theory and practice of describing resources, and fits very well with the "follow-your-nose" principles of linked data.

Unfortunately, many existing metadata encodings make it difficult to tease out exactly what is being described by any particular piece of information in a record. Take, for example,

the publication statement of a MARC record, which includes data about the publisher's location at the time a particular book was printed. When taken out of the MARC context, the statement becomes a free-text string that violates the 1:1 principle by describing more than one "resource" (i.e., the location of the publisher is a property of the publisher rather than of the primary resource described in the record). This presents challenges when trying to make MARC data interoperate with data that is structured according to more modern principles of database normalization and relational data modeling.

Dublin Core Abstract Model and Ongoing DCMI Development

One very significant value of the DCMI is its ongoing work to make tools and principles like those developed in the W3C relevant in more traditional metadata spaces, including libraries. The DCMI serves as a bridge between the linked data community and other areas of metadata practice. Additionally, the close ties that the DCMI has with the W3C and the Semantic Web Community continue to influence DCMI's work, and vice-versa. This cross-pollination can be seen in development of the Dublin Core Abstract Model (DCAM) from 2003 through 2005. DCAM is designed to document the structure and to provide guidance in the use of Dublin Core compliant metadata and define how various pieces of metadata are combined to build descriptions of resources. A very significant feature of DCAM is that it is syntax independent.

The development of DCAM can be traced to efforts in the DCMI Architecture Forum to distill and make manageable the more challenging concepts in the suite of RDF specifications. The Architecture Forum felt that the central design principles of the Semantic Web could be applied to metadata practice without requiring RDF's obscure jargon and notoriously difficult XML syntax, so they attempted to craft a more accessible text to be used as a foundational data model for metadata. It is worth noting that this effort was finalized two years prior to Berners-Lee's note on linked data, a document with a similar purpose.

Some argue that DCAM tried to be too many things to too many people. To those who understood RDF, the additional value was hard to see. Why not just use the RDF data model as the data model? To those who were not already steeped in the terminology and concepts of the Semantic Web, it was a dense and impenetrable document. *Note: As this article goes to press, there is an ongoing discussion in DCMI about exactly this problem. Now that RDF language has become more familiar in the context of the Linked Data movement, it is argued that DCMI-specific terminology in DCAM should be further de-emphasized in favor of explicit alignment with RDF.*

If the DCMI revises DCAM to be more closely aligned with RDF and to still apply more broadly to other encodings and syntaxes, the current document's very useful constructs will continue to add value to the metadata conversation. One such construct that has particular value is the notion of the *description set*, which builds on the 1:1 principle by stating that a metadata description describes one, and only one, resource. At the same time, the DCAM authors acknowledge the complexity of applying this principle in practice, stating that,

> *"... real-world metadata applications tend to be based on loosely grouped sets of descriptions (where the described resources are typically related in some way), known here as description sets. For example, a description set might comprise descriptions of both a painting and the artist. Furthermore, it is often the case that a description set will also contain a description about the description set itself (sometimes referred to as 'admin metadata' or 'meta-metadata')."*

The concept of the description set provides a container to anchor a set of related descriptions around the description of one central resource in the context of a bounded entity—the record—further helping to bridge the chasm between the record-centric and property-centric approaches to metadata.

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BRIDGING THE GAP

One very significant value of the DCMI is its ongoing work to make tools and principles like those developed in the W3C relevant in more traditional metadata spaces, including libraries. The DCMI serves as a bridge between the linked data community and other areas of metadata practice.

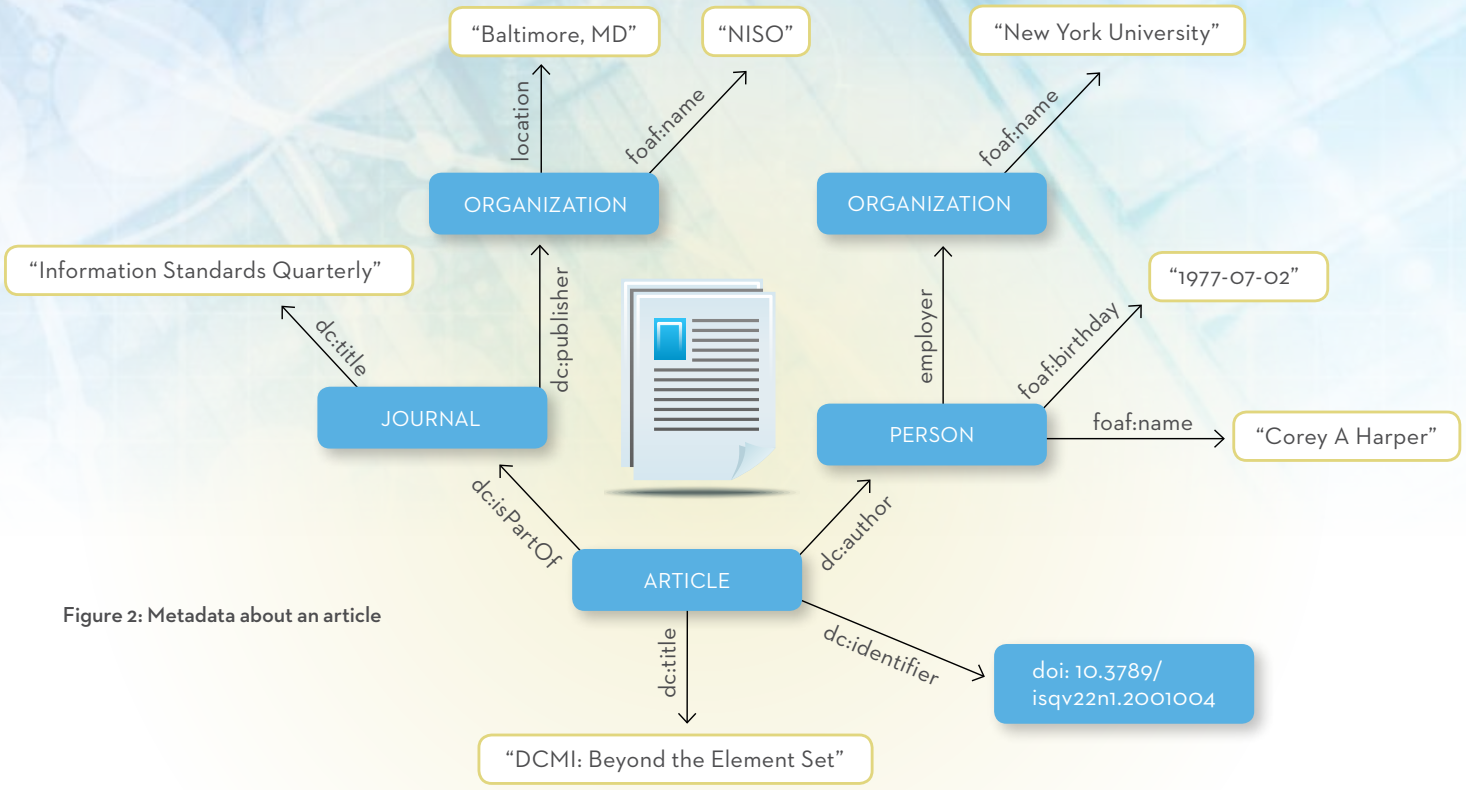

Figure 2: Metadata about an article

The promise of RDF is that, if different groups use the same identifiers for the same resources, the possible set of metadata to draw on in a resource description is theoretically boundless. However, this poses a problem in the context of applications that only need a subset of the metadata available. Having this center point to frame each conversation about a resource helps make the presence of so much metadata in the graph less problematic in those cases.

The DCAM helps the metadata retain its focus, forming a *description set* anchored around the central URI of the described resource. Figure 2 illustrates the concept using this article as an example.

This idea continues to shape DCMI's thinking, as can be seen in the *Guidelines for Dublin Core Application Profiles* and the currently under-development *Description Set Profiles (DSP)* documentation. According to DCMI's *Singapore Framework for Dublin Core Application Profiles*, a DSP "defines a set of metadata records that are valid instances of an application profile." The DSP provides rules for drawing the lines of demarcation around a portion of a graph, centered on the described resource, to facilitate the effective packaging of application specific metadata *records* describing that resource. While library data likely wants to represent the fact that NISO is located in Baltimore, another application may not care about this piece of information. It could apply its own rules to the same pieces of data to limit the triples included in its view of the description, then generate a record to represent that subset of data.

Similarly, it would be possible to hang additional triples off the identifier for "New York University." A library catalog application, if generating a MARC record from this data, would stop before processing information about the author's affiliation and about that organization, but likely *would* include selected information about NISO for inclusion in the publication statement.

At this time, however, the linked data uptake is new enough that rich vocabularies for describing entities like persons and organizations are limited and often very informal. This problem could potentially solve itself as libraries embrace the linked data movement. As noted earlier, a very large body of metadata specifications has focused on defining the metadata packages, and many of the necessary properties needed for describing related resources are already part of larger, XML-based standards. Rethinking the structure of these standards to support reuse as metadata vocabularies offers tremendous potential. For example, the elaborate record structures and rule sets governing library name authorities for both personal and corporate bodies provide a powerful

foundation upon which to build a robust vocabulary of properties for describing these entities. The resultant properties would offer a reputable solution for a set of challenges with which the semantic web community is struggling.

Additionally, basing these vocabularies on library authority records helps ensure backward compatibility with existing data, since it should be relatively easy to repackage subsets of these graphs using some sort of Library of Congress Name Authority File application profile. This legacy data could also be transformed into linked data in order to seed the graph with data converted from libraries' existing authority and bibliographic data. By including vocabulary-like components, recent efforts to update and revise the library community's bibliographic standards are helping to realize this transition.

RDA as RDF

There has been a great deal of discussion—and some controversy—around *Resource Description and Access* (RDA), the next generation of the library cataloging rules. However, until recently, much of this conversation has overlooked a very significant parallel effort that is happening between RDA and the DCMI community. A meeting between the developers of RDA and members of DCMI took place in 2007, at which time a DCMI Task Group was created to ensure that RDA could be treated as a Dublin Core Application Profile.

A recent article in D-Lib Magazine describes the challenges presented by the joint RDA/DCMI process and discusses the solutions that the task group and other participants have begun to put into place. Much of this work has involved systems and processes for defining these element sets as the types of data constructs that are used by RDF. The development of RDA includes the first attempt by the library community to implement *Functional Requirements for Bibliographic Records* (FRBR) in the context of a standard rather than after the fact, through algorithmic record "FRBR-ization." This is significant because it begins to define the various entities that the metadata is about, and allows the vocabularies being developed to adhere to the 1:1 principle, resulting in metadata that is both manageable and reusable.

Conclusion

The RDA work, while significant, is just one example of the possibility for various metadata communities to redesign their standards in order to ensure greater reuse and interoperability on the web. DCMI continues to engage in important work providing tools and guidelines to enable efforts like the RDA/DCMI collaboration.

Ongoing work to re-align the DCAM with the *RDF Model and Abstract Syntax* document will ensure that DCMI-compatible metadata of all stripes can interoperate well with other sources of linked data. Continued development of the *Description Set Profile* specification will refine the rules and guidelines for packaging statements into well-defined records for transmission and exchange. Additionally, this concept, when combined with the guidelines for application profile development, provides the tools needed to refine and augment these records for specific applications.

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Open Archives Initiative
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This process helps set the stage for reconciling the conceptual gap between standards for metadata packages and standards for metadata vocabularies. This will be of tremendous value to resources that have traditionally been on the margins of descriptive practice, such as special collections and audio-visual materials.

In addition to these valuable contributions, the DCMI has begun another effort to help harmonize metadata standards and ensure that as much metadata as possible will be compatible with the efforts described throughout this paper. The recent publication of the *Interoperability Levels for Dublin Core Metadata* document aims to guide a variety of audiences in evaluating the placement of their metadata along an interoperability continuum. The levels are meant to aid in decision making for communities that might wish to undertake efforts like the RDA work described above, by "specifying the choices, costs, and benefits involved in designing applications for increased levels of interoperability." DCMI recognizes the challenges of integrating myriad data formats into the linked data environment and is striving to be a central component in providing accessible and usable guidelines, specifications, and recommendations to support standards developers and metadata practitioners. | FE | doi: 10.3789/isqv22n1.201004

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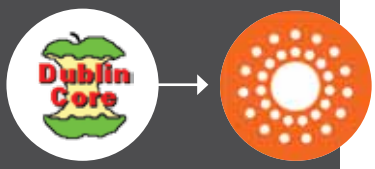
Acknowledgements: *The author is indebted to the feedback and editorial input of both Tom Baker (DCMI) and Alexa Pearce (NYU).*

Dublin Core Celebrates its FIFTEENTH Anniversary: We've Come a Long Way



It started with a hall conversation at the second-ever Web conference in Chicago and led in March 1995 to a workshop in Dublin (Ohio) and the first draft of a "Dublin Core" metadata element set. The focus in those early years on core terms was reflected in the informal logo of an apple core. When the term set grew and a formal governance structure emerged, the Dublin Core Metadata Initiative (DCMI) developed the logo of a sunny orange core ringed with inner and outer circles of elements. Fifteen annual meetings later, held in almost as many countries, DCMI now has fifty advisory and oversight committees and an open-membership community of over two thousand people from fifty countries. Since their inception, DCMI vocabularies have remained among the most widely deployed metadata terms on the Web and continue to be maintained and developed using open review processes. The DCMI secretariat until 2009 was the Online Computer Library Center (OCLC) in Dublin. Now incorporated in Singapore and hosted by the National Library Board of Singapore, with Web servers hosted at the National Library of Korea, the international nature of the initiative is evident. One thing has not changed in fifteen years: the commitment to metadata standards and practices that will enhance the finding, sharing, and management of information.

Contributed by Tom Baker (DCMI)

OP [OPINION]

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

Dale Askey

DALE ASKEY

E-books: The Eternal Next Big Thing

Back in 2002, the organizers of the Frankfurt Book Fair granted "new media" purveyors their own hall. Entering this space was something of a sensory onslaught, with light and sound coming from every direction. Some of the largest and fanciest stands presented the new wave of e-book readers, which were being hyped in the tech press as the new way to read. At one of the stands—Cytale's, as I recall—a young French woman pressed one of the devices into my hands. It did not impress me. It was dull looking, reacted slowly, and had access to a tiny sliver of content.

Anyone with even a passing knowledge of e-book technology knows that that generation of e-book readers passed quickly into the night having made barely a dent in the collective consciousness of even the technically obsessed. Some dreams, however, never die, and so it is with e-books and their reading devices. We are currently experiencing what one could label the second wave of e-book enthusiasm (or third, depending on your perspective), a wave largely driven by the might and reach of Amazon and Sony and their ability to push their devices onto the world stage.

E-books are, of course, nothing particularly new. Some would date them back to 1971, when Michael Hart sat down at a mainframe terminal and keyed in the American Declaration of Independence. With the development and emergence of the CD-ROM in the 1980s, e-books became available to a wider audience, albeit typically through schools and libraries and other such institutions due to the hardware and media costs. It took a globally available and attractive data delivery platform (aka the Web) to bring e-books, or more broadly electronic texts, into the public consciousness. In the 1990s, efforts such as Project Gutenberg, the Electronic Text Center at the University of Virginia, and many others brought e-books into the mainstream, although the idea of having texts available online has always seemed more attractive than actually reading them.

Anyone working in libraries knows that many publishers have been offering thousands of titles as web-based e-books for a number of years, dating back to the appearance of netLibrary around the turn of the century. There has been steady development in this area, with some major publishers (e.g., Springer) taking the lead

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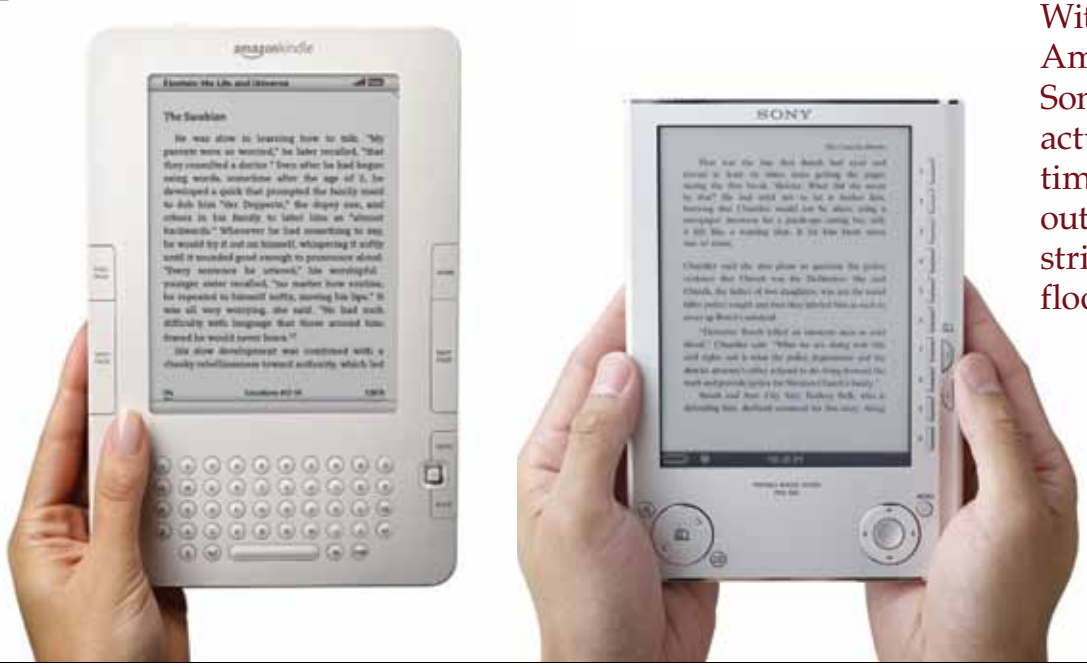

With the arrival of Amazon's Kindle and Sony's Reader, one actually sees for the first time e-book readers out in public, instead of strictly on trade show floors or in tech blogs.

on making titles available electronically. These e-books have yet, however, to find broad and unflinching acceptance among readers, and one could debate whether this is due to technical (poor display and printing options), cultural (one prefers a book in the hand), and/or other reasons. It bears noting that these products are largely scientific literature from academic and scholarly publishers, thus there is a fairly defined boundary between them and the general public market for books.

The launch of Amazon's Kindle and Sony's Reader has pushed the e-book hype to new heights in the last two years. Amazon, in typically cryptic fashion, claims that the recent Christmas season was a clear breakthrough for the Kindle and Kindle Books, although given what Amazon has riding on this investment, one would expect such hyperbole. Sony is somewhat quieter than Amazon, but their sheer global reach forces one to take notice of their Reader line. With the arrival of these two lines one actually sees for the first time e-book readers out in public, instead of strictly on trade show floors or in tech blogs. That would seem to indicate that some sort of tipping point has been reached, but one would be wise to heed the cautionary lesson provided by PDAs—omnipresent in 2002, co-opted by cell phones, all but gone today—before getting too excited about all of this hubbub.

What is holding everyone back from embracing e-books and their reading devices? There is likely no single reason for the hesitancy, although one often hears some form of the comment "the technology just isn't ripe yet." Such a statement is typically an amalgam of various factors, only some of which are technical in nature. One reason to reject e-books is that reading from backlit monitors is stressful for our eyes. Virtually all reader devices these days use non-backlit e-ink technology, which solves the backlighting problem, but e-ink is not a panacea for screen readability issues. (Do not try to use the device in a low light setting.) Then there are the formatting issues. Compared to the clean and tidy layout of even the simplest book, pages on screens and readers are all over the place in terms of spacing and font size; fonts at small size pixelate horribly, which our eye notices even if we consciously do not. The lack of color and moving images in the current generation of readers flies in the face of what is otherwise a colorful and multimedia landscape. Last, but certainly not least, the readers are for all practical purposes single-use devices. Given how much even a basic cell phone can do these days, that is a glaring weakness of the technology.

Even if one disregards the technical issues, there are a host of psychosocial reasons perhaps slowing the adoption of e-books and readers. For one, many people associate reading with moments and spaces where we shut out the outside world; technological devices tend to bring that world back into our view even unbidden. As many have observed, the wholly different haptic experience of a reader in the hand is a poor substitute for the substantiality (and usability) of a printed book, a factor that even the technophilic often admit. On a more practical note, it takes time and energy to manage any technology, which is time spent not reading nor enjoying the device. While many readers are quite facile with software and external drives, not all are.

Cost considerations also play a role. Compared to technologies such as cell phones and iPhones/iPods, e-book readers are rather expensive (not least when one considers the aforementioned one-dimensionality). As with any device, the lifespan is limited, and then there are the inherent fragility and theft issues to consider. (Would you take your reader

to a beach? A pool?) Depending on one's reading habits, it is questionable whether the cost of the device amortizes well across many books, or represents a major surcharge on a book's price. When it comes to content, no one really seems to know what e-books should cost. Amazon arbitrarily set the price of many bestsellers at $9.99, but this has recently come under direct attack from publishers and even before that prices within their catalog varied dramatically for reasons not always clear to consumers. Regardless of the cost of the title, in the end the consumer only has a digital file of limited utility and longevity, which is the tip of the iceberg in terms of consumer rights issues.

It is perhaps this category more than the others—i.e. copyright and digital rights management—that shackles the development of the market. While there is currently an explosion of hardware devices on the market—one would think given the number of choices that everyone has or desires a reader—there has not been a similar explosion on the content side. Certainly, Amazon can point to 300,000+ titles in its Kindle store—arguably the largest collection of e-books available—but upon closer inspection, one notices that beyond the bestsellers and mass market fiction lurks a vast collection of vanity or at least less-than-professionally published material. This boosts the numbers, but does not satisfy the reading needs of even a moderately adventurous and broad reader.

Why the dearth of content? One word: copyright. Publishers are keen to avoid what they perceive as the mistakes made by the music industry, and are preemptively taking measures to thwart piracy, even though many will point out that a book and a song are two very different media entities. What this means is that traditional copyright issues—such as the lack of global licensing, making content inaccessible for those sitting in the wrong country, and digital piracy—have led to a fragmented e-book market where standards and interoperability are left out. There are already various e-book formats, and while a crafty user can get around many of them to reformat a file (but who really does this on a daily basis?), publishers are also grasping at the usual digital rights management (DRM) tactics of encoding and copy protecting to thwart piracy. This makes it impossible for consumers to manage their e-book library as they choose, even within the legal confines of copyright, where reformatting and self-archiving are ostensibly permitted practices in most nations. None of this is consumer friendly, and what it means in practical terms is that content available for one device may well be unavailable for the next. This limits consumer choice and makes a hassle out of what should be a pleasant and enjoyable experience.

This is the great paradox: we have a whole wave of new and much ballyhooed readers coming on to the market, but every last one of them pales in comparison to a smart device such as an Android phone or an iAnything, and the content choices are severely restricted, even for Kindle shoppers. This combination of lack of broad functionality (one can't even send an e-mail from most readers) and dearth of content would seem to put the readers in a precarious situation with the public. It does not take much imagination to predict that of the readers currently on the market, only a handful will survive, and even for those one could question the ultimate impact they will have. As Apple rolls out the iPad in the coming months, and if it enjoys even a portion of the success that the iPod and iPhone have found, this could all happen sooner than we might think.

To this point, I have attempted to capture the current thoughts and trends swirling around e-books and readers. I can also report from personal experience with both an Amazon Kindle and a Sony PRS-600 Touch Reader, having recently purchased one of each for student projects at the university in Germany where I am currently teaching. As a librarian (we love books, right?) and a generally technically adept person often accused of being a geek, I assumed that

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Publishers are keen to avoid what they perceive as the mistakes made by the music industry, and are preemptively taking measures to thwart piracy, even though many will point out that a book and a song are two very different media entities.

I would find the devices irresistible and would need to order my own for personal use. Nothing could be further from the truth. While I see some benefits—many books on one device, low battery usage, light weight—these are more than offset by the negatives. These include never being able to find the books I actually want to read and constant frustration with a primitive device that feels much more like my Handspring Visor Deluxe circa 2002 than my iPod Touch in 2010. Then there are the myriad DRM issues, which offend the librarian in me and turn buying and managing my "books" into a morass of fine print and time spent trolling through forums looking for ways to reformat files.

It seems a foregone conclusion that the trend toward reading digital texts in some fashion will only continue to build over time. In hindsight, we will likely regard the current situation as a part of that development, but I find it unlikely that we are experiencing the seminal moment with regard to the establishment of e-books, although the recent introduction of the Apple iPad and the iBookstore certainly raises the profile and stakes of the game. Already one hears talk of the new device as a Kindle killer, and while that remains to be seen, the wild success of the iPhone should strike fear into e-reader competitors. On the other hand, Apple has struggled with DRM issues with iTunes, and all of those nasty and complex international rights issues cannot be mellifluously talked away by Steve Jobs. The day will come when the rights holders make owning and managing digital reading content palatable and painless. Fixing those issues will be far more challenging than developing flashy hardware, even one with a beautiful display and that coveted logo. | OP | doi: 10.3789/isqv22n1.201005

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The recent introduction of the Apple iPad and the iBookstore certainly raises the profile and stakes of the game. Already one hears talk of the new device as a Kindle killer, and while that remains to be seen, the wild success of the iPhone should strike fear into e-reader competitors.

RELEVANT LINKS

Amazon Kindle
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Project Gutenberg
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QA [QUESTION & ANSWER]

John A. Kunze
Associate Director
UC Curation Center

Patricia Martin
Director, Discovery & Delivery
California Digital Library

MEMBER SPOTLIGHT:

California Digital Library: Standardizing Digital Practices Across the University of California System

The California Digital Library (CDL) was founded by the University of California in 1997 to take advantage of emerging technologies that have transformed the way digital information is published and accessed. Since its inception, in collaboration with the UC libraries and other partners, the CDL has assembled one of the world's largest digital research libraries and changed the way that faculty, students, and researchers discover and use information at the University of California and beyond.

The CDL is organized into five distinctive programs emphasizing the development and management of digital collections, tools and systems for online discovery and delivery, innovation in scholarly publishing, and digital curation and long-term preservation, which together provide a wide array of services on behalf of the University of California, its libraries, its pursuit of scholarship, and its public service mission.

Notable CDL initiatives include the Melvyl shared online catalog, the Online Archive of California (OAC), Calisphere, the CDL Web Archiving Service (WAS), eScholarship publishing services, and the UC Curation Center (UC3). CDL also operates an extensive licensing program on behalf of the UC campuses and organizes University of California participation in large-scale digitization initiatives with Google and the Internet Archive, including founding participation in the HathiTrust shared digital repository. With more than 220,000 students, 170,000 faculty and staff, and more than 35 million volumes in its combined library collections, the University of California Libraries together comprise the largest single university library system in the world.

NISO asked CDL to respond to the following questions regarding our use of standards and involvement in standards development.

Q What standards are most important to your organization and why?

John: CDL implements its services using a variety of specifications, from formal international standards in well-understood domains, to proposed standards and locally defined methods in domains where no suitable standards yet exist. Within this mix are mature, widely adopted standards that we and every online organization rely on implicitly and absolutely, such as TCP/IP and SMTP (e-mail), as well as core web-facing service standards such as DNS, URI, HTTP, and HTML. The nature of our enterprise requires that we actually consult the texts of these last four standards on a regular basis. Also, a large number of CDL services model information in XML and generate web pages (in HTML) using locally developed

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XSLT (XML style sheet transformations). For metadata, Dublin Core has been broadly influential at CDL.

METS (Metadata Coding and Transmission Standard) has traditionally been a required wrapper for objects deposited to CDL special collections, although we will be modifying this requirement for ingest into our preservation repository. METS is also a key component of the architecture used to store digital objects in HathiTrust. Outside of CDL's bibliographic systems, ARK (Archival Resource Key) identifiers are used for most digital assets. (ARK is an actionable identifier optimized for persistence that the CDL was instrumental in developing.) Support for the Semantic Web's "Linked Data" is also being built into our new curation services; it is early days still for this sort of application, but the idea is to permit automated processes, not just people, to one day make inferences about relationship types that we are recording with our digital assets today.

Patti: For the Discovery and Delivery team at CDL, the most important standards are those related to metadata, both the descriptive methods— MARC, Dublin Core, and ERMI (Electronic Resources Management Initiative)—and the access methods—including OpenURL and Z39.50. We focus on providing a comprehensive set of discovery services, along with delivery mechanisms, so these standards are the workhorses of our team's services.

Q How has your organization incorporated standards into its products / services?

Patti: A good example is the ERMI standard. While looking for an Electronic Resource Management system, we required potential vendors to support this emerging standard. While implementing our ERM service, we relied on the standard to guide our implementation.

We provide a lot of service "glue" aiming to incorporate different services into our suite so that we make life easier for our end users. For example, our union catalog relies on MARC, OpenURL, ERMI, and Z39.50 to allow end users and library staff to find what we hold, to link to electronic copies, to look up our licenses for troubleshooting purposes, and to provide an integrated borrowing or document delivery solution. Because there's so much interpretation while implementing a standard, we tend to favor vendors or solutions that provide the most open, least proprietary solutions.

John: Agreed. And sometimes it is a challenge to deal with the eccentric application of standards by others. For example, while the XML we create may be rigorously correct, most of the HTML that our web harvesters gather is technically invalid. At the same time, that HTML content is too expensive for the sources to correct, too strategically important for us to reject, and too comfortably rendered without complaint by current web browsers that compensate and fix errors (in ad hoc ways).

Q What benefits has your organization gained from utilizing standards and incorporating them into its products / services?

Patti: We use standards to find common ground with folks external to our organization and to our community. We recognize that we will need to broaden the communities that we usually talk with (i.e. the library community, vendors, and developers) to include others, such as publishers and content providers.

John: The BagIt and ARC/WARC (Web ARChive) container formats have given us preservation confidence by helping us exchange large amounts of content with the Library of Congress and with our university, non-profit, and national library partners (e.g., Stanford and the Internet Archive). Both of these standards provide methods for packaging multiple, related information objects with relevant metadata.

Q What standards development has your organization been actively involved in?

Patti: Three projects that come to mind are ERMI, KBART, and ILS-DI. ERMI was the Digital Library Federation (DLF) project that specified the functional requirements and data elements for electronic resource management systems. Another CDL colleague, Ivy Anderson, has been involved with that project since its inception and currently co-chairs a NISO working group to chart next steps for ERMI. KBART (Knowledge Base and Related Tools), the joint NISO/UKSG initiative, just issued a recommended practice on how to improve the quality of the metadata in OpenURL knowledge bases. ILS-DI (Discovery Interfaces) was another DLF project to specify an API for interoperability between integrated library systems and external discovery applications.

John: Other NISO efforts that CDL staff have worked on include Dublin Core metadata [ANSI/NISO Z39.85], SUSHI protocol for usage statistics [ANSI/NISO Z39.88], and the current effort on Institutional Identifiers. We were also involved with the international ISO standard for the PDF/A archival document format [ISO 19005-1].

CDL staff have been centrally involved in the standardization and/or specification of URL and ARK identifiers, the Z39.50 protocol, the WARC container for web archiving (now ISO 28500), BagIt for generic content exchange, and Dublin Core Kernel metadata. We've also participated actively in the development of the SERU (Shared E-Resource Understanding) Best Practice and on the METS advisory board.

Q What benefits does your organization gain from active involvement in standards development?

Patti: We help shape the conversation and bring in practical use cases. We tend to push the envelope on issues related to scale and complexity and we seek to avoid the balkanization of standards efforts, and try to cross fertilize whenever possible. We don't know what standards will be needed in the future, but we hope to be part of the community uncovering them, and helping to shape the conversations.

Q What problem areas have you encountered that would benefit from further standards or best practices development?

Patti: Best practices would include a profile, or an exemplar, for interpretation and implementation of a particular standard. A good example where profiles are useful is Z39.50, which is sort of like a family of standards. It's not hard for two technically compliant vendor implementations, each with a different application in mind, to be non-interoperable at the level of either search attributes or returned record syntaxes. Profiles help create common ground and also filter the many elements that a standard generically has to provide into those subsets that fit particular applications. We think of standards as similar to a human language: standards set the rules of a language, profiles set the rules of language dialects.

We also tend to favor more open implementations and interpretations of standards over closed and more proprietary ones.

John: In standards it seems there is a classic tension between a need for stability and a need for flexibility. Particularly in digital information services, organizations want a stable specification to maximize interoperability and minimize development costs. At the same time, it is only after several years of deployment that we learn what we should have standardized on! An ideal standards process would be solid enough to help us start building services in areas where our understanding is pretty good and be nimble enough to help us keep pace with the rapid evolution of our understanding and the breathtaking pace of technological change.

Q What else would you like NISO ISQ readers to know about your organization?

John: In its role as service provider to the ten campuses of the University of California and its many libraries, the CDL is committed to a high degree of interoperation within the university and beyond. Best practices and standards are critical in fulfilling our mission. | QA | doi: 10.3789/isqv22n1.201007

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In standards it seems there is a classic tension between a need for stability and a need for flexibility. Particularly in digital information services.

RELEVANT LINKS

ARK (Archival Resource Key)
www. cdlib.org/uc3/ark

BagIt
www. cdlib.org/uc3/bagit

California Digital Library
www.cdlib.org

Dublin Core
dublincore.org

Dublin Core Kernel
dublincore.org/groups/kernel/

ERMI (Electronic Resources Management Initiative)
www.diglib.org/pubs/dlf102/

ERM Data Standards & Best Practices Review
www.niso.org/workrooms/ermreview

ILS-DI (Integrated Library Systems-Discovery Interface)
www.diglib.org/architectures/ilsdi/

KBART (Knowledge Base and Related Tools)
www.niso.org/workrooms/kbart

METS (Metadata Encoding and Transmission Standard)
www.loc.gov/standards/mets/

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

WARC (WebARChive) Format
www.digitalpreservation.gov/formats/fdd/fdd000236.shtml

Dianne Carty

DIANNE CARTY

NEW COLUMN!

STANDARD SPOTLIGHT:

ANSI/NISO Z39.7: Information Services and Use: Metrics & statistics for libraries and information providers — Data Dictionary

This is the first in a **new column** series highlighting how NISO standards are used. Many standards are hidden "under the covers" of products or built into infrastructure or services, so that the end user is unaware the standard even exists. Some standards have been around so long they are taken for granted and don't get much press. Through this series, we hope to bring to your attention some of those lesser known or forgotten standards and spotlight their value to our community.

Z39.7 *– noun*
[zee - thur-tee • nahyn • sev-uhn]

the only NISO standard available as an online data dictionary and the first NISO standard to be continuously maintained and updated

Z39.7 is the only NISO standard available as an online data dictionary and is the first NISO standard to be continuously maintained and updated. As a member of the standing committee for Z39.7, I am admittedly very familiar with the data dictionary. What has not been clear to me is the reach of this online standard beyond the standing committee and the library research community.

In an effort to hear from practicing librarians, I sent out an e-mail request to librarians from different types of libraries in Massachusetts. In my e-mail I reminded them that the data collected on the state and national levels, primarily through the state and federal agencies, is based on the definitions in the NISO data dictionary—something I suspect many of them didn't know.

Q Because I knew that most librarians were familiar with the data available at the state and national level, the first question I asked was: **How do you use the library data that is available at the state and national levels?**

I received responses from 46 librarians in the space of three days. The preponderance of the e-mails came from public library directors. I did, however, receive comments from school and academic librarians as well. As is apparent from these selected responses below, the data collected based on the data dictionary is heavily used by libraries for planning and for budget preparations and justification.

- To compare our library with others of our size; to support requests for additional funding; to answer questions posed by town fathers and mothers.

- Most recently, I used the data supplied by Massachusetts Board of Library Commissioners for salary comparisons for our unions' (we have two) negotiations. Also, for the last year or so, we have been working on a Planning and Design [construction] grant and have used various comparisons (populations, services, cost per capita etc.) as part of our projections.

- I routinely benchmark the operations and services of my library against others on a) the Cape, b) of similar size in the state, and c) occasionally in other New England states. Metrics I've recently looked at include staffing levels in similarly sized buildings, staffing levels in public libraries in similarly sized communities, staffing in communities without a town center; salary levels for various functions in libraries in our geographic locale and in other regions in towns of similar size; funding levels, again locally and in similarly sized communities in Massachusetts; and lastly levels of services. I've used this information to provide

backup for funding and staffing requests and for my own information while preparing the annual budget.

- Tracking historical trends as an aid to policy formulation, evaluating service provision, benchmarking, report preparation.

- Strategic planning: looking at longitudinal trends and peer comparisons; use as statistical evidence in defense of municipal budget.

- I regularly use the data in the budget process. In 2007, we had a successful override that included a significant increase for the library; 3 new full-time positions and a $50,000 increase in the materials line. In the years prior to the override, I regularly offered comparisons to other libraries, usually from south shore communities.

- The Massachusetts Commonwealth Consortium of Libraries in Public Higher Education Institutions puts this data into a spreadsheet so the 15 Massachusetts community colleges can benchmark with other community colleges with similar FTE and programs. I also used it when we picked colleges around the country for collection comparison for using the OCLC Collection Analysis service.

- Peruse it to see what funding levels other school libraries are receiving.

- I have used it to argue for school budgets and staffing, to work on building programs and grant proposals for school and public libraries and to demonstrate the effect school libraries have on education.

- I have found the data helpful with personnel issues. By looking at libraries with similar children's circulation and programming, I was able to recommend a more appropriate salary range for our Youth Services Director. The same held true for other positions. The ability to use your data to determine workloads has been helpful in recommending the addition of staff positions. Most importantly, I have found that by examining the size of collections, numbers of programs etc., I have looked inwardly to determine whether or not our library is providing proper service to the community. It has helped us to be a better library for our patrons.

- We use the stats for leverage.

- I use the data from the MBLC [Massachusetts Board of Library Commissioners] reports to justify my budget to the finance committee, board of selectmen and town administrator. I also put the information in my annual town report, especially the number of people who come to the library in a year and the amount of materials checked out. I have also used the data to justify to my board that we needed another part-time employee and more computers in the adult area of the library.

- Our reference librarian told me she has used the holdings and population stats for choosing databases.

- Primarily for comparative information on salaries. I would like to see data on academic librarians with faculty status – what are the requirements of faculty status, obligations, benefits of faculty status.

- I use this data to develop multi-year usage and spending patterns for my Board and my town administration. I use it to compare my organization with others in the same population group or socio-economic group as my community. This is useful for justifying services, costs, and expenditures. It is also useful for long range planning.

- I create comparison charts with other local libraries' figures that I use when dealing with municipal authorities. I find they help to justify our financial requests, showing that we run a fiscally tight ship, raise more revenue on our own, and request less from the Town than most of our neighbors.

- I also use them at staff meetings, to compliment staff on the high quality of the services they provide, to thank them for increasing their efforts each year, and to let them know that the efficacy of their efforts is made known to Library Trustees, municipal authorities, and the public, and that they should be proud of the superb public service that they offer.

- …to share with politicians who don't have a clue as to how much and often public libraries are utilized.

- As you know, Finance Committees always love the "bang for the buck" concept. I always take it a step further talking about the collection, circulation, ILL stats. In addition, programs and attendance are important to share. I also use this information during the Long Range Plan process and my yearly review.

- IMLS has used the Public Libraries Survey (PLS) primarily to construct trends in public library usage and funding. IMLS has also used the State Library Agencies Survey (StLA) to study how the operations and priorities of state library agencies have evolved over time. Recently, the Federal Communications Commission asked the Research and Statistics division of IMLS to provide information on libraries and one-stop employment service centers in high unemployment areas as a part of the background research they conducted for the national broadband plan. We used the PLS in conjunction with data from the Department of Labor to conduct this analysis.

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Q The next question I asked was: **Does it surprise you to discover that there is a national standard/definition that supports the data collected from libraries in the United States?**

As you may expect the answers were divided between those for whom the standard was not a surprise and those for whom it was. There were however, only a few librarians who had used the online data dictionary. Among the many short responses were the following interesting replies:

It initially surprised some of us that there was such a well-established infrastructure for the standardization of library statistics. The Public Library Service has only been around for about 20 years, so some of the newer researchers didn't necessarily expect library statistics to be such a well-entrenched part of NISO.

Although I didn't know that there's a national standard, I'm not surprised to learn that there is one. I looked at the dictionary and read through the section on keyword definitions. I thought the entries were concise and to the point and will keep it in mind for future "Let's build a new library!" presentations.

Yes. (I'm a little embarrassed that it hadn't occurred to me that it would exist.)

Not at all. I worked for the federal government for 13 (challenging and enjoyable, by the way) years, and I would have been more surprised had there not been a national standard.

I didn't remember this until I went to look at the Foreword in the link you offered. Then I remembered attending a Massachusetts Library Association workshop two years ago that was concerned with how the NISO/ANSI work would turn out in the case of technical services and cataloging.

Q **I then asked if they would visit the online Data Dictionary and submit their impressions.**

Aside from the comments about structure and some maintenance issues, I was most interested to see what responses that this test of the online standard would elicit. In other words, would the librarians use the Dictionary? I discovered that librarians are quite interested in pointing out problems, but there are those who are now pleased to have another resource to consult.

I did go ahead and bookmark the site on Delicious and then Tweeted about it, in the hope of stimulating conversation and perhaps site maintenance.

I'm impressed! I've used ANSI/NISO standards many times over the past 40 years and this looks to me to be a very good job.

The Z939.7 Data Dictionary is a tool that can be used by practicing librarians, library school students, and professionals in the field who are involved in research.

I'm glad this exists (standardization is good) and might even use it as a tool sometime in the future; particularly in evaluating/comparing services in different facilities and systems.

I think the information could be useful for validating the need for services, material purchases, membership in consortia, etc.

The Z939.7 Data Dictionary is a tool that can be used by practicing librarians, library school students, and professionals in the field who are involved in research. As one librarian pointed out, "No, it did not surprise me in the least that there are national standards for data collection. Isn't that what librarians do best?"

The Z39.7 Standing Committee is responsible for the continuous maintenance of the Data Dictionary and actively solicits input and comments from the community. An online comment form appears directly on the dictionary's webpages so that comments can be linked to the section being viewed. The Standing Committee meets twice a year at the ALA midwinter and annual conferences to review and evaluate all the comments and change proposals received between meetings. All submitters are notified of the decision regarding their suggestion and the Dictionary is updated with approved changes.

I encourage you to visit the Data Dictionary site and send feedback to the committee about how we can improve the standard. | QA | doi: 10.3789/isqv22n1.201006

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RELEVANT LINKS

Z39.7 Data Dictionary
www.niso.org/dictionary

About Z39.7 continuous maintenance
www.niso.org/dictionary/maintenance/

MBLC Library Statistics
mblc.state.ma.us/advisory/statistics/

Sarah Pearson

SARAH PEARSON

Knowledge Bases And Related Tools (KBART): A NISO/UKSG Recommended Practice

The Knowledge Bases and Related Tools (KBART) working group was set up in January 2008 as a joint UKSG and NISO initiative to explore data problems associated with the OpenURL supply chain. The Recommended Practice from Phase I of KBART—NISO RP-9-2010, *KBART: Knowledge Bases and Related Tools*—was released in January 2010 and provides guidance on the role and importance of accurate and timely metadata supply to link resolver knowledge bases, along with a practical set of recommendations for metadata transfer.

The Importance of Knowledge Bases

In recent years, the proliferation of online content and multiple access points to that content has meant that traditional manual A-Z lists of static URLs are no longer a viable option for many libraries. As a result, link resolver technology has become integral to successful institutional access to electronic material. Many libraries now use a link resolver as their main route to content for library patrons. This uptake has meant that content providers have adopted the OpenURL standard to enable mediated link resolver access to the "appropriate copy." However, the enabling of OpenURL technology is only part of the solution. Accurate, up-to-date and comprehensive knowledge bases are also vital in order for successful linking to take place.

Knowledge bases have become a highly valued tool for a variety of reasons. Most crucially, they describe to the user what an institution has entitled them to access and link them to this content. Much time and effort is currently spent by libraries in localizing knowledge bases to reflect their individual and consortial entitlements. This is a constant task in order to assure that data is consistently accurate and comprehensive. Additionally, link resolver suppliers spend much effort in quality checking data in the knowledge base, normalizing it, adding to it frequently, and ensuring that it is as comprehensive as possible. With the complexities of customer and consortial entitlements, content packaging by providers, and the growth of free, open access and hybrid content, this is becoming increasingly unmanageable. It is recognized that to ensure that knowledge bases are as accurate as possible, problems with metadata must also be addressed at their source, by content providers.

Knowledge base accuracy is in everyone's best interests. Reducing dead links for library patrons increases the usage of content through improved visibility, which in turn increases the value for money of that resource—a crucial factor in collection decision making, particularly in the current economic climate. It is important for publishers, aggregators, subscription agents, and libraries to be able to demonstrate that a resource is of value to the user base; exposing content within link resolvers is crucial for demonstrating such value. It is also increasingly the case that libraries use collection comparison tools within link resolver knowledge bases as a basis for informing purchasing decisions on

> Ultimately, it doesn't matter how great the article is if the target audience can't locate and access it. Therefore adoption of best practice in this area is important to the whole supply chain. This is where KBART comes in.

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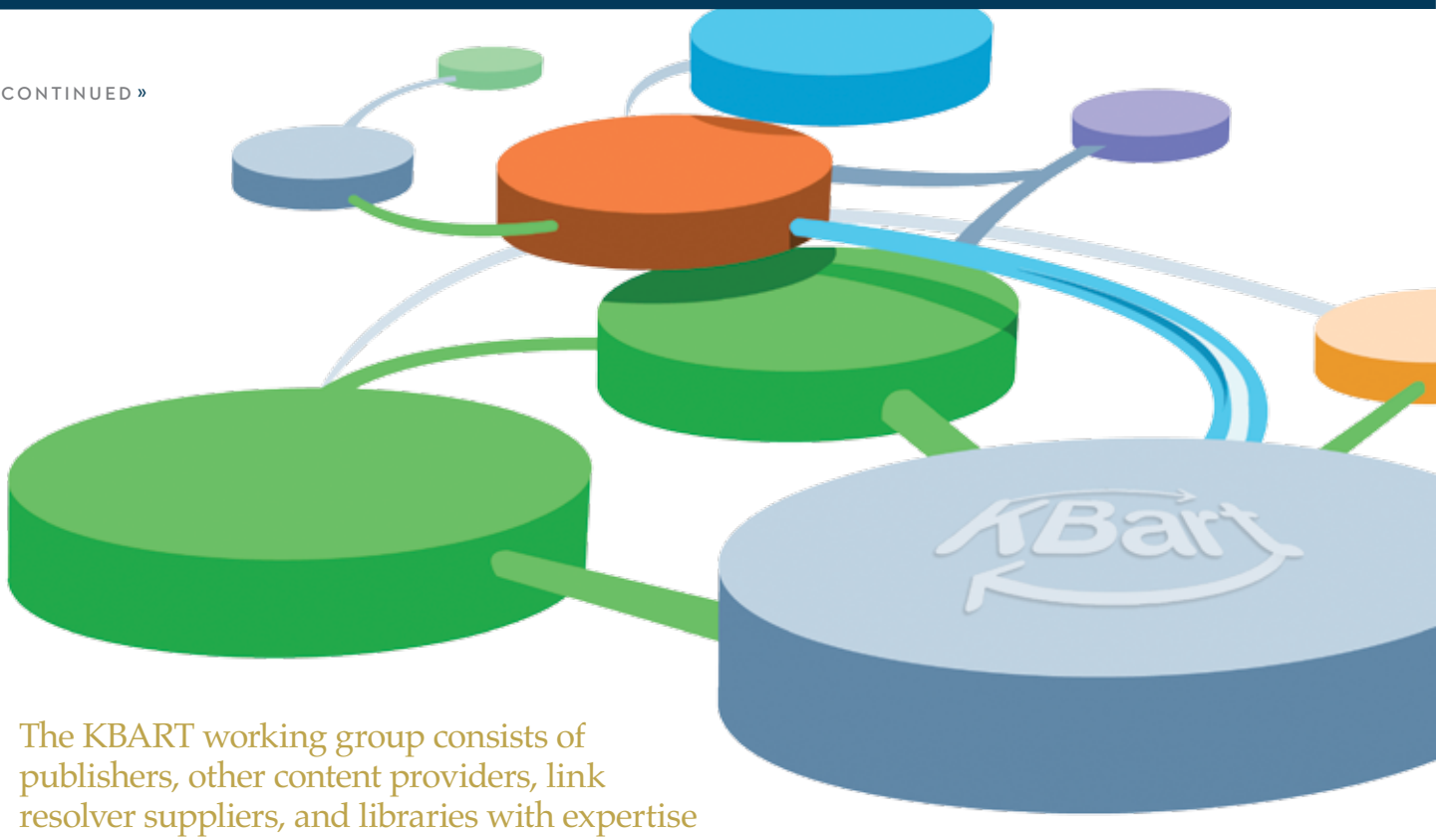

The KBART working group consists of publishers, other content providers, link resolver suppliers, and libraries with expertise in the field of knowledge base metadata.

packages and collections. Link resolvers are now offering such functionality because of the depth of information on current collections that a customized knowledge base can provide. Knowledge bases should therefore be recognized by content providers as an important tool for reaching and selling into the library market. To have out of date metadata can be detrimental to such marketing.

Knowledge base accuracy is an area that is still to be effectively tackled by the information community. Without recommendations and ownership of knowledge base metadata within the supply chain, library patrons end up baffled by dead links, inaccurate descriptions of coverage, and lack of access to content to which they are entitled. This deters use of such content, which is damaging to all stakeholders within the supply chain. Ultimately, it doesn't matter how great the article is if the target audience can't locate and access it. Therefore adoption of best practice in this area is important to the whole supply chain. This is where KBART comes in.

The Role of KBART in Improving Knowledge Base Metadata

These issues of knowledge base quality were the impetus for the KBART working group, a joint initiative of the National Information Standards Organization (NISO) in the U.S. and the United Kingdom Serials Group (UKSG).

The KBART working group was established in January 2008 with two co-chairs: Peter McCracken (for NISO) and Charlie Rapple (for UKSG). Its work is governed by the NISO Discovery to Delivery Topic Committee and the UKSG Main Committee. The charter for KBART responds to recommendations in a research report commissioned by UKSG in 2007 entitled *Link Resolvers and the Serials Supply Chain* and written by James Culling of Scholarly Information Strategies. The report recommended that a "code of practice" be produced on the methods and frequency of metadata transfer, along with the metadata elements required. Additionally, education, promotion, and communication activities should be considered in order to promote adherence to the code of practice.

The KBART working group consists of publishers, other content providers, link resolver suppliers, and libraries with expertise in the field of knowledge base metadata. The main areas of activity were identified and are as follows:

- Best practice guidelines
- Educational materials and events
- Web hub to act as a central resource for knowledge base information

In addition to the just published Recommended Practice, a series of other documents are available on the UKSG and NISO websites. These include a glossary of terms, FAQs on OpenURL and knowledge bases, a description of supply chain roles and responsibilities for metadata transfer, and an entry level description of OpenURL technology.

KBART Recommended Practice

To develop the Recommended Practice, the Working Group analyzed various problems resulting from poor metadata in knowledge bases with input from the information community at various events over the last two years.

The scope of the areas to address in the KBART Recommended Practice was then defined as:

- Identifier inconsistencies
- Title inconsistencies
- Incorrect date coverage
- Inconsistent date formatting
- Inconsistencies in content coverage description
- Embargo inconsistencies
- Data format and exchange
- Outdated holdings data
- Lack of customization

Much debate took place within the KBART working group on the extent to which the first phase of KBART recommendations should focus on elements such as customization. It was recognized that while there was a common consensus on the importance of addressing the complexity of customer and consortial entitlements for example, the starting point needed to be much broader. The intention is to enable uptake from content providers who are not currently supplying metadata and to ensure that those that are, are supplying metadata consistently and frequently. This basis is something that can then be built on in future work of the group. With this in mind, the group identified the data elements in Table 1 as those which a content provider should provide, if they exist, as metadata to the knowledge base.

The recommendations also include the method and frequency of exchange; the data file format and naming convention, and detailed descriptions of the data field requirements.

The Recommended Practice was tested in the 4th quarter of 2009 by a number of publishers, content providers, and knowledge base developers. This proved highly valuable both in terms of tweaking the final recommendations and gaining an insight into the ease with which content providers are able to supply metadata to the requirements outlined in the report. It was acknowledged that even the most basic information such as identifiers and coverage start and end dates can be difficult to supply. This was encouraging in that it proved

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TABLE 1: Recommended knowledge base metadata elements

LABEL	FIELD
publication_title	Publication title
print_identifier	Print-format identifier (i.e., ISSN, ISBN, etc.)
online_identifier	Online-format identifier (i..e, eISSN, eISBN, etc.)
date_first_issue_online	Date of first issue available online
num_first_vol_online	Number of first volume available online
num_first_issue_online	Number of first issue available online
date_last_issue_online	Date of last issue available online (or blank, if coverage is to present)
num_last_vol_online	Number of last volume available online (or blank, if coverage is to present)
num_last_issue_online	Number of last issue available online (or blank, if coverage is to present)
title_url	Title-level URL
first_author	First author (for monographs)
title_id	Title ID
embargo_info	Embargo information
coverage_depth	Coverage depth (e.g., abstracts or full text)
coverage_notes	Coverage notes
publisher_name	Publisher name (if not given in the file's title)

that the recommendations provided to the information community are of the right level to improve knowledge base metadata transfer.

Next Steps

The work of KBART does not end with the January 2010 release of the KBART Recommended Practice. We have also considered and documented the next steps and direction we would like to take in improving further the accuracy of link resolver knowledge bases. These include:

- Definitions for global vs. local updates
- Consortia-specific metadata transfer
- Institution-specific metadata transfer
- Documentation of guidelines for non-text content metadata transfer
- Review of metadata transfer for e-books
- Monitoring and enforcing compliance with KBART recommendations
- Exchange of ERM data

There has been considerable debate in recent weeks on mailing lists regarding the knowledge base metadata problems associated with open access, hybrid, and free content. These are increasingly being activated by libraries alongside subscription content in order to provide a more comprehensive knowledge base for users. It is intended that KBART will have a role to play in forming recommended practice in this area.

Much debate was also had within the group of the role of KBART in mandating compliance in a similar vein to the COUNTER *Code of Practice*. Although this is a direction we would like to discuss in the next phase of KBART, it was decided for Phase I that the Recommended Practice should enable content providers to start supplying metadata without detracting from the work that is already being done by content providers in supplying metadata. We would now urge all content providers and link resolver suppliers to review the KBART Recommended Practice and prioritize take-up of the guidelines within their organizations.

I would like to extend thanks to the KBART working group members for their expertise and enthusiasm for the aims of KBART. Thanks also to the KBART monitoring group who have read and commented on the report and to the testing group who provided such valuable feedback in a real world environment. If anyone has any comments about this Recommended Practice to feed into Phase II or alternatively would like to be involved in KBART for Phase II, we would love to hear from you.

| NR | doi: 10.3789/isqv22n1.201008

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KBART Working Group

Sarah Pearson
E-Resources & Serials Coordinator at University of Birmingham and incoming co-chair of the KBART

Charlie Rapple (Co-chair)
TBI Communications

Peter McCracken (Co-chair)
formerly of Serials Solutions

Phil Caisley
BMJ Group

Adam Chandler
Cornell University Library

Anna Gasking
Informa plc

Simon Haggis
BMJ Group

Nettie Lagace
Ex Libris Group

Chrissie Noonan
Pacific Northwest National Laboratory

Oliver Pesch
EBSCO Industries Inc

Jason Price
Claremont Colleges / Statewide California Electronic Library Consortium

Elizabeth Stevenson
University of Edinburgh

Margery Tibbetts
California Digital Library

Thomas P. Ventimiglia
Princeton University

Jenny Walker
Consultant

RELEVANT LINKS

Culling, James. Link Resolvers and the Serials Supply Chain. Oxford: Scholarly Information Strategies, 2007.
www.uksg.org/projects/linkfinal

KBART Recommended Practice (NISO RP 9-2010)
www.niso.org/publications/rp/RP-2010-09.pdf

KBART Working Group websites
www.uksg.org/kbart
www.niso.org/workrooms/kbart

KBART Interest Group E-mail List
www.niso.org/lists/kbart_interest/

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

OpenURL Quality Metrics Working Group webpage
www.niso.org/workrooms/openurlquality

Julia Blixrud

Ted Koppel

JULIA BLIXRUD AND TED KOPPEL

NISO Content and Collection Management Topic Committee: The Bread and Butter of Information Standards

In 2007, NISO underwent a major restructuring that led to the establishment of three new leadership Topic Committees that bring together leaders in specific subjects to provide direction to the organization for standards development in those umbrella topic areas. One addressed the business of information, another the discovery and delivery of content, and the third—the Content and Collection Management (CCM) Topic Committee—was created to address information itself. CCM covers those standards that are concerned with content items and the management of collections of content.

Existing Standards

CCM has the largest portfolio of the three Topic Committees. Many of the 29 standards included are used frequently, and perhaps subconsciously, by the NISO community every day. The standards can be clustered in several categories: record identification, such as ANSI/NISO Z39.2, *Information Interchange Format* (the basis for the MARC format); item identification, such as ANSI/NISO Z39.9, *International Standard Serial Numbering* (ISSN); character codes, such as ANSI/NISO Z39.64, *East Asian Character Code for Bibliographic Use*; and physical collection, such as ANSI/NISO Z39.79, *Environmental Conditions for Exhibiting Library and Archival Materials*. Other standards may be less familiar, such as ANSI/NISO Z39.73, *Single-Tier Steel Bracket Library Shelving*, but are no less important. These standards are the bulk of NISO's current catalog and the information community has been relying on them for many years. A considerable number of the CCM standards were developed prior to the digital and Internet revolutions, and the fact they continue to be of use confirms their importance to the foundations of libraries and publishing.

Recommended Practices

Some areas of interest are too early or not appropriate for standardization, some areas might be related to other industry standardization activities, and some might never be standardized. However, the community may still seek some guidance in such an area, so CCM has supported the development of NISO Recommended Practices (RPs). Two of the latest address RFID and journal article versions. Another updates the best practices for creation of digital collections.

1 RFID (Radio Frequency Identification) in U.S. Libraries (NISO RP-6-2008)

An early activity of the committee was the approval in January 2008 of the Recommended Practice for the use of RFID in U.S. libraries. RFID is a complex set of technologies in a fast-moving, international arena, but U.S. libraries were implementing the technology and needed guidance.

Other ANSI and ISO standards outline the radio frequencies and character encoding on an RFID tag. An international standardization project addressing library uses was in a proposal stage at the time but several years away from a solution, so NISO and CCM charged a Working Group to address RFID and limited its scope to item management for a U.S. audience. The group's role was to build on the existing technical underpinnings and standards and describe how to best take advantage of RFID technology in a library service environment.

The resulting Recommended Practice, which focuses on interoperability, promotes the installation of an RFID tag at the earliest point possible in a library item's lifecycle. The document also provides a data model to ensure

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NISO members saw a higher than usual number of review ballots in the past year as CCM conducted a review of all of the standards in its portfolio that were due or overdue for their five-year periodic review.

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U.S. libraries can read each others' tags and includes information on security, tag migration, the book supply chain, privacy, and vandalism.

The international committee working on RFID in libraries is expected to publish their standard in 2010. CCM will be reconstituting a NISO working group to harmonize the current NISO RFID Recommended Practice with the new ISO standard.

2 Journal Article Versions (JAV): Recommendations of the NISO/ALPSP JAV Technical Working Group (NISO RP-8-2008)

To address a concern about versions of scholarly journal articles and their visibility during different phases of the publication process, a Recommended Practice on journal article versions was developed in partnership between NISO and the Association of Learned and Professional Society Publishers (ALPSP). The recommendations are intended to be practical ways for the community to know which version of an article is being presented. The recommended terms and definitions for journal article versions define journal articles at seven stages: Author's Original (AO), Submitted Manuscript Under Review (SMUR), Accepted Manuscript (AM), Proof (P), Version of Record (VoR), Corrected Version of Record (CVoR), and Enhanced Version of Record (EVoR). The publication includes a set of appendices that show different applications of the recommended terms and a graphical representation of journal article versions and relationships with formal and gray literature.

3 Framework of Guidance for Building Good Digital Collections (3rd edition)

The Framework Recommended Practice provides an overview of major components and activities involved in the creation of digital collections. It provides a structure for identifying, organizing, and applying existing knowledge and resources to support the development of sound local practices for creating and managing good digital collections. It is intended for two audiences: cultural heritage organizations planning projects to create digital collections, and funding organizations that want to encourage the development of good digital collections. In 2008, the online community version of the Framework was developed to allow for ongoing contributions, comments, and updates from librarians, archivists, curators, and other information professionals. The Institute of Museum and Library Services (IMLS) supported development of the Framework.

Establishment of Procedures for Standards Review

Because so many of the CCM standards are long-established standards in the community, CCM has devoted considerable committee time developing and working through the processes and procedures necessary not only to ensure that the periodic reviews of these existing standards meet procedural requirements established by ANSI for reaffirmation, but also to provide guidance to NISO members who are asked to vote on the review ballots.

NISO members saw a higher than usual number of review ballots in the past year as CCM conducted a review of all of the standards in its portfolio that were due or overdue for their five-year periodic review. Each standard was evaluated to determine if revisions were needed, if it should be reaffirmed, or if it should potentially be withdrawn. The CCM recommendation was then included in the review ballot when it was presented to the voting pool. CCM's recommendations put the standard in the context of the broader world of other existing standards. Without this look at the bigger picture, CCM was concerned the recommendation could be flawed.

This type of review—assessing ongoing usefulness of a standard and whether there is a need for updating—is a critical part of ANSI's certification requirements of NISO as the standards development organization for the information community.

Collaboration with Other Organizations

Another CCM role is to work with and coordinate efforts of other organizations that are doing relevant standardization work. Often, this outreach results in having work already in some stage of development brought under the NISO

umbrella to obtain industry review and formal standardization with the NISO imprimatur. Two examples of such relationships with current projects are the DAISY standard revision and the standardized markup for journal articles.

1 DAISY Revision

NISO selected the DAISY Consortium to be the official maintenance agency for the DAISY/NISO Standard, officially, ANSI/NISO Z39.86, *Specifications for the Digital Talking Book*, known as DAISY 3. This standard defines the format and content of the electronic file set that makes up a digital talking book (DTB). It also establishes a limited set of requirements for digital talking book playback devices. DTBs are designed to make print material accessible and navigable for blind or otherwise print-disabled individuals.

Recognizing the improved capabilities of reading devices and the increased availability of electronic content, both of which have impact on the use of the standard, the DAISY Consortium initiated a public requirements gathering in 2007 for a potential revision of the standard. In August 2008, CCM established a new working group to revise the standard to incorporate the identified requirements, add improvements to support new technological capabilities and content types, as well as to modularize it for more flexible use.

2 Standardized Markup for Journal Articles Working Group

The NISO membership supported a proposal to take the existing National Library of Medicine (NLM) *Journal Archiving and Interchange Tag Suite* version 3.0, its three journal article schemas, and the associated documentation and move it through a NISO standardization process. Originally developed as a common format for receiving and exchanging electronic journal articles for PubMed, the Tag Suite has begun to see wider interest for use in government and non-governmental repository systems. To both broaden the specification's availability and formalize it as a standard, CCM has established a working group that will fast track the existing Tag Suite through the standardization process.

Future Direction

Because of its broad portfolio, CCM is concerned with many identifiers, protocols, and best practices. The dynamic nature of the information industry with numerous new products, processes, approaches, and materials appearing each year requires CCM to continually look at industry trends and listen to industry leaders to identify opportunities where standards can solve problems, fill gaps, or improve interoperability.

In 2008, NISO initiated a new proactive approach to standards development with the holding of Thought Leader meetings. A group of experts on a particular topic are convened to discuss and identify potential areas where NISO can lead a standards-based or recommended practice solution to recognized barriers. CCM organized the NISO Thought Leader meeting on Digital Libraries and Collections. Among the recommendations was a suggestion to encourage best practices in the provision of high quality descriptive metadata from the publisher through the publication, sales, distribution, and library accession process. Although still a work in progress, this idea shows promise in making the material supply chain more complete and useful.

In conclusion, CCM's responsibilities range from routine (and almost subtle) long-standing industry standards to those that enable cutting-edge expansion of services in the information world. We welcome your input on how we can better serve the information community.

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National Federation of Advanced Information Services (NFAIS)

Rice Majors
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RELEVANT LINKS

CCM webpage
www.niso.org/topics/ccm/

CCM Standards Portfolio
www.niso.org/topics/ccm/ccmstandards/

DAISY Standard (Z39.86) Revision wiki
www.digitaltalkingbook.com/ZedNext/?q=ZedNext

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

Journal Article Versions (JAV), NISO RP-8-2008
www.niso.org/publications/rp/RP-8-2008.pdf

RFID in U.S. Libraries, NISO RP-6-2008
www.niso.org/publications/rp/RP-6-2008.pdf

Standardized Markup for Journal Articles Working Group
www.niso.org/workrooms/journalmarkup

Thought Leader Meeting on Digital Libraries and Collections
www.niso.org/topics/tl/NISODLDCreport.pdf

KBART: Knowledge Bases and Related Tools

RECOMMENDED PRACTICE NOW AVAILABLE

The joint UKSG/NISO KBART recommended practice (NISO RP-9-2010) gives practical recommendations for the timely exchange of accurate metadata between content providers and knowledge base developers to improve OpenURL data supply. The document provides all parties in the information supply chain with straightforward guidance about the role of metadata within the OpenURL linking standard (ANSI/NISO Z39.88), and recommends data formatting and exchange guidelines for publishers, aggregators, agents, technology vendors, and librarians to adhere to when exchanging information about their respective content holdings.

These recommendations are designed to be intuitive, easy for content providers to implement, and easy for knowledge base developers to process.

HIGHLIGHTS ARE:

- Essential Terminology & Glossary of Terms
- Overview/Background Information
- Guidelines for Effective Exchange of Metadata with Knowledge Bases
- Education Plans & Next Steps
- Data Exchange Examples
- Bibliography

DOWNLOAD KBART: Knowledge Bases and Related Tools Now!

www.niso.org/publications/rp

OpenURL QUALITY METRICS

This new two-year project is focused on the creation of industry-wide, transparent and scalable metrics for evaluating and comparing the quality of OpenURL implementations across content providers. Focusing on incremental improvements, the working group will look at answering the question, “Is it possible to build an expert system that will evaluate the quality of OpenURLs from a content provider?”

CR [SPECIAL EDITION CONFERENCE REPORT]

2009 EDUCATIONAL PROGRAM HIGHLIGHTS

WEBINARS & FORUMS

This past year was a great success for NISO's education programs. With the support of the Education Committee, NISO held three in person forums, including the third annual NISO/BISG forum at ALA Annual, as well as thirteen webinars—one each month (except July), with May and September having special two-part webinar events. An estimated 3,500 people attended the year's events.

Webinars

JANUARY

Digital Preservation

Filesystem Metadata: An Unsolved Problem in Digital Preservation

Keith Johnson (Stanford Digital Repository)

- File system metadata—which includes file names, file dates, permissions, and directories—are not portable.
- Need embedded, portable file metadata—perhaps a new container format—and tools for handling incompatibilities in a non-destructive manner.

CLOCKSS, A Global Archive

Victoria Reich (Stanford University Libraries)

- CLOCKSS mission is to ensure "access to published scholarly content over time" by building a community-governed sustainable archive without charging for access.
- Leverages existing technology (LOCKSS) and existing infrastructure.
- Trigger events allow content to be released to the public.

Going from Zero to Live with an Automated Digital Preservation System

Carl Grant (Ex Libris North America)

- Preservation requires planning; policies are not optional.
- Perform a needs assessment and identify common services that can be shared with other services.
- Build organization support and sell the preservation service from the top down.

PRESENTATION SLIDES :

www.niso.org/news/events/2009/digpres09/

FEBRUARY

Single Sign-On (SSO) Authentication

Towards Horizontal Linking to Licensed Content

Adam Chandler (Cornell University Library)

- **John Law:** Authentication barriers were one of the chief inhibitors to success in using library resources.
- When Cornell University students tried to access the library's licensed resources from Google, typical results were: a rejection of access, offers for free trial access, homepages with no clear indication of where to go next, and many different types of log-in screens.
- Need for a consistent log-in link on both the home and article pages, consistent terminology for log-in options, and a "where are you from" (WAYF) menu.

InCommon Library/Shibboleth Project Update

Steven T. Carmody (Brown University)

- InCommon Library/Shibboleth project to provide integrated access to licensed library resources regardless of user location, while also meeting users' needs for consistency and vendors' needs for reliable authentication.
- Phase 1 recommendation was to use a combination of Shibboleth® and a single sign-on enabled proxy.

Access & Identity Management

Keith Dixon and Lyn Norris (Eduserv)

- Authentication basically involves trust—balancing the risks to access and user privacy with the usability of services and monitoring for management.
- Athens is a technology, services, and a federation, which mediates a trusted relationship.
- Phillips Research Library implemented a combination of EXProxy and Athens local authentication.

SSO Authentication: Understanding the Pieces of the Puzzle.

Jerry Ward (ProQuest)

- Support costs for authentication can be huge as companies are forced to support everything from individual system assigned usernames and passwords to Shibboleth®.
- It is time for a common standard. Just as OpenURL brought linking into common usage, so can a standard single sign-on authentication system have a similar impact on usage.

PRESENTATION SLIDES :

www.niso.org/news/events/2009/authentication09/

MARCH

Data Movement and Management

The Landscape of Data Movement and Management in Libraries

Tim Jewell (University of Washington Libraries)

- ERMI Phase 1: Functional requirements and data elements for ERM systems.
- ERMI Phase 2: License expression, ILS/ERM interoperability, e-resource usage statistics.
- Beyond ERMI: NISO spearheading a number of follow-up activities.

CORE (Cost of Resource Exchange): Combining Cost and Use Data in Libraries

Jeff Aipperspach (Serials Solutions)

- ERM systems need to be able to look up and use acquisitions information from within the ILS.
- Libraries want to leverage data investments from different systems and allow reuse of data in other applications.
- Draft standard for trial use that defines the protocol to exchange data between an ILS and ERMS is expected in March with a 9–12 month trial.

Reusing Library Metadata via the eXtensible Catalog (XC)

Jennifer Bowen (University of Rochester)

- XC will provide metadata architecture using OAI-PMH, five toolkits, and an out-of-the-box user interface.
- Enables automated handling of metadata changes.
- Ideal platform for experimentation.

The OAI-ORE Project

Michael L. Nelson (Old Dominion University)

- Use published resource maps to the web that instantiate, describe, and identify aggregations of web resources.
- Takes a resource-centric approach; prior approaches had repository and metadata records as the center.
- Sets a new direction to think about interoperability in our communities.

PRESENTATION SLIDES:

www.niso.org/news/events/2009/datawebinar09/

APRIL

KBART and the OpenURL: Increasing E-Resource Use through Improved User Access

KBART: Improving Access to Electronic Resources

Peter McCracken (Serials Solutions)

- Three main problems with OpenURL today: bad data, incorrect transfer implementation, and lack of OpenURL knowledge resulting in lack of use.
- KBART is a NISO/UKSG project to ensure that OpenURL knowledgebases contain timely and accurate data.
- KBART phase 1 best practices guidelines to address all three main problems in the supply chain.

KBART: Benefits to Link Resolver Vendors

Thomas Ventimiglia (Princeton University Library)

- Their knowledgebase has over 100 providers, 2 million records each month, and requires significant work in writing and maintaining software to standardize data formats.
- KBART identifies a standard data format and a set of metadata fields important to the basic functions of a link resolver and recommends an updating period and transfer mechanism.

KBART: A Librarian's Perspective

Chrissie Noonan (Hanford Technical Library)

- Their OpenURL knowledgebase is registered with multiple vendors and maintenance is an ongoing effort.
- KBART can improve data accuracy, normalize formats, maximize the usage of electronic products, and ultimately improve the user experience.

Credo Reference

Jenny Walker (Credo Advisory Board)

- Credo is an online full text reference service with metasearch and OpenURL linking, as both a link resolver source and target.
- For a content provider, conforming to KBART can allow data to be offered in standardized formats and help identify the provider as a trusted source of information.

PRESENTATION SLIDES:

www.niso.org/news/events/2009/kbart09/

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MAY

COUNTER: A How-To Guide

COUNTER: An Introduction to the Codes of Practice
Peter Shepherd (COUNTER)

- Current Codes of Practice: Journals and databases (release 3), Books and reference works (release 1).
- Journals and databases release 3 adds requirement for XML format, consortial reports, and use of the SUSHI (Standardized Usage Statistics Harvesting Initiative) protocol.
- An independent audit confirms COUNTER compliance.
- Future developments: using COUNTER data to derive global quality and value factors.

Using COUNTER Reports
Tansy Matthews (George Mason University)

- Virtual Library of Virginia (VIVA) is a consortium of over 125 colleges and universities that processes statistics for all of its member libraries.
- Data trending over time requires consistent formatting. For non-COUNTER compliant vendors, each one's data has to be processed individually.
- Developed software for importing and processing multiple Excel COUNTER files and loading into a database.

Economic Impact of SUSHI on the Library Community
Susan Golden (Serials Solutions)

- Libraries spend 40 to 60 hours per assessment period in processing vendor usage data.
- With SUSHI, libraries can save on processing time and redirect it to decision making.
- Systems such as 360 COUNTER provide the SUSHI client service that libraries need.

PRESENTATION SLIDES :

www.niso.org/news/events/2009/counter09/

New Applications of Usage Data

COUNTER - New Features and Applications
Peter Shepherd (COUNTER)

- COUNTER data being used to create global metrics.
- UKSG project looking at value metrics—impact and usage factors.
- PIRUS project developing a standard for article level usage statistics that could be used by repositories as well as publishers.

Article-Level Metrics at PLoS and Beyond
Peter Binfield (Public Library of Science)

- A possible method for measuring the impact of research is by measuring usage of research output: the journal article. Few journals currently provide this data.
- PLoS project looking at usage, citation, and a range of measures that would define impact.
- Data being added to every PLoS article to be displayed numerically and graphically including historical data.

An Overview of Recent Usage Data Research
John McDonald (Claremont University Consortium)

- Have new ways to collect usage data, e.g., ISI citation data, COUNTER reports, Google analytics, various server logs.
- Researchers have published theoretical analyses of usage data, e.g., centrality measures, scientific communication maps, open access studies.
- Other researchers focused on evidence-based analysis of usage data, e.g., Google analytics of local content, e-book models analysis, use of Sparklines.

PRESENTATION SLIDES :

www.niso.org/news/events/2009/usage09/

JULY

Library Systems & Interoperability: Breaking Down Silos

CORE: Exchanging Cost Information Between Library Systems
Ted Koppel (Auto-Graphics) and Ed Riding (SirsiDynix)

- **Problem:** The ERM needs financial data that is often stored in other systems such as the ILS or vendor and consortial databases.
- **Solution:** A protocol that will standardize the exchange of data between systems.
- The CORE protocol uses an XML schema that defines the request and response payload.

Moving Library Management Services to Web-Scale
Andrew K. Pace (OCLC)

- OCLC announced a strategy to deliver web-scale management services.
- Building on WorldCat, OCLC is uniquely positioned to "leverage the power of the cooperative" and "create system-wide efficiencies in library management."
- The web-based platform includes customizable workflow, data registries and repositories, and a service-oriented architecture for interoperability with local and 3rd party business systems.

DLF's ILS Discovery Interfaces Project
John Mark Ockerbloom (University of Pennsylvania)

- DLF-DI has four levels of discovery interoperability defined with abstract function definitions, and one or more binding technologies for each function.
- At least ten vendors have agreed to support the Level 1 basic discovery interface.
- ILS-DI APIs are becoming available. Vendors, libraries, and developers are all encouraged to test, implement, and develop extensions.


PRESENTATION SLIDES:

www.niso.org/news/events/2009/interop09/

AUGUST

E-Books: A Rapidly Evolving Marketplace

Creation, Formatting, and Distribution Options for E-books
Tino Fleischer (Atypon Systems)

- **Key questions for publishers are:**
  - What types of book content do you have?
  - How do you want to deliver/present it online to the user?
  - If distributing in PDF, at what level of granularity is it offered?
  - What metadata will be offered, at what granularity, and using what DTD schema?
- Mobile delivery requires additional formats and processes.

Business Issues and Trends in the Digital Book Landscape
Anne Orens, Independent Consultant

- Tipping points for the e-book trend were: reading devices, print on demand availability, and Google Books.
- Approaches include: full-service repository to distribution services, repackaging and re-chunking, online sampling, mobile delivery, enhanced functionality (over print), and taking a DRM stance.
- Strategy determined by combination of pricing, audience, and content type.

E-books in the Library
Sue Polanka (Wright State University)

- Libraries want free vendor-neutral MARC cataloging with every e-book, and simplified purchasing.
- Current access issues include: proprietary software, ability to borrow and lend, and the possible lack of perpetual access.
- Users want printing and downloading capability, linking, and value-added features.


PRESENTATION SLIDES:

www.niso.org/news/events/2009/ebooks09/

SEPTEMBER

E-resources Licensing: The Good, the Bad, the Ugly – Part I

Contracts Basics
Trisha L. Davis (Ohio State University Libraries)

- A contract must include: offer, acceptance, consideration.
- Other requirements are: competence, consent, and legal activity.
- Types of licenses that libraries encounter are: shrink-wrapped, embedded within a disc, online click-on, and formal contracts.

Terms to be Mapped to ERMs
Trisha L. Davis (Ohio State University Libraries)

- The DLF ERMI project identified terms of use for an Electronic Resource Management (ERM) system.
- 30 different terms were reviewed.

Introduction to ONIX-PL (ONIX for Publications Licenses)
Clinton Chamberlain (University of Texas at Austin Libraries)

- ONIX-PL is an XML schema that allows a publisher's license to be expressed in a machine-readable format.
- Benefits include elimination of manual data entry into an ERMS, better identification of key terms, and improved access to license information by end users.


PRESENTATION SLIDES :

www.niso.org/news/events/2009/eresources09/

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E-resources Licensing: The Good, the Bad, the Ugly – Part II

Review of a Sample Licensing Agreement with Terms to be Mapped to ERMs
Trisha L. Davis (Ohio State University Libraries)

» Terms in 3 anonymous licenses are compared for how the terms map to the ERMI elements and differences are highlighted.

Introduction to the SERU (Shared E-Resource Understanding) Recommended Practice
Clinton Chamberlain (University of Texas at Austin Libraries)

» The Shared Electronic Resources Understanding (SERU) is the NISO recommended practice that allows libraries and publishers to forego a license agreement in favor of a shared understanding of widely accepted practices.

» ERMI license terms are compared to SERU language.

» A SERU Registry is available for both librarians and publishers to indicate their willingness to use SERU.

PRESENTATION SLIDES :

www.niso.org/news/events/2009/licensing09/

OCTOBER

Bibliographic Control Alphabet Soup: AACR to RDA and Evolution of MARC

AACR2, RDA, VIAF, and the Future
Barbara Tillett (Library of Congress)

» IFLA has had increasing influence on Anglo-American cataloging, in particular the *Functional Requirements for Bibliographic Records (FRBR)* with its entity-relationship model.

» RDA, the forthcoming replacement for AACR2, uses the FRBR model, has a greater emphasis on controlled vocabularies, and provides for greater re-use of metadata beyond libraries.

» There will be a transition period with aids such as mapping tables to MARC and other metadata schemes. Database/format scenarios are also in development.

RDA Elements and Vocabularies: A Step Forward from MARC
Diane Hillmann (Information Institute of Syracuse)

» Exclusive use of MARC limits libraries from participating in re-use or sharing of data with the non-library community.

» A joint DCMI/RDA task force was established to build a formal representation of RDA elements and vocabularies using the semantic web RDF and also to create a Dublin Core Application Profile.

» Among the issues that have to be addressed are handling of RDA aggregated statements (e.g. for publication / production information) and how to represent roles and relationships.

Data-Driven Evidence for Core MARC Records
William Moen (University of North Texas)

» A two-year project examined over 56 million MARC 21 records form OCLC WorldCat to determine the frequency of use of the various fields and subfields.

» For LC-created book records, 7 field tags appeared in every record; 14 fields accounted for 80% of the occurrences; 66% of fields used in less than 1% of records.

» Study makes a case for a core set of 10-18 field/subfield combinations based on actual cataloging practice.

PRESENTATION SLIDES :

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

NOVEMBER

Data, Data Everywhere: Migration and System Population Practices

Data Quality, Policy, and Large-Scale Data Flows
Hilary Newman (Innovative Interfaces, Inc.)

» When populating bibliographic systems or merging data, consider the data to be alive and evolving and don't make policies based only on today's needs.

» Use standards.

» Leverage computing power to do the work for you.

Data, Data Everywhere and Constantly Moving
Maribeth Manoff (University of Tennessee, Knoxville)

» There are large one-time migrations, e.g. a new ILS, and there are ongoing constant system populations, e.g. a link resolver knowledge base.

» One-time migration with known data formats can result in less attention paid to opportunities for innovation or new user experiences.

» Ongoing migrations / data populations require an emphasis on processes "that are both rigorous and flexible."

» New configurable data formats, e.g. XML, can encourage innovation.

Libraries and Data an IU Perspective
Robert McDonald (Indiana University)

- Library systems now include a legacy ILS plus e-content module plus advanced discovery interface that must all interoperate and share selected data.
- Next generation discovery system decouples the discovery and ILS; MARC data is exported and reformatted before it is presented to the user.
- Curation mandate increasingly extends to inclusion of the scientific research data. HathiTrust is an example of a consortial curation service.

PRESENTATION SLIDES :

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

DECEMBER

ONIX for Publication Licenses: Adding Structure to Legalese

SCELC and ONIX-PL
Rick Burke (SCELC)

- ONIX-PL fulfills a critical need—a universally acceptable standard for formatting and delivering license information for all parties: libraries, consortia, and publishers.
- By using ONIX-PL, SCELC can eliminate manual entry and editing of licensing terms into their consortial ERMS.
- The open source ONIX-PL Editing Tools (OPLE) provide effective access to the license for all parties, including end users, and will provide the facility to generate the subsequent web summaries at any stage of license mapping.

ONIX-PL: Viewpoint from the University & Library Community
Wilma Mossink (SURFfoundation)

- Virtual learning environment (VLE) initiative in The Netherlands needs licensing information for copyrighted materials delivered in course packs.
- ONIX-PL offers the possibility of having machine-readable and searchable licenses but there is a chicken and egg issue right now. Not enough publishers are offering licenses in the format. Not enough awareness of or demand for it from the library community.

An Introduction to RELI
Mark Bide (EDItEUR)

- RELI (Registry for Electronic Licenses) is a JISC-funded project to pilot the development of a license registry, which can be useful in providing permissions data for users, storing all licenses in one place for access by library staff, [and] enabling comparisons of licenses.
- ONIX-PL is the only available machine interpretable format for populating a registry with XML-formatted license information. Not enough publishers are using it yet.

PRESENTATION SLIDES :

www.niso.org/news/events/2009/onixpl09/

Forums

Performance Measures and Assessment
Baltimore, MD

- **Steve Hiller** (University of Washington Libraries) – Traditional statistics are no longer sufficient; need to demonstrate outcomes and the value of the library to the individual, community, and the organization.
- **Mike Poulin** (Colgate University Libraries) – Using a variety of data to make journal cancellation decisions. The library's role is not to support the faculty with publication of unused material or to provide revenue for publishers.
- **David Consiglio** (Bryn Mawr College) – NISO survey showed significant increase in importance of wireless access for all constituencies.
- **Larry Nash** (East Carolina University) – Use progressive alignment of assessment to the library service environment: non-alignment, practice alignment, process alignment, system alignment, environmental alignment.

PRESENTATION SLIDES :

www.niso.org/news/events/2009/assess09/agenda

CONTINUED »

NISO/BISG Forum: The Changing Standards Landscape for E-books

Chicago, IL - ALA Annual

» **Andy Weissberg** (Bowker) – The International Standard Text Code (ISTC) provides a means of uniquely and persistently identifying textual works and linking to all of their manifestations.

» **Mark Bide** (EDItEUR) – The ISBN has to resolve some significant challenges, especially with digital content, if it is to continue to be an effective identifier. Is the e-ISBN a possible solution?

» **Michael Smith** (IDPF) – EPUB is an XML-based format for digital books designed to provide true interoperability across platforms.

» **Michael Healy** (BISG) – BookDROP standard was developed to streamline how online book content is shared between publishers with digital book content repositories.

» **Suzanne Kemperman** (OCLC NetLibrary) – Better access and less DRM requires better business models and jointly developed digital use standards.

» **John Cox** (John Cox Associates) – E-books are ten years behind journals in developing business models. The business is too young and too varied as yet for consensus on standardization.

» **Sue Polanka** (Wright State University Libraries) – To successfully adopt e-books, libraries need standards for metadata, catalog records, purchasing, access, and interface features.

PRESENTATION SLIDES :

www.niso.org/news/events/2009/ala09/bisg/

Library Resource Management Systems

Boston, MA

» **Oren Beit-Arie** (Ex Libris) – Significant changes in how scholarship is conducted: more data is produced, more multidisciplinary, shift to greater importance on earlier activities than in the final journal article output, technology compounding other trends.

» **Robert Gerrity** (Boston College Libraries) – Users are looking for library systems to offer one stop shopping of discovery to delivery, flexible delivery options, delivery to mobile devices, and contextualized services.

» **Judi Briden** (University of Rochester) – eXtensible Catalog user research focused on how to improve the OPAC for casual, non-expert users and address not yet identified needs of expert researchers.

» **John Culshaw** (University of Colorado at Boulder Libraries) – Buy instead of building with open source to obtain greater functionality, have a vendor partner, and interoperate with the campus IT environment.

» **Art Rhyno and Guoying (Grace) Liu** (University of Windsor) – Implemented Evergreen PINES system due to lower cost, growing track record with consortia, agility and flexibility of the software, and ability to integrate with SFX.

» **Annette Bailey** (Virginia Tech) – Open Source and vendor software can work together to: link users to library resources, process data for display in external web page, and enhance existing OPACs.

» **Rachel Bruce** (JISC) – Rapid technology change (especially Web and e-resources), users who go to Google, and funding challenges have created the perfect storm for change. There are many ways libraries can and are changing to meet the challenge.

» **Ivy Anderson** (California Digital Library) – ERMI Phase 1 defined data model, data dictionary, and functional requirements. Phase 2 addresses license information. Current gap analysis and standards review determining recommendations to NISO for future work.

» **MacKenzie Smith** (MIT Libraries) – Integrating library resource management systems into campus infrastructure for research and education by building on bibliographic data models, defining new conceptual data models, and using a data-oriented architecture.

» **Diane C. Mirvis** (University of Bridgeport) – Decision to implement both enterprise Portal and CRM forced new process model to optimize workflow and information exchange between academic, library, administrative, and clinical areas.

» **Kat Hagedorn** (University of Michigan) – Repositories can now move into a "cloud library" (partnering with HathiTrust) that will become a shared network resource.

» **Kyle Banerjee** (Orbis Cascade Alliance) – Alliance migrated to OCLC WorldCat Navigator as a hosted resource platform, which utilizes a multi-library version of WorldCat Local for discovery, combined with consortial borrowing and gateway to local circulation.

» **Marshall Breeding** (Vanderbilt University) – Dynamics of library automation are changing. Open source and SaaS creating new options. Research and development essential to develop systems to meet the needs of libraries and address the issues identified in this forum. Standards need to drive, not hold back, new initiatives.

PRESENTATION SLIDES :

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

| CR | doi: 10.3789/isqv22n1.201010

For information on NISO's 2010 line-up of educational webinars and forums, visit: www.niso.org/events/2010

[CONFERENCE REPORT]

CYNTHIA HODGSON

E-Books and Standards Webinar

On November 18, 2009, Aptara Corporation, a provider of knowledge process outsourcing solutions (including e-book production), hosted a free webinar on *E-book Readers and Standards... Where to Next?*

While the title implies a focus on readers, in actuality the webinar was more far-reaching in discussing the whole e-book market and a particular standard for e-book content.

Speakers **Sarah Rotman Epps**, an Analyst with Forrester Research, and **Michael Smith**, Executive Director of International Digital Publishing Forum, both have a wealth of knowledge in the e-book arena so were excellent choices for the webinar.

Although this webinar took place well before the announcement of the Apple iPad, Rotman Epps' point that publishers are "betting" on which devices and formats will win the market race is even more relevant with the growing number of new and improved devices, including the iPad. She also stated that Forrester's own May 2009 forecast for the e-reader market is already too conservative and they are now predicting as many as 6 million e-reader units to be sold in 2010.

In comparing e-readers to the music industry's experience with the iPod and similar devices, Rotman Epps expects that the adoption will be slower since less content is already digitized, but that convergence with other devices will occur faster. Many consumers do not want a specialized device for e-books; they want to e-read on their laptop or smartphone. Interestingly, more people expressed interest in reading e-books (50% of the survey group were interested or very interested) than magazines (36%) or newspapers (33%).

Content providers need to make sure their content is "device agnostic" and will reformat to look good on a wide variety of devices as well as having the ability to transfer between devices. Some publishers have already created new business models using subscriptions, incremental content sales, and advertising to generate revenue. Rotman Epps expects the revenue to initially be incremental and replacement for other sales, but potentially still profitable, especially through cost savings in print operations as publishers are gradually able to cut back on print production.

Michael Smith followed up with the answer to cross-device content formatting: the open EPUB standard that specifies how to create digital reflowable text, which he claims is perfect for small screen applications. Smith feels it is only a matter of time for EPUB to become the dominant format and it is just a question of how fast. The standard is already supported on many readers [including the new Apple iPad, but not the Amazon Kindle as yet] and there is significant interest in the STM market and in Europe, China, and Japan in adopting the standard.

The standard is currently at version 2 and a maintenance working group ensures continuous improvements; they are already working on version 3, which Smith said will support annotations, dictionaries, and deep linking. Although not mentioned in Smith's talk, IDPF has recently appointed the DAISY Consortium to be the maintenance agency for EPUB. Also the maintenance agency for the NISO/DAISY standard, *Specifications for the Digital Talking Book* (ANSI/NISO Z39.86), the DAISY Consortium has long supported the EPUB standard, which includes the DAISY DTBook as a "preferred vocabulary." E-reader devices have been especially popular with reading-impaired consumers since they generally offer the ability to increase the text size.

Smith touched only briefly on DRM, comparing DRM-free EPUB to Adobe Digital Editions, which uses DRM. What he did not discuss was that DRM can easily be added to an EPUB-formatted work, which has already been done by some publishers. Apple has stirred up controversy with its announcement that DRM will be used to secure EPUB files that are sold through its forthcoming iBookstore. | CR | doi: 10.3789/isqv22n1.201012

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RELEVANT LINKS

Adobe Digital Editions
www.adobe.com/products/digitaleditions/

Aptara
www.aptaracorp.com

DAISY Consortium
www.daisy.org

E-book Reader Matrix
wiki.mobileread.com/wiki/Ebook_Reader_Matrix

EPUB standards
www.idpf.org/specs.htm

Forrester Research
www.forrester.com

International Digital Publishing Forum
www.idpf.org

NISO/DAISY Digital Talking Book standard
www.niso.org/standards/z39-86-2005/

Eric Celeste

ERIC CELESTE

A Focus on Innovation at the DLF Forum

In 2009 after four years as a freestanding organization, the Digital Library Federation (DLF) returned to the Council on Library and Information Resources (CLIR), where it had been founded in 1995. One consequence of this organizational shift was that the DLF Forum, one of the key conferences for institutions building digital library solutions, took on a decidedly different tone for Fall 2009.

Instead of the typical set of project updates and reports presented by panels in two or three tracks over two days, this Forum, held from 11-12 November 2009 in Long Beach, California, became a focused conversation about innovation prodded by presentations to the conference as a whole and stoked by an undercurrent of tweets flowing between attendees and participants far from Long Beach.

The Fall 2009 DLF Forum focused on innovation in library technology and gave participants a chance to share their views about the potential role of the Digital Library Federation as a program within the Council on Library and Information Resources. The conference itself was an innovative response to the limited planning time and resources of an organization in transition. Rather than break into separate tracks, participants for the most part remained together and engaged in wide-ranging conversations about the topics introduced by a provocative set of speakers. One pre-conference session on the Blacklight discovery front-end advocated a number of best practices others developing community-based solutions might consider.

Sayeed Choudhury, associate dean for library digital programs at Johns Hopkins University (JHU) and CLIR presidential fellow, welcomed the 60 or so participants to the meeting with a talk that stressed the rarity of "right" answers and the need to analyze local circumstances before developing a course of action. Innovation arises from chaos, Choudhury noted, urgency being the mother of innovation. During this period it is tempting to select the most common or simplest option. In describing the analysis that preceded Johns Hopkins' choice of institutional repository platform Choudhury noted that others had made this decision before them, but it was important for JHU to be cognizant of local needs. It required tremendous trust on behalf of administrators to give the JHU team the time and funding they needed to consider and analyze the situation. Building this trust, carving out space to do innovative work, is the first challenge of innovation.

The development of the Blacklight project at the University of Virginia illuminated the lessons that Bess Sadler (now at Stanford University) brought to the Forum. Sadler referenced the "ancient war between our peoples" to describe the tensions between developers and system administrators that seem to emerge whenever a significant technology project is undertaken. Again there was a call for trust as a foundation of innovation. Sadler pointed out that innovation was about more than having great ideas and taking risks, turning these ideas into something that actually makes a difference is the hard part. To do that, developers and system administrators must develop a level of trust, they have to get to know one another and need tools to verify that everyone is doing their job well. This requires a commitment to testing on the part of developers and monitoring on the part of sysadmins.

John Ober talked about the California Digital Library's approach to innovation, a move beyond digital preservation to digital curation. He noted that many think of novelty when they hear "innovation," masking the legitimacy of a passionate pursuit of incremental improvement. Jon Dunn presented some of the lessons of the "Sakaibrary" at Indiana University, encouraging listeners to get involved in existing communities before starting new ones. Jenn Riley of Indiana University spoke about the balance of efficient tools and creative staff. Josh Greenberg shared stories of partnership and organizational change at the New York Public Library. Brad McLean of DuraSpace shared some of the challenges of bringing DSpace and Fedora under a common umbrella. Mike Winkler of the University of Pennsylvania discussed portfolios as a management tool, developing service layers orchestrated to provide composed functionality.

Finally, Brad Wheeler of Indiana University addressed the topic of collaboration as a strategy. He asked whether the behaviors of DLF participants would yield solutions that matter for their campuses or for higher education. Wheeler

Blacklight is a front-end which aims to promote the discovery of resources indexed with the SOLR/Lucene search engine. It has been designed from the ground up to be a community source project, open to a wide variety of input.

contends that there is a great interest in moving toward more collaborative solutions. He noted the importance of looking beyond institutional walls and the rise of a "meta-university" that we will all build together. He identifies a number of existing projects as part of an emerging shared infrastructure, from HathiTrust to Sakai to Kuali. While resisting the allure of "cloud computing" Wheeler still pointed to "above campus services" as an innovation that will bring us together as a community, as unnatural as that act may be.

Discussions touched on our users' tolerance for continual change in systems, where to get resources to make innovation work, the importance of recognition for key staff, techniques and tools for monitoring and performance enhancement, building community, asking (or not) for permission, streamlining processes, the need for more coders, the competitive advantages of libraries, the need for trust, and the difference between thinking you are being innovative and real innovation. The single track engagement of all participants in one large conversation led to a rich interaction among participants.

Katherine Kott, at Stanford University and a former director of the Aquifer effort at DLF, spoke about the roles CLIR could consider for DLF, including that of an incubator encouraging and supporting innovation. In fact, much of the second day was devoted to a detailed discussion of potential futures for DLF as a program of CLIR. Most of this would be of little interest to readers although it was very valuable to the transition committee defining the new program within CLIR.

Of more interest to ISQ readers would be the pre-conference that snuck onto the Forum agenda very late in the planning. Even with little forewarning, this session about Blacklight held the evening before the conference began was very illuminating. Blacklight is a front-end which aims to promote the discovery of resources indexed with the SOLR/Lucene search engine. It has been designed from the ground up to be a community source project, open to a wide variety of input. The discussion of Blacklight highlighted a recurring theme at this Forum: the need for integrated testing plans as systems, even experimental systems, are developed. The Blacklight team used tools like Rspec and Cucumber to build unit tests that ensured components of the system already completed were not broken by later work. These same tests, and the discipline to always develop new tests alongside new code, become the heart of a viable community source development infrastructure. The tools help ensure that contributors of code always understand what conflicts their code creates, and give developers a chance to fix these problems before users encounter these conflicts. Another testing tool, Puppet, is being used by the Blacklight team to ensure a consistent user experience across versions of the system. The integration of testing into the workflow of Blacklight developers illustrated the kind of trust-building that Bess Sadler called for to end "the war" between system administrators and developers. For the Blacklight team their use of Ruby on Rails and these testing frameworks provided great confidence that as code was being added, progress was actually being made.

By the time the Fall 2010 DLF Forum comes around, the Digital Library Federation may well have changed its name and fully emerged as a new program of CLIR. DLF membership has long valued the Forum as a critical meeting ground, a place where project managers, product managers, and those leading digital library initiatives can come together to share and get a check on their perception of the challenges and opportunities ahead. Even if its form was quite different from Forums of the past few years, the Fall 2009 DLF Forum proved successful enough that we can expect many more Forums to come, whatever their name may be. | CR | 10.3789/isqv22n1.201011

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RELEVANT LINKS

Blacklight
www.lib.virginia.edu/digital/resndev/blacklight.html

Council on Library and Information Resources
www.clir.org

Cucumber testing suite
www.cukes.info

Digital Library Federation
diglib.org

DuraSpace
www.duraspace.org

HathiTrust
www.hathitrust.org

Kuali
www.kuali.org

Puppet administrative testing
reductivelabs.com

Rspec testing suite
www.rspec.info

Ruby on Rails
rubyonrails.org

Sakai
sakaiproject.org

NISO and NFAIS hosted a roundtable meeting on January 22, 2010 with 46 invited participants representing journal publishers, scholarly organizations, and libraries to discuss the need for standardized bibliographic and publishing policies for journal supplemental material.

Roundtable on Best Practices for Supplemental Journal Article Materials

NISO and NFAIS, with support from the American Psychological Association, hosted a roundtable meeting on January 22, 2010 with 46 invited participants representing journal publishers, scholarly organizations, and libraries to discuss the need for standardized bibliographic and publishing policies for journal supplemental material.

Discussion focused on how to define supplemental material; responsibilities for supplying and formatting the materials; how to ensure "findability" of the supplemental materials with respect to identifiers, metadata, and citations; and issues of long-term access and archiving.

Agreement was reached on delivering a proposal for a NISO/NFAIS initiative to develop best practices issued under the NISO Recommended Practice series. Three levels of involvement with the initiative were defined: 1) a Technical Working Group that would look at the syntactic and structural issues related to supplemental materials such as syntax, linking, interoperability, markup, and metadata; 2) a Business Working Group that would draft recommendations related to the semantic aspects, such as definitions, roles and responsibilities, and best business practices; and 3) a Stakeholders Interest Group who would serve as a source of feedback on document drafts, and they would provide community vetting of a final document. ■

Contact NISO (www.niso.org/contact/) if you are interested in joining any of the three groups. The report from the roundtable is available online at: www.niso.org/topics/tl/supplementary/

DCMI/NKOS Task Group Established

The Dublin Core Metadata Initiative (DCMI) and the Networked Knowledge Organization Systems/Services (NKOS) Group have established a joint task group to develop a Dublin Core Application Profile for Knowledge Organization Systems. Marcia Zeng (School of Information and Library Science, Kent State University) and Gail Hodge (Information International Associates, Inc.) will lead the task group.

The term knowledge organization system (KOS) is intended to encompass all types of schemes for organizing information and promoting knowledge management. Different families of knowledge organization systems, including thesauri, classification schemes, subject heading systems, and taxonomies are widely recognized and applied in both modern and traditional information systems. Currently there is no protocol for describing KOS resources.

The DCMI/NKOS Task Group plans to develop the Dublin Core Application Profile for KOS resources based on the work the NKOS group members have already done during the last decade. The goal is to have the draft specification ready for review at the Dublin Core 2010 conference in October 2010. The draft specification will include the application profile, a KOS Type Vocabulary, and related best practice guides. Testing and community review of the draft specification will take place in 2011 with a goal of having the final specification issued by the Dublin Core 2011 meeting. ■

For more information, visit www.dublincore.org/groups/nkos/

PREMIS in METS Toolbox

The Florida Center for Library Automation has created a set of open source tools to support the implementation of PREMIS preservation metadata in a METS (Metadata Encoding and Transmission Standard) format. The tools were developed at the request of the Library of Congress, who maintains both standards.

The toolbox contains three applications:

1. Validate – Confirms whether the document conforms to the standards and returns a list of errors.
2. Convert – Will cross-convert between PREMIS and METS. A document in one format will be converted to the other format.
3. Describe – Creates a PREMIS schema description of the file.

Use of the toolbox is free. Files can be sent to the toolbox site via URI or file upload for all three tools. The validate and convert tools will also accept direct input. ■

RELEVANT LINKS

PREMIS
www.loc.gov/standards/premis/

METS
www.loc.gov/standards/mets/

PREMIS in METS Toolbox
pim.fcla.edu/

Using PREMIS with METS
www.loc.gov/standards/premis/premis-mets.html

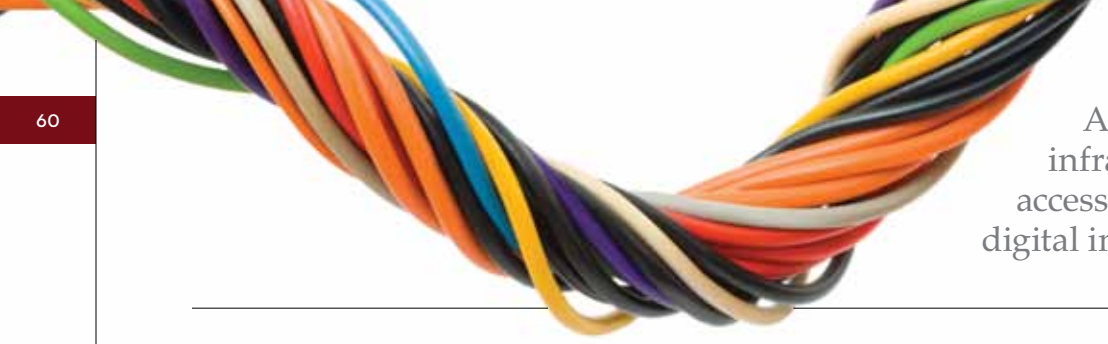
ICEDIS Focusing on Claims Management and Price List Messaging

The results of a roadmap survey summarized at the October 12, 2009 Frankfurt meeting of the International Committee for EDI in Serials (ICEDIS) identified claims management—which "continues to be a difficult and resource-hungry area for both printed and online journals"—as the highest priority for ICEDIS to pursue as its next project. Particular claiming issues that need to be addressed include the importance of scheduling and dispatch information, agreement on delivery lead times, and whether a separate format should be developed for online resources.

As a first step, volumetric data from ICEDIS members will be collected and aggregated to determine the magnitude of the claiming issues. NISO and EDItEUR will assist in obtaining views from ILS and systems vendors. A Claims & Claims Responses working group was established following the Frankfurt meeting. Several publishers and agents have agreed to work in pairs to prepare potential use cases and define the information exchanges prior to the Spring 2010 ICEDIS meeting in Edinburgh.

Also agreed on as an ICEDIS priority is the rollout of the price message format developed in 2009. This specification defines an XML format that can be used to transmit a list of subscription products and associated pricing information, using a variety of pricing models and packaging combinations. Much of the format's structure is inherited from the Product List Priced message included in the EDItEUR ONIX for Serials SPS (Serials Products and Subscriptions) standard. Pilot implementations are expected in early 2010 in time for a summer roll-out for the 2011 subscription renewals. ■

For more information, visit: www.icedis.org



A roadmap for an e-science infrastructure that will ensure accessibility and preservation of digital information in science.

PARSE.Insight Project Publishes Survey Report on Digital Preservation

The European Union's PARSE.Insight (Permanent Access to the Records of Science in Europe) project has published a survey report: *Insight into Digital Preservation of Research Output in Europe*. The report is one of the deliverables for the two-year project, which is charged to develop a roadmap for an e-science infrastructure that will ensure accessibility and preservation of digital information in science, from primary data through analysis to the final publications.

Close to 2,000 individuals from research, publishing, and data management (e.g., libraries and archives) responded to the survey, providing information on the current state of digital research data preservation, the future outlook, and the roles and responsibilities of the various stakeholders.

Some key findings from the survey were:

- Only 25% of the research respondents make their data openly available for everyone and just 20% submit data to a digital archive. The major problems researchers have in sharing their data through digital archives are legal issues (41%), misuse of data (41%), and incompatible data types (33%).
- Of the respondents to the publishers' survey, 55% of the small publishers stated they have a preservation policy in place compared to 84% of the large publishers. (This represents roughly 93% of the journals covered by the survey.) However, 69% of both large and small publishers stated that they have no preservation arrangement in place for underlying research data. (This represents roughly 88% of the journals.)
- The majority of the respondents to the publishers' survey stated that publishers are responsible for the preservation of publications (73% of the small publishers, 69% of the large publishers), but more than half feel the author or author's institute is responsible for the underlying data.
- 78% of the small publishers fear the sustainability of data when the current custodian of the data ceases to exist in the future. For large publishers this percentage is 80%.
- Data managers think that more resources (86%) and more knowledge (82%) is necessary to guarantee long-term access and usability of research data. In addition training is also considered to be important (68%).
- A majority (59%) of the respondents to the data management survey don't think that the tools and infrastructure available to them suffice for the digital preservation objectives they have to achieve.

The PARSE.Insight project is scheduled to conclude around March/ April 2010 and will hold a final workshop open to the public, likely in Geneva in conjunction with the CERN meeting. ■

For more information including the survey report, visit: www.parse-insight.eu/

Alpha Release of Vocabulary Mapping Framework Matrix

The Vocabulary Mapping Framework (VMF) project has released the alpha version of the matrix tool to automatically compute the "best fit" mappings between terms in controlled vocabularies in different metadata schemes and messages. This initial release includes selected controlled vocabularies and parts of vocabularies from CIDOC Conceptual Reference Model, Dublin Core, Digital Data Exchange, Digital Object Identifier, Functional Requirements for Authority Data, Functional Requirements for Bibliographic Records, Learning Object Metadata, MARC 21, MPEG21 Rights Data Dictionary, ONIX, and Resource Description and Access as well as the complete RDA-ONIX Framework from which VMF is in part derived.

The approach in this first stage has been "proof of concept," so groups of terms with quite diverse semantics from a variety of different schemes have been added to the matrix to test the methodology. The matrix is a hierarchical class ontology of concepts grouped methodically using an event-based data model. Terms from vocabularies are mapped into the matrix, not mapped directly to one another. Once a term is mapped onto the matrix, the internal links of the matrix establish computable relationships with every other mapped term in the matrix.

Testing and updating of the matrix will be ongoing and changes will be incorporated in new numbered versions as needed. As an ontology, the VMF matrix should be viewed as data rather than software and so subject to routine updating.

The matrix and a VMF Introduction are available from: cdlr.strath.ac.uk/VMF/documents.htm | NW |

[SPECIAL EDITION]

STATE OF THE STANDARDS

JANUARY 31, 2010

This comprehensive report on NISO's standards and initiatives appears in the first issue of the year of ISQ to keep you informed of the scope and status of NISO's program on an annual basis. If you have questions about any of the standards or development programs, contact the NISO office by phone (301.654.2512), via email (nisohq@niso.org), or visit the Standards section of the NISO website (www.niso.org/standards).

In Development

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. DSFTU stands for Draft Standard for Trial Use.

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	**NISO RP-9-2010, KBART: Knowledge Bases and Related Tools** Issued January 2010. Phase 2 work now underway.
ONIX-PL (Publication Licenses) *Joint project with EDItEUR* Chair: Alicia Wise	**ONIX-PL,** v1.0 issued by EDItEUR (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.
OpenURL Quality Metrics Chair: Adam Chandler	Technical Report in development.
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.

In Revision

The following are published and approved NISO standards that are in the process of being revised.

DESIGNATION	TITLE
ANSI/NISO Z39.86 – 200X	Specifications for the Digital Talking Book

Five Year Review

The following published and approved NISO standards will begin the five-year review process in 2010. Voting pools for these standards will open shortly; if fifteen percent (15%) or more of the membership joins the Voting Pool and balance requirements are met, reviews will be conducted in order to provide a recommendation for action to accompany the review ballots in November 2010. If less than 15% of the membership joins the Voting Pool, the Board may initiate procedures for an administrative withdrawal. See Section 7.5 of the NISO Procedures for more information (www.niso.org/about/documents).

DESIGNATION	TITLES
ANSI/NISO Z39.43-1993 (R2006)	Standard Address Number (SAN) for the Publishing Industry
ANSI/NISO Z39.71-2006	Holdings Statements for Bibliographic Items
ANSI/NISO Z39.78-2000 (R2006)	Library Binding
ANSI/NISO Z39.87-2006	Data Dictionary – Technical Metadata for Still Images

Published and Approved NISO Standards

The following NISO standards are approved and published. The notation R, e.g. R2002, indicates that the standard was reaffirmed in the specified year. Free downloadable copies of the standards are available from: www.niso.org/standards/.

DESIGNATION	TITLES
ANSI/NISO Z39.2-1994 (R2001)	Information Interchange Format
ANSI/NISO Z39.7 [under continuous maintenance]	Information Services and Use: Metrics and statistics for libraries and information providers – Data Dictionary
ANSI/NISO Z39.9-1992 (R2001)	International Standard Serial Numbering (ISSN)
ANSI/NISO Z39.14-1997 (R2002)	Guidelines for Abstracts
ANSI/NISO Z39.18-2005	Scientific and Technical Reports – Preparation, Presentation, and Preservation
ANSI/NISO Z39.19-2005	Guidelines for the Construction, Format, and Management of Monolingual Controlled Vocabularies
ANSI/NISO Z39.20-1999	Criteria for Price Indexes for Print Library Materials
ANSI/NISO Z39.23-1997 (R2002)	Standard Technical Report Number Format and Creation

CONTINUED »

PUBLISHED AND APPROVED NISO STANDARDS CONTINUED »

DESIGNATION	TITLES
ANSI/NISO Z39.26-1997 (R2002)	Micropublishing Product Information
ANSI/NISO Z39.29-2005	Bibliographic References
ANSI/NISO Z39.32-1996 (R2002)	Information on Microfiche Headers
ANSI/NISO Z39.41-1997 (R2002)	Printed Information on Spines
ANSI/NISO Z39.43-1993 (R2006)	Standard Address Number (SAN) for the Publishing Industry
ANSI/NISO Z39.47-1993 (R2003)	Extended Latin Alphabet Coded Character Set for Bibliographic Use (ANSEL)
ANSI/NISO Z39.48-1992 (R2002)	Permanence of Paper for Publications and Documents in Libraries and Archives
ANSI/NISO Z39.50-2003	Information Retrieval: Application Service Definition & Protocol Specification
ANSI/NISO Z39.53-2001	Codes for the Representation of Languages for Information Interchange
ANSI/NISO Z39.56-1996 (R2002)	Serial Item and Contribution Identifier (SICI)
ANSI/NISO Z39.62-2000	Eye Legible Information on Microfilm Leaders and Trailers and on Containers of Processed Microfilm on Open Reels
ANSI/NISO Z39.64-1989 (R2002)	East Asian Character Code (EACC) for Bibliographic Use
ANSI/NISO Z39.71-2006	Holdings Statements for Bibliographic Items
ANSI/NISO Z39.73-1994 (R2001)	Single-Tier Steel Bracket Library Shelving
ANSI/NISO Z39.74-1996 (R2002)	Guides to Accompany Microform Sets
ANSI/NISO Z39.76-1996 (R2002)	Data Elements for Binding Library Materials
ANSI/NISO Z39.77-2001	Guidelines for Information About Preservation Products
ANSI/NISO Z39.78-2000 (R2006)	Library Binding
ANSI/NISO Z39.79-2001	Environmental Conditions for Exhibiting Library and Archival Materials
ANSI/NISO Z39.82-2001	Title Pages for Conference Publications
ANSI/NISO Z39.83-1-2008	NISO Circulation Interchange, Part 1: Protocol (NCIP)
ANSI/NISO Z39.83-2-2008	NISO Circulation Interchange Protocol (NCIP), Part 2: Protocol Implementation Profile 1
ANSI/NISO Z39.84-2005	Syntax for the Digital Object Identifier
ANSI/NISO Z39.85-2007	Dublin Core Metadata Element Set
ANSI/NISO Z39.86-2005	Specifications for the Digital Talking Book
ANSI/NISO Z39.87-2006	Data Dictionary – Technical Metadata for Still Images
ANSI/NISO Z39.88-2004	The OpenURL Framework for Context-Sensitive Services
ANSI/NISO Z39. 89-2003	The U.S. National Z39.50 Profile for Library Applications
ANSI/NISO Z39.93-2007	The Standardized Usage Statistics Harvesting Initiative (SUSHI) Protocol
ANSI/NISO/ISO 12083-1995 (R2002)	Electronic Manuscript Preparation and Markup U.S. adoption of ISO 12083.

NISO Recommended Practices

NISO Recommended Practices are best practices or guidelines for methods, materials, or practices in order to give guidance to the user. These documents usually represent a leading edge, exceptional model, or proven industry practice. All elements of Recommended Practices are discretionary and may be used as stated or modified by the user to meet specific needs. Free downloadable copies of these documents are available from: www.niso.org/publications/rp/

TITLE	DESIGNATION
Framework of Guidance for Building Good Digital Collections 3rd edition, 2007	
Ranking of Authentication and Access Methods Available to the Metasearch Environment	NISO RP-2005-01
Search and Retrieval Results Set Metadata, version 1.0	NISO-RP-2005-02
Search and Retrieval Citation Level Data Elements, version 1.0	NISO RP-2005-03
Best Practices for Designing Web Services in the Library Context	NISO RP-2006-01
NISO Metasearch XML Gateway Implementers Guide, version 1.0	NISO RP-2006-02
RFID in U.S. Libraries	NISO RP-6-2008
SERU: A Shared Electronic Resource Understanding	NISO RP-7-2008
Journal Article Versions (JAV): Recommendations of the NISO/ALPSP JAV Technical Working Group	NISO RP-8-2008
KBART: Knowledge Bases and Related Tools	NISO RP-9-2010

NISO Technical Reports

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TITLE	DESIGNATION
Environmental Guidelines for the Storage of Paper Records by William K. Wilson	NISO TR01-1995
Guidelines for Indexes and Related Information Retrieval Devices by James D. Anderson	NISO TR02-1997
Guidelines for Alphabetical Arrangement of Letters & Sorting of Numerals & Other Symbols by Hans H. Wellisch	NISO TR03-1997
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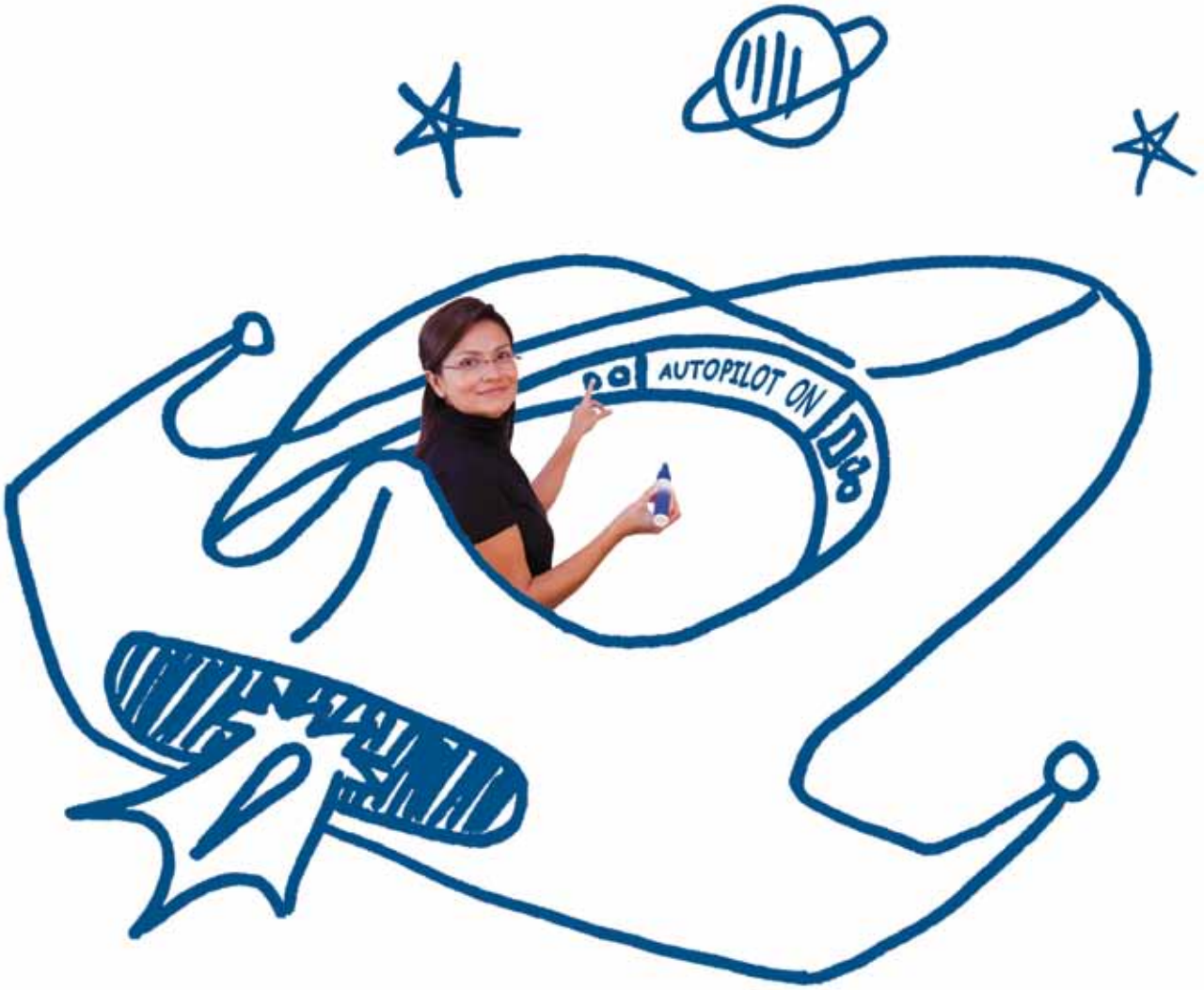

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