Information Standards: Introduction

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Information Standards

EDITOR'S SUMMARY

Standards and interoperable systems are crucial in the work of information professionals, applying to bibliographic descriptions, taxonomies, data exchange formats and markup and more recently for linking data. They enable access to archival information and associations to data in other contexts. The ASIS&T Standards Committee represents the Association with the International Standards Organization, the American National Standards Institute and related organizations and serves as an informative liaison with the membership. This special section explores standards as they relate to metadata for linking library data, recognizing MARC as an early and evolving standard and reviewing standards specifically for archival description. Discussions of records management at the Jet Propulsion Laboratory, Battelle Memorial Institute and the Mayo Clinic illustrate the necessity for standards-driven metadata and systems within large, complex organizations. The Program for Cooperative Cataloging and OCLC's Virtual International Authority File exemplify projects working toward best practices for linking data.

KEYWORDS

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Standards may be viewed properly by librarians and archivists as blueprints for survival, because the interoperability of systems is now essential to the continuation of high-quality library and archival systems [1].

Standards have indeed become essential to how information professionals, broadly construed, manage change. As we transition from an older role as primarily custodians of physical information objects to managers of interoperable information systems, the technical standards to assist the machine use of our resources and records become ever more central to our daily lives. We have long been accustomed to wielding standards for bibliographic description and standards for construction and use of identifiers such as ISBNs and ISSN and standards for working with taxonomies, to name a few. Data exchange protocols from Z39.50 for database searching to format and markup standards such as PDF and XML are no less important to what we all do to make information of all media searchable by – and available to – our various clients and patrons and customers. As machine apps take on more capacity for linking data and real-world objects, the technical standards remain necessary to our information infrastructures and thus remain of central importance to how we all craft and use our information tools.

The ASIS&T Standards Committee acts as the Association's representative to the International Standards Organization (ISO), the American National Standards Institute (ANSI) and others to advise on the creation and maintenance of standards impacting our work as information professionals. We also exist to inform the membership about standards and to maintain internal dialogue. It is for this second goal that we offer the following special section of the *Bulletin of the Association for Information and Technology*.

The contributors to this issue address how standards – standards for description, information management, record-keeping and technical interoperability; indeed, standards past, present and future – can impact our basic job processes every day. Our application of standards to our work today carries even more impact than in the past on the long-term viability of what we do in a world where machines and technical processes can and will make more decisions about our information resources. From a librarian working with print books in the catalog to an archivist with boxes of papers and other media, to a custodian of research materials or medical records to the designers of systems for use by any information professional, each of these areas has provided articles in this issue that can be treated as use case studies about the increasing importance of technical standards to us all.

This special section begins with two explorations of how changing standards impact more traditional library descriptive practices and the increasing potential of metadata in a connected world. **Carol Jean Godby** and **Karen Smith-Yoshimura**, research scientists at OCLC Research, explore some milestones on the path from MAchine-Readable Cataloging (MARC; ISO 2709) catalog data to the new potentials of linked data on the web. The authors recognize the good results that have come from librarians' application of the decades-old standard for bibliographic description. However, we live in a new "culture of description" that empowers mechanical creation of data linkages such as Google Knowledge Cards. Projects at OCLC, such as the Virtual International Authority File and multilingual record clusters, and initiatives by the Program for Cooperative Cataloging (PCC) towards studying URI applications in linked data, are steps along the path of transition to best-practices for linked data standards within the library community.

Similar issues are present in other collections of legacy metadata and the systems built around them, which lead seamlessly to the review of archival standards by **Morag Boyd** of the Ohio State University Libraries' Special Collections cataloging department. Boyd offers important context for the 1993 introduction of the General International Standard Archival Description (ISADG; ISO 2788) and the more complete 3rd edition of the implementation standard Encoded Archival Description (EAD3; conforming to ISO 8879 for markup standards) in 2015. Boyd highlights the impact of newer standards for making rich archival metadata available in semantic web contexts and in social and other linkages.

The special section then proceeds to two informative case studies in enterprise-level electronic records management (ERM). **Camille Mathieu**, of the California Institute of Technology, discusses how the standards of the Dublin Core Metadata Element Set (ISO 15836) may be helpfully applied at the Jet Propulsion Laboratory (JPL). The JPL Library, as with many other organizations involving knowledge creation as a central part of their businesses, has sought an enterprise-level solution to the description, sharing and reuse of knowledge within the enterprise. Mathieu takes her readers through an assessment of Dublin Core as a standard for description of resources, some issues of clarifying namespaces in application to JPL work products and lessons learned in the implementation.

The need for careful application of standards is even more critical in the case of the Battelle Memorial Institute, due to the vast array of individual scientific endeavors and business units, argues Battelle librarian and archivist **Jennifer Seymour**. Seymour's contribution to the issue discusses the challenges of developing a comprehensive records management program for such a complex organization, while maintaining compliance with President Obama's 2011 directive on government records maintenance and other relevant standards from the Department of Defense, among the needs of other distinct business markets. Amid these myriad challenges, Seymour describes the implementation of a flexible enterprise content management system at Battelle, as well as hopes and challenges for the next generation systems operating at the intersection of different standard requirements. Seymour concludes that this level of information management is "no longer … an added value but a default expectation," and her finding resonates with today's final contribution by **Michael Panzer**, former editor-in-chief for the Dewey Decimal System and chief ontologist for the Mayo Clinic.

Panzer concludes the special section with a study from within the burgeoning field of medical informatics. He makes a strong case for the application of standard vocabularies such as the Medical Subject Headings (MeSH from the United States National Library of Medicine) and SNOMED CT (for description of clinical trials data) to improve the performance of

technical operations in medical databases and on the website ClinicalTrials.gov. The hoped-for result is that users – cancer patients, in this case – are better able to locate information regarding treatments and to do so faster and with greater accuracy. This final case study takes us full circle to the positive impact that standards can have on our professional lives and, through us, on all of the lives we touch with better systems and better information. ∎

Resources Mentioned in the Article

[1] Tomer, C. (2010). Information technology standards for libraries. In *Encyclopedia of Library and Information Sciences* (3rd ed.). New York: Taylor & Francis.