Call for Papers
Bridging the Gulf: Communication and Information in Society, Technology and Work
October 7-12, 2011
New Orleans

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Content strategy is the subject of this issue’s special section. Guest editors Seth Earley and Scott Abel have lined up top practitioners in this field to address the challenges of seeing that your organization acquires the right content for its website and other media formats and maintains and makes the best, most economical use of this vital corporate asset. In addition to the authors’ general advice on structure and governance, the issue includes a number of case studies that illustrate current practice and trends in content strategy. It’s a privilege to be able to publish such a useful collection of articles in this very active area.

In a feature article we also address media and content, but in this case the focus is on presenting content in Second Life (SL). Can text documents be represented, and what are the challenges of, for example, having a poster session in SL? Author Javier Velasco-Martin, a doctoral student at the University of North Carolina, Chapel Hill, who brings extensive professional experience to his research, has worked with Gary Marchionini, Ed Fox and others on an NSF grant, some of whose results are reported here.

In our columns and other short items, ASIS&T 2010 Award of Merit honoree Linda Smith and student columnist Cortney Leach embody and discuss the benefits of leaving our comfort zones and finding inspiration in the world of ideas and people around us, whether we are at the beginning or at the apogee of our professional careers. As Linda indicates in her acceptance speech, one of her undergraduate professors at Allegheny College, Dr. Barbara Lotze, who became a valued mentor, was able to attend the Awards Luncheon in Pittsburgh, which made it a special occasion for all of us who were there. Cortney also is a lively and entertaining writer, and I’m sure you’ll enjoy meeting her and finding out more about the Pacific Northwest Chapter’s very popular InfoCamps.

As 2011 ASIS&T President, Linda Smith offers her first President’s Page, while IA columnist and associate editor, Thom Haller looks for hope and change in Washington – with the passage of the Plain Writing Act of 2010. Let it be so.
Earlier today I had the opportunity to reflect on my past career and the importance of ASIS&T as I accepted the ASIS&T Award of Merit [1]. In this address I want to look to the future, to what I hope to accomplish over the next year as ASIS&T president as we look ahead to 2012, when we will celebrate our 75th anniversary, and beyond. To remain vital we must be open to doing things in new ways and to doing new things to benefit our members. As one example, Gary Marchionini, working with conference co-chairs Elaine Toms and Cathy Marshall, sought ways to make a number of changes to enhance this year’s Annual Meeting, including increased student participation as exemplified by the student design competition.

In 1999 on the occasion of the 50th anniversary of the *Journal of the American Society for Information Science*, I published an article entitled “Journal of the American Society for Information Science (JASIS): Past, Present and Future”[2]. I concluded that article with a section that I titled “Final Thoughts on the Cobbler’s Children” as follows:

In introducing the first edition of the *ASIS Thesaurus of Information Science and Librarianship* to the ASIS membership through an article in the *Bulletin*, Milstead and Borko (1994) titled the piece “Shoes for the Cobbler’s Children,” [3] noting that many years after devising thesauri to index the literature of other disciplines, the field of information science and librarianship now had a current thesaurus. Ironically specialists often do not apply their specialties to their own applications. The processes of creating each issue of *JASIS* and developing overall editorial direction are already collaborative, involving the editor, the editorial board, authors, referees, the ASIS board of directors and the publisher’s staff. The pressures on scholarly journals and the emerging electronic environment offer both challenges and opportunities to foster new forms of collaboration in both the production and use of the journal. The challenge is to channel the expertise of ASIS members on scientific communication, information retrieval, information design and interface design to develop further a journal and associated value-added features that can foster research communication in information science….The future offers opportunities to preserve *JASIS* as a key element in the online intellectual information science community, but creative thought and collaborative efforts will be required to make this happen.

Fast-forward 11 years. Scholarly and professional societies in general are facing considerable challenges as new information and communication technologies offer new ways to communicate, publish, keep up-to-date and perform other
functions that historically have been the province of such societies. ASIS&T is not immune to these challenges. With the support of the Board, committees, SIGs, chapters and the membership at-large, I would like to find ways to build on the initiatives of prior ASIS&T presidents and boards in order to shape a society that is well matched to the challenges and opportunities of the 21st century, applying information and communication technologies in new ways where appropriate. This will include focusing on the following activities:

1) **Enhancing the role and structure of SIGs and chapters.** We already have introduced virtual SIGs to supplement the more formal SIG structure. How can we enhance the effectiveness of these different types of SIGs to foster communication and collaboration? Are there also options for new, more flexible forms of chapters? The Chapter Assembly and SIG Cabinet can contribute to exploring these questions.

2) **Recruiting and fostering continuing engagement of student members.** Student chapter advisors and leaders have a key role to play in this. I recently had the opportunity to review applications submitted for the New Leaders Award. A number were from students active in leadership roles, including several who had revitalized their student chapters with encouragement from faculty advisors. We need to find ways to share their strategies with other student chapters and foster continuing engagement with ASIS&T as these students graduate.

3) **Improving the use of the web and online communication channels.** In September 2010 Melissa Weaver submitted an ASIS&T Membership and Web Channels Report to the Board, including analysis of multiple sources of data. One set of recommendations relates to the *Bulletin of the American Society for Information Science and Technology*, migrating to a new web format so that articles will be more findable and discussable. She made a number of other valuable recommendations, and it will be important to take action on these in order to enhance the ASIS&T web presence and take best advantage of current and emerging online communication channels.

4) **Developing online education offerings in various formats.** While the annual meeting and other face-to-face events like the annual IA Summit and the 2010 Research Data Access and Preservation Summit support research dissemination and continuing education, ASIS&T also needs to develop online education offerings in various formats, both asynchronous and synchronous, to enhance the benefits available to our members. The Information Science Education Committee can contribute to guiding this effort.

5) **Expanding our international reach and collaborating with other associations.** ASIS&T can enhance its impact by making more connections internationally and with other associations. In the coming year the Board will include two members from Canada, one from Sweden and one from Ireland. We already have chapters in Europe and Taipei. SIG/III is one of our most active SIGs and we have an International Relations Committee. Each year the Annual Meeting attracts a number of attendees from around the world. All of this experience can contribute to developing strategies to further expand membership and activity outside of North America. ASIS&T also needs to continue to pursue opportunities to collaborate with other associations on activities of mutual interest, such as co-locating and/or co-sponsoring conferences. This year we are co-located with both ICKM and DC-2010 and we hope to schedule a joint conference with the Canadian Association for Information Science in the next few years.
Speaking of conferences, I will close by encouraging you to plan ahead for ASIS&T 2011, “Bridging the Gulf: Communication and Information in Society, Technology and Work” to be held in New Orleans in October 2011. Conference co-chairs Suzie Allard and Abby Goodrum have released the call for participation, so please review that and submit proposals for papers, panels, workshops, tutorials, posters, demos and/or videos. We need your participation to make it a successful conference. There is much work to do in the meantime in the areas that I have outlined, and I look forward to collaborating with many ASIS&T members to lead these efforts over the next year as your president.
New Officers and Directors Join ASIS&T Board

Each year at the ASIS&T Annual Meeting, a new administrative year begins, and the first official order of business is the introduction of new faces to the ASIS&T Board of Directors. In October in Pittsburgh, the annual changing of the guard took place and new officers and directors took their seats on the Board.

Positions filled through the summer balloting process are for three-year terms. Those elected are Diane Sonnenwald, president-elect; Vicki Gregory, treasurer; and Katriina Byström and Marcia Lei Zeng, to terms as director-at-large. In addition, Elaine Toms was elected to complete the unexpired term of Karen Fisher, who found it necessary to resign.

As the new members took their seats, Linda Smith, elected last year as president-elect, assumed the presidency from Gary Marchionini, who continues on the Board as past president for one year.

Diane Sonnenwald is head of school and professor at the School of Information and Library Studies at University College Dublin. She is also an adjunct professor in computer science at the University of North Carolina. She holds a Ph.D. from the School of Communication and Information at Rutgers University, M.S. from Montclair State University and B.A. from Muhlenberg College. She was a postdoctoral fellow at Risø National Labs (Denmark) and a Fulbright professor in Information Studies at the University of Tampere, Finland. Prior to joining academia she worked at Bellcore. Her research has been funded by the National Library of Medicine, National Institutes of Health, National Science Foundation and European Science Foundation, among others. She is the recipient of the ASIS-ISI Doctoral Dissertation Award, U.S. Army Research Laboratory Scientific Contribution Award, ALISE Research Methodology Best Paper Award and Bellcore Award of Excellence. She serves on the editorial boards of JASIS&T, JELIS, Information Research and the Journal of Library and Information Science (Taiwan).

Vicki Gregory, re-elected for another three-year term as treasurer, is professor at the School of Library and Information Science, University of South Florida. She earned her doctorate at Rutgers University and holds an M.A. and M.L.S from the University of Alabama. Since becoming a member of ASIS&T in 1984, she has served as the Florida chapter president and on the national level has been a member of SIG/LAN and SIG/DL, serving as chair of SIG/LAN. She was elected Deputy SIG Cabinet Director and then SIG Cabinet Director. Prior to assuming the ASIS&T treasurer position, she spent four years as a member of the Budget and Finance Committee. She also currently serves as chair of the ALA Committee on Accreditation.

Katriina Byström is associate professor/reader at the Swedish School of Library and Information Science, University of Borås in Sweden. In teaching and research she focuses on task-based information seeking and retrieval in workplaces and on information architecture. She holds a Ph.D. from the University of Tampere, Finland, and is an active member of the academic community of LIS within teaching, research and administration. She has been the director of the Swedish School of Library and Information Science and served on numerous committees. She is co-founder and associate editor of the international Journal of Information Architecture and has a broad experience serving as a peer-reviewer in a number of high-standard journals. She has organized international academic events and has curriculum development experience. Furthermore, she works as a senior researcher in a private company. At present, she heads two research projects: Better Search Engine focusing on work task based search support and Better Web
with focus on the development of digital information and communication milieus.

Elaine Toms is professor and Canada Research Chair in Management Informatics and runs the iLab at the Faculty of Management, Dalhousie University, Halifax, Nova Scotia, Canada. She was formerly an associate professor in the Faculty of Information Studies, University of Toronto, and at the School of Library and Information Studies (now School of Information Management) at Dalhousie University. She holds a B.A. in economic geography and education from Memorial University, St. John’s Newfoundland; M.L.S. from Dalhousie University; and a Ph.D. from the University of Western Ontario, London. Her research interests lie at the intersection of human computer interaction, information retrieval and the representation and presentation of information. Her work has been funded by NSERC, SSHRC, OCLC, Heritage Canada, Canada Foundation for Innovation and the Canada Research Chairs Program. She was/is co-investigator with three Canadian national research networks. Her publications have appeared in journals such as the International Journal of Human Computer Studies, the Journal of the American Society for Information Science and Technology and Information Processing & Management, as well as in the proceedings of a number of national and international associations.

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ASIS&T 2010 Annual Meeting Coverage

In keeping with recent tradition, the bulk of our coverage of the 2010 ASIS&T Annual Meeting will be included in the February/March 2011 issue of the Bulletin. But in this issue, we provide a few quick peeks at some of the proceedings. Specifically, you’ll find here a list of the winners of the 2010 ASIS&T Annual Awards for which more details will be provided in the next issue. In addition, you’ll find the inaugural address of Linda Smith as the new ASIS&T president on the President’s Page and, in the feature section, her speech accepting the prestigious ASIS&T Award of Merit. Look for much more coverage in our next issue.

Award of Merit – Linda C. Smith
Watson Davis Award – Barbara Wildemuth
Research Award – Susan Leigh Star
Best Information Science Book Award – Piracy: The Intellectual Property Wars from Gutenberg to Gates by Adrian Johns (published by The University of Chicago Press); and Encyclopedia of Library and Information Sciences, edited by Marcia J. Bates and Mary Niles Maack (published by CRC Press)
Thomson-Reuters Doctoral Dissertation Proposal Scholarship – Jaime Snyder, Syracuse University, for Image-Enabled Discourse: An Investigation of the Creation of Visual Information as Communicative Practice
ASIS&T/ProQuest Doctoral Dissertation Award – Alberto Pepe, student at the University of California at Los Angeles, for Structure and Evolution of Scientific Collaboration Networks in a Modern Research Collaboratory
Chapter-of-the-Year Award – Los Angeles Chapter of ASIS&T (LACASIST)
Student Chapter-of-the-Year Award – Simmons College ASIS&T Student Chapter
Chapter Member-of-the-Year Award – Susan Fensore, Northern Ohio Chapter of ASIS&T (NORASIST)
Chapter Publication-of-the-Year Awards (2) – Central Ohio Chapter and Los Angeles Chapter
Chapter Event-of-the-Year Awards (2) – Los Angeles Chapter; and Carolinas Chapter and the UNC Student Chapter
SIG-of-the-Year Award – SIG/Information Needs Seeking and Use (SIG/USE)
SIG Member-of-the-Year Award – Barrie Hayes, SIG/Digital Libraries (DL)
SIG Publication-of-the-Year Award – “A Decade of SIG/USE: Celebrating SIG/USE and Information Behavior Research,” special section of the February/March 2010 Bulletin of the American Society for Information Science and Technology
In addition to those elected by the membership at large, the Chapter Assembly elected Cassidy Sugimoto to serve as Chapter Assembly director following her term in the deputy position. Both the Chapter Assembly director and the SIG Cabinet director, position currently held by K.T. Vaughan, are members of the Board of Directors.

Leaving the Board are past president Donald Case; directors-at-large Efthimis Efthimiadis, Barbara Wildemuth and Karen Fisher; and Amy Wallace, Chapter Assembly director.

News about ASIS&T Members

Henry Small, who spent over 30 years working for the Institution for Scientific Information (later Thomson Scientific and Thomson Reuters), where he was director of research services and chief scientist, has joined the research staff at SciTech Strategies, Inc.

Helen Tibbo, professor at the School of Information and Library Science at the University of North Carolina at Chapel Hill, has been appointed Alumni Distinguished Professor, a title reserved for exceptional faculty who are tenured professors with records of distinction. Tibbo has been a member of the faculty since 1989. She served as assistant dean and then associate dean from 1996 until 2000. In 2002, she was selected as the Frances Carroll McColl Term Professor; in 2003 she was promoted to professor.

Steven L. MacCall, associate professor at the School of Library and Information Studies (SLIS), University of Alabama, Tuscaloosa, is the winner of the LJ (Library Journal) 2010 Teaching Award recognizing excellence in educating the next generation of librarians. As the distance education coordinator at SLIS, MacCall is in charge of the school’s online program in which he also teaches. About a third of all SLIS students enroll in the distance program. Virtually all of them end up taking at least two of MacCall’s classes. The LJ Teaching Award is sponsored by ProQuest.

Tefko Saracevic Honored by Rutgers Colleagues

The faculty of the Department of Library and Information Science of the School of Communication and Information of Rutgers, the State University of New Jersey, found a very special way to honor their colleague Tefko Saracevic on the occasion of his 80th birthday. Recognizing that a celebration of research would also be a celebration of Tefko’s contributions to the field, the faculty offered TEFKO 2010, a conference featuring a day and a half of wide-ranging talks by Tefko’s students, collaborators and friends. Keynote addresses were given by Peter Ingwersen, Gary Marchionini and Michael Lesk. Additional remarks were made by honorary conference chairs, Jorge Reina Schement, dean of the School of Communication and Information, and Hartmut Mokros, senior associate dean of the School of Communication and Information.
IN MEMORIAM

NORMAN HORROCKS, OC, PhD, FCLIP, professor emeritus in the School of Information Management, Dalhousie University, was born in Manchester, England, October 18, 1927, and died Halifax, Nova Scotia, October 14, 2010, at the age of 82. He was also president of Scarecrow Press and an adjunct professor at Rutgers University from 1986 until 1995. He received honors and awards from the major Canadian, British and American library associations and was named an Officer of the Order of Canada in 2004.

Norman was active in many professional societies, all of whose members regarded him in a very special way. In ASIS&T, he seemed to be ubiquitous at every Annual Meeting. He made new friends easily and was loyal and warm to all the old ones. He was an inspiring leader and role model of generosity, kindness and inclusivity in the International Relations Committee and in SIG/International Information Issues (SIG/III).

Another SIG that claimed Norman as one of their own was SIG/HFIS (History and Foundations of Information Science). Norman actively supported and encouraged the formation of the SIG. One of the projects initiated by SIG/HFIS was a book, Covert and Overt: Recollecting and Connecting Intelligence Service and Information Science (2005), edited by Robert V. Williams and Ben-Ami Lipetz, and published for the American Society for Information Science and Technology by Information Today in cooperation with Scarecrow Press. In Norman’s chapter in the book, “Spies of the Airwaves,” he told about having worked during World War II as a library assistant in the reference department of the Manchester Central Library. Although only a teenager, he was a member of the staff fire-watching team – two nights a week he had to stay up all night and “be prepared to go on the roof of the library with stirrup pumps and bags of sand to extinguish any incendiary bombs that landed there” (p. 17). Later he served in the British Army’s Intelligence Corps and used his library background to good advantage. His story makes for fascinating reading, but my own personal connection to that service was an incident that happened in the 1980s at a conference. Norman sneaked a couple of us newcomers into a reception sponsored by a vendor. He did it by palming up extra invitation cards as he laid his own on the pile and then slipping the cards back to us. He said it was just one of the little tricks he learned while serving in British intelligence. It was typical Norman – gracious and supportive to the younger generation, playful and fun, and irreverent about following the rules. He became an instant old friend and remained so for nearly 30 years.

His other many ASIS&T friends and colleagues noted his passing with fond reminiscences and testimonials. Here are some examples:

“Norman was one of the few people I’ve known who actually enjoyed meetings, and thought a well-run meeting was a thing of beauty. As a new faculty member I learned a lot from him when he was director at Dalhousie and especially from his tutorial on “How to Run a Meeting.” I still refer to that yellowed set of notes from time to time. Norman knew his Robert’s Rules very well, but didn’t apply them draconially. However when chairing a meeting I would sometimes glance over and find him rolling his eyes and know that my imperfect technique had caused him pain.”
— Edie Rasmussen, University of British Columbia

“He had a unique talent for listening and understanding people, even non-native English speakers. He was the one upon whom one could count and rest. In short he was the kind of gentleman one would wish the world to be populated of, as old-fashioned as this may sound.”
— Michel Menou, University College, London

“Several years ago, I attended an ASIS&T session in which Norman, a panelist, recommended a book. I was so impressed with him that I immediately ordered the book online. I caught up with Norman at a later meeting to tell him how much I had enjoyed it. A lively conversation ensued. I was surprised that this man, who so vastly outranked me in experience and expertise, actually paid attention to what I thought. It was that modesty and charm, coupled with his formidable résumé, that made Norman a truly remarkable person.”
— Steve Hardin, Indiana State University

Trudi Bellardo Hahn, University of Maryland, College Park
Thahn<at>umd.edu
Plans are already well underway for the 74th Annual Meeting of the American Society for Information Science and Technology. Working with the theme, *Bridging the Gulf: Communication and Information in Society, Technology and Work*, the meeting will be held October 7-12, 2011, in New Orleans. Conference chairs are Abby Goodrum (agoodrum@ryerson.ca) and Suzie Allard (sallard@utk.edu).

ASIS&T 2011 builds on the success of the just-concluded 2010 meeting structure, using six reviewing tracks, each with its own committee of respected reviewers to ensure that the conference meets high expectations for standards and quality. These reviewers, experts in their fields, will assist with a rigorous peer-review process.

The six tracks and their chairs and topic areas are as follows:

**Track 1** – Information Behavior, **Sanda Erdelez**, University of Missouri
information needs, information seeking, information gaps and sense-making

**Track 2** – Knowledge Organization, **Diane Rasmussen Neal**, University of Western Ontario
indexing, index construction, indexing languages, thesaurus construction, terminology, classification of information in any form, tagging (expert, user-based, automatic), filtering, metadata, standards for metadata, information architecture

**Track 3** – Interactive Information & Design, **Jim Jansen**, Pennsylvania State University
human interaction and communication with information or computers, design of interactive technologies, algorithms, user interfaces, search & retrieval, personalization & recommenders, navigation, information architecture

**Track 4** – Information and Knowledge Management, **Robert Sandusky**, University of Illinois, Chicago
information and knowledge creation, transfer and use at the personal, group, organizational and societal levels; expertise, insights, and judgment in organizations; the management of the processes and systems that create, acquire, organize, store, distribute, and use information; knowledge capital; social networking; knowledge sharing and communities of practice; business intelligence; content management, document management; workflow management; collaboration systems; portals; groupware; information and knowledge preservation and storage

**Track 5** – Information Use, **Mia Lustinia**, Florida State University
nature of information and how information is used to help solve problems and aid decision making; information literacy, reading

**Track 6** – Economic, Social, and Political Issues, **Nadia Caidi**, University of Toronto
copyright issues, policies and laws; information policy; privacy; personal rights vs. freedom of information; surveillance; regulation; international information flow & issues; spam

Full details about the submission process, including types of submissions, formats and deadlines are available at the ASIS&T website at [http://asis.org/asist2011/am11cfp.html](http://asis.org/asist2011/am11cfp.html)
Words cannot express how honored I feel in receiving this award, which is especially meaningful to me because I regard ASIS&T as my primary scholarly and professional society. I am also grateful that this award is being given during a year when the ASIS&T conference is being held in Pittsburgh, 90 miles south of Meadville, Pennsylvania, where I began my freshman year at Allegheny College in the fall of 1967. Today we are joined by Dr. Barbara Lotze, professor emerita of physics from Allegheny, who was my undergraduate advisor. In the fall of 1977, I joined the faculty of the Graduate School of Library and Information Science at the University of Illinois at Urbana-Champaign, where I have pursued my career ever since.

My involvement in ASIS&T has been integral to my career development, beginning with attendance at my first ASIS&T conference in Washington, DC, in 1972. During that conference I sought out Vladimir Slamecka, director of the School of Information and Computer Science at Georgia Institute of Technology, to learn more about its graduate programs. After completing a year as a trainee in computer librarianship at the Washington University School of Medicine Library, I began studies as a graduate student at Georgia Tech, where I also worked as a literature searcher in the library.

While I have been inspired by the accomplishments of many previous Award of Merit winners, I have worked directly with and would like to pay tribute to six. I studied with F.W. Lancaster as an M.S. student in library science at Illinois, and it was he who introduced me to information science as a research area. During my time as a doctoral student in the School of Information Studies at Syracuse University, I was inspired by Robert Taylor’s leadership of the school and Pauline Atherton Cochrane’s contributions as a member of my dissertation committee. Pauline later joined me as a faculty colleague at Illinois. I worked with Gerard Salton for four years in ACM when he served as chair of ACM/SIGIR during my tenure as secretary. At Illinois I collaborated closely with Martha Williams for many years, especially on the Annual Review of Information Science and Technology. Finally, Carol Tenopir, one of my early doctoral student advisees, was recognized with the 2009 Award of Merit 25 years after completing her Ph.D. at Illinois.

In my remaining remarks, I would like to briefly comment on three themes that have been salient in my career and that have particular relevance to ASIS&T: information science as a liberal art; innovation in education; and the importance of professional service.

Theme 1: Information Science as a Liberal Art

In 2005 William Arms, then co-director of the information science program at Cornell University, wrote an article titled “Information Science as a Liberal Art,” in which he seeks “to deal with the issue of how we can educate the next generation of leaders for the information needs of the future.” He argues that we should be “developing information science as a bridge between computer science and the social sciences – in the liberal arts tradition.” In this article he notes that Eugene Garfield, who has also been recognized with the ASIS&T Award of Merit, has an educational background that is “a template for today’s information scientists: an undergraduate science major (chemistry), a master’s in librarianship, and a Ph.D. in structural linguistics.”
My undergraduate liberal arts education at Allegheny spanned disciplines, a practice made even more explicit now with the encouragement to current students to explore “unusual combinations” in their choices of majors and minors. As one example of my student experience, Barbara Lotze saw to it that I studied mathematical physics “auf Deutsch,” solidifying my knowledge of physics and scientific German simultaneously. My education as an information science researcher likewise took place in interdisciplinary programs. In the mid-1970s the School of Information and Computer Science at Georgia Tech included faculty with backgrounds in linguistics, human information processing, operations research, library science and computer science, to name only a few. It was there that Michael Kelly, who had a Ph.D. in computer science from Stanford University with an emphasis in artificial intelligence, encouraged me to explore ways to build connections between information retrieval and artificial intelligence, which became the focus of my dissertation research at Syracuse. Under Dean Robert Taylor’s “Copernican world view with information at the center,” the doctoral program at Syracuse was a vibrant interdisciplinary environment with strengths in behavioral sciences, information systems and a wide range of research methods. At Illinois under the leadership of first Leigh Estabrook and now John Unsworth as dean, we have built up an interdisciplinary faculty in GSLIS. Perhaps not surprisingly, my affinity for ASIS&T for almost 40 years reflects my delight with its interdisciplinarity.

**Theme II: Innovation in Education**

I have had the privilege of being an educator for more than 30 years, a period in which innovation has been possible with applications of information and communication technologies and substantial federal investment from the Institute of Museum and Library Services (IMLS). For the first 20 years I taught in a physical classroom; since 1997 I have shifted to teaching online as Illinois launched the LEEP option for our M.S. program. LEEP originally stood for Library Education Experimental Program and from the beginning there has been a commitment to research and assessment to enable continuous program improvement. I have been fortunate to oversee the growth and development of the program over this period, collaborating with a talented staff. Just as we and other library and information science programs have been pioneers in developing this new mode of teaching and learning on our own campuses, we have also been leaders in inter-institutional collaboration through the web-based Information Science Education consortium that now encompasses 15 schools in 5 countries. Illinois and Syracuse co-founded WISE, which grew with support from two IMLS grants.

**Theme III: Importance of Professional Service**

Beginning with Barbara Lotze’s service to associations in physics and continuing with my supervisors Estelle Brodmann at Washington University (who served the Medical Library Association as president) and James B. Dodd at Georgia Tech (who served the Special Libraries Association as president), I was shown by example the importance of professional service. This is a lesson that I try to impart to my own students. ASIS&T is especially welcoming and open to contributions by new members, a lesson I learned early on when James Cretsos, whose memory we honor with the Leadership Award, appointed me special consultant to the ASIS president on student membership in 1979. This was the first of many rewarding opportunities to contribute to the work of the Society. The introduction of the ASIS&T New Leaders Award this year continues this practice of encouraging new member involvement in professional service.

In conclusion, I will echo Richard Cook, who served as president of Allegheny College for 12 years. He observed, “I don’t cherish the spotlight. Reflected light is the most satisfying for me.” In accepting this award I celebrate my mentors, my colleagues at Illinois and in ASIS&T, and especially my students.

**Resources Mentioned in the Article**


This article explores how Second Life (SL) can be used to organize and display collections of information objects, with an emphasis on describing the differences to information architecture for the World Wide Web (WWW). During an NSF-funded project focused on digital preservation, we explored the display and conservation of ephemeral academic information within an immersive environment such as SL. This article describes some of the findings related to information organization, presentation, navigation and orienteering, as well as some challenges for the management of online communities.

What Is Information Architecture?

Information architecture, as defined by the Information Architecture Institute (www.iainstitute.org) is

1. The structural design of shared information environments.
2. The art and science of organizing and labeling websites, intranets, online communities and software to support usability and findability.
3. An emerging community of practice focused on bringing principles of design and architecture to the digital landscape.

Information architects deal with the organization and presentation of information in digital spaces, creating navigation structures and defining metadata schemas to facilitate browsing and searching through collections of documents. Hyperlinks and conceptual hierarchies tie documents together in digital information architectures. The bulk of the development in this field has been in the context of the WWW.

Text vs. Visual Objects

In contrast to the WWW, virtual worlds are image-based, not text-based. Within the virtual worlds context, textual documents must be presented in the form of surrogates. In SL, text can be read in two formats: as notecards or as bitmaps.

A notecard is a text object that is not seen in the SL landscape, but is passed on from person to person. When someone gives you a notecard – or you find one in an object – you need to open it in order to read its contents. Once opened, notecards are displayed in a new window of your SL browser (Figure 1). When closed, notecards reside in people’s SL “inventories,” their virtual backpacks. These cards can only be searched by title once they are in an inventory.

The second way of displaying text is as bitmap images in the SL landscape. These images will be rendered as a texture on the surface of an object, and the SL engine will constantly rearrange it according to the perspective of...
the viewer (Figure 2). This treatment makes your point of view a factor in reading the text on these images, much like in the real world; you need to be close enough to read a full paragraph of text (Figure 3). Adding to this challenge, refined control of the point of view in SL requires some skill for controlling the camera, which does not come naturally to newcomers. Both notecards and bitmapped text also present strong size constraints and are not searchable.

At the same time, objects in SL use up space. Larger collections of objects will require more space for storage. Further, visitors will need to walk farther when exploring large collections of documents or objects. In this sense, document collections in SL are much more similar to traditional libraries than the web is.

This characteristic creates a huge difference from the web, where large collections of textual documents can be searched and navigated with ease.

**Teleporting, the Hyperlinks of SL**

Another important difference in the way SL works as compared to the WWW is how points are connected: While hyperlinks connect anchor words in documents, SL “teleports” link places in the virtual space, as defined by X, Y, Z dimensions.

As a result, navigation is not as fine grained as in the web. SL connects hubs, not particular objects or information pieces. When teleporting, the landing points are target locations where people arrive in order to start looking for the sought object as opposed to specific documents as in the web.

For instance, you might get an invitation to a lecture with a landmark (link) embedded in the card. You teleport, arriving at the central destination of the area where the class is taking place, and then start looking for the particular lecture hall or classroom. This search can involve navigating a series of buildings, floors, and so forth. Likewise, when you are searching for products in stores, your keyword search will tell you what stores have the type of product you want, but you will only be able to teleport to the front door of the stores. To find a particular product, you will then need to start browsing the virtual store. SL stores are usually arranged in vertical displays and aisles, with products represented by either flat images or 3D samples (Figure 4). All of these spaces are navigated visually, and large stores have multiple floors. Although objects can have a text-based label floating on top of them, it is not possible to perform fine-
grained keyword searches for particular objects within the store’s space, so it is necessary to walk around the store in order to locate a desired item.

Spatial Locomotion

Moving through virtual worlds can require quite a learning curve for people who are not used to immersive games. They require a combination of skills for controlling the avatar and the camera. In Second Life, particularly, avatars may walk, run and fly, or teleport from one point to another. Added to the basic functions are a variety of user-created ladders and stairs, elevators and teleport portals. Walking, running and flying will involve adjusting to the virtual architecture of these spaces, circumventing walls, trees or other kinds of objects.

Unlike web-based architectures that are linked by hierarchies and navigation menus, SL spaces are arranged very much like in traditional architecture. They need to conform to the bodies of the people who will be visiting the spaces and provide visual cues to their navigation.

An interesting opportunity that SL presents is the possibility of shaping land. This power gives designers the option of creating visual landmarks that resemble natural landscapes. In our Digital Preserve Island, we’ve placed the orientation area atop a hill that sits in the center of the property, giving visitors a panoramic view of the island to help them guide their visit (Figure 5).

Displaying Conference Posters

One of our approaches to preserving academic ephemera has been the creation of conference poster exhibits that can be visited anytime. Although there have been some challenges presented by the limitations of text display described above, it has been a great opportunity to collect and preserve material that otherwise has a very short life. For some of these conferences we have organized events that run simultaneously with the physical conference. Some researchers from remote locations who have been unable to present their posters at such conference have been able to discuss them with our SL visitors. The following are among our collection of conference posters:

- JCDL 2009
- ECDL 2009
- ASIS&T 2009
- CHI 2010
- WWW 2010

We have explored the arrangement of these posters in two main styles. Some have been placed in specially created poster buildings (Figure 6), while others are laid out in the open, in a landscaped garden with trees, a pond and a river (Figure 7). In both cases, the navigation of the posters requires people to walk around the space where the posters are, much like in
real life. One interesting trick that we have developed to help visitors navigate through posters is the creation of a floating text label above them. Floating labels are possible to implement by hiding a script inside the poster object and can facilitate reading the title and the author’s name from a certain distance and from any angle (Figure 8). However, floating labels will tangle if they are too close together, and again, they are not searchable.

**Multimedia Integration**

SL has capability for the development of media-rich instances for interaction, including mediated lectures and classes, discussion meetings and movie theaters. Asynchronous presentation of media can also be embedded in the form of video and audio recordings, virtual books – where pages are screenshots of the original page – and virtual robots that have varying degrees of interaction and can provide some responses. All of these present a series of challenges that require learning SL’s scripting language in order to get full control beyond the basics. Video in particular has proven to be a complex format as it involves a series of software layers that make troubleshooting a challenge. Despite these limitations, in an interesting experiment, our team was able to produce live video streaming from the JCDL 2009 conference poster session into the virtual poster session for the same conference.

**Challenges for Community Management**

Oftentimes information architecture involves designing the infrastructure for the creation of online communities. Increasingly, the creation of content is in the hands of end users, and the designers create the spaces for activities. SL is a participative environment where people flock into groups determined by all sorts of interests, and their owners – end users – create most of the buildings and stores you visit in SL. However, the most important difference between online communities on the web and SL communities lies in the synchronous nature of SL.

Creating an SL community requires the presence of moderators and the rallying of participants until a group of regulars gets used to visiting a certain place at a certain time. It is also important to consider that SL is set up in a way that people from any part of the world can visit every region; therefore, time zones start playing a role in SL participation.

If you cannot staff your space 24/7 in order to greet newcomers and show them around, explaining the culture and atmosphere of your land, you can focus on creating regular events and inviting potentially interested participants. In fact, having lots of people in your land is likely to attract more people, while having it deserted will most likely inhibit curious passers-by.

Additionally, the synchronous focus of the SL experience is attention demanding: It requires people to be there with their full awareness for
considerable slots of time in order to make the experience valuable and allow conversations to flow. Multitasking on other software while engaged in a SL conversation is often noticed and is usually considered rude behavior. Traditional web communities have an advantage in being asynchronous, allowing people to participate in discrete time lapses that can be interrupted. This affordance lets people fit their participation much more easily into their daily time-flow.

The interface of SL requires a considerable learning period. People who are not SL users who visit our project for the first time feel frustrated for lack of control in the environment. This unease makes it very hard to create a community with newcomers to SL, as the learning curve and synchronicity of the platform pose a considerable barrier to entry. Most people will not make the effort to invest weeks getting familiar with SL and log on regularly unless they have a strong personal motivation (individual motivation, school or work assignments, or a group of friends). Because of this reality, we’ve focused our community-building effort toward people who are already SL users and participate in groups of related topics.

Implications for Designers
The current platform of Second Life poses a series of challenges to the design of information-rich spaces. This world is focused around real-time chat and visual objects; it does not natively accept textual documents. Our experience suggests focusing on shaping spaces that encourage social interaction, as this feature is what most attracts people to SL.

Kick starting communities in immersive worlds requires collaboration and invested effort, yet the maximum potential of this environment lies in the interpersonal conversations that can take place in its spaces. Textual documents should be kept to a minimum.

Information seeking is a challenging problem in this environment. Bold visual signs are critical for orienting the visitors to find things within 3D spaces. The creation of visual orientation guides can be worth the effort for spaces that hold collections of objects.

In terms of creating virtual worlds, one challenge will be incorporating support for collections of information rich objects. Newer generations of immersive environments will need to find support for richer metadata on objects, improved forms of text display and improved crawling of elements for spatial retrieval. At the same time they will face the problem of tracking conversations in forms that are plausible for later recollection by visitors.

Conclusions/Questions
Second Life is a highly visual environment where the traditional tactics of information architecture are not supported. Information objects become problems in this space.

Architecture for immersive worlds such as SL should focus on the creation of spaces that facilitate interpersonal interaction. Just like regular IA, immersive architecture should cater to the circumstances in which the spaces will be used, including the needs of the people. With the strong visual/cultural orientation of virtual worlds, the aesthetic style has a very strong relevance for the identification of visitors with their peers.

The synchronous nature of this format creates additional challenges for the creation and maintenance of communities, yet the rich sense of co-presence is the most powerful feature of virtual worlds, offering mediated interpersonal experiences that can be worth the effort.

Text in immersive worlds should be kept to a minimum as it is not the focus, and it brings a series of complications. Instead, 3D models and visual representations should be favored.

Open questions remain:

- How can the challenges of community building and audience attraction be minimized?
- Where is the threshold for the size of text being presented?
  - How can the objects be optimized for findability?
- How can conversations be stored?

We hope to find answers to these questions in the future.

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Content Strategy: Introduction
by Scott Abel and Seth Earley

Delivering the right information to the right people at the right time in the right language and format is one of the biggest challenges faced by businesses today. Add to the mix the desire of consumers to access content when and where they want, on an increasing array of mobile devices, and it’s easy to see why so many organizations are struggling to keep pace with technological change.

Part of the struggle is indeed related to the speed at which technology is moving. But, much of the pain organizations experience when attempting to meet the needs of their digitally savvy consumers is caused by a lack of a content strategy.

At its most basic, a content strategy is a systematic, repeatable plan for efficiently governing the creation, management and delivery of useful, usable, accessible content. Most organizations do not have a formal content strategy, opting instead to prioritize and tackle content challenges as one-off obstacles as they become too important to ignore.

In this issue of the Bulletin of the American Society for Information Science and Technology, we present five articles designed to help demystify the often-misunderstood discipline that is the turf of content strategists. Written by the world’s top practitioners, the articles examine content strategy and provide many examples of how it relates to practice in particular situations.

In our initial article “What’s the Buzz about Content Strategy?” Rahel Anne Bailie emphasizes the primacy of content, defines content strategy and gives an overview of what content strategy entails, concepts that Kristina Halvorson enlarges upon in her article “Understanding the Discipline of Web Content Strategy.” She lists the content-related disciplines that comprise content management and concludes with the final call to arms that could be the message of this issue: “Stop pretending content is somebody else’s problem. Take up the torch for content strategy. Learn it. Practice it. Promote it. It’s time to make content matter.”

Jeff Carr, Seth Earley, and Ann Rockley and Joe Gollner all present content management case studies or recommendations based on such studies. In “Case Study: Developing a SharePoint 2010 Strategy,” Carr looks at the challenges of introducing this powerful content management tool into an organization in a beneficial way, while Earley focuses on governance mechanisms for content management in “Developing a Content Maintenance and Governance Strategy.” Finally, in “An Intelligent Content Strategy for the Enterprise,” Rockley and Gollner define the concept of intelligent content strategy and provide case studies from several different sectors illustrating its use in practice.

As a package, the articles presented in this special issue present a framework for understanding the need for a formal content strategy. They aim to help you understand the role and duties of a content strategist, as well as the tools, techniques, technologies and standards aspiring content strategists will need to master.

About the Guest Editors
This special section of the Bulletin was compiled and edited by Scott Abel and Seth Earley. Seth Earley is president and CEO of Earley & Associates Enterprise. He can be reached at seth-at-earley.com or through the Earley & Associates Enterprise website at www.earley.com. He has developed search, content and knowledge strategies for global organizations as well as underlying taxonomies for a diverse roster of Fortune 1000 companies. He is a popular speaker and workshop leader at conferences throughout North America, speaking on intranet design, knowledge management, content management systems and strategy, taxonomy development and other related topics and is a co-author of Practical Knowledge Management from the IBM Press.

Scott P. Abel is a content management strategist and social media choreographer with strengths in helping organizations improve the way they author, maintain, publish and archive their information assets. A presenter at content industry conferences, he is a founding member and former executive director of Content Management Professionals (www.cmpros.org) and assists in the production of several industry events including Web Content Chicago (www.webcontent2010.com), Intelligent Content (www.intelligentcontent2010.com) and others. His blog, The Content Wrangler (www.thecontentwrangler.com), is a popular destination for communication professionals seeking information about content management. He can be reached at scottabel-at-me.com.
What’s the Buzz about Content Strategy?
by Rahel Anne Bailie

A story that drives home the place of content strategy in the field of user experience is about my mother. When my mother was diagnosed with cancer, I, being the eldest child, went into research mode. I scoured the web for any information I could find about uterine cancer so that I could be informed and offer some support, if not help, around her treatment. I would do a Google search, then head for the information about symptoms, treatments and survival rates. There is a lot of information out there, and a lot of conflicting information, so I went to a lot of websites.

Sometimes, I found the information I was looking for, and other times I didn’t. When I found what I was looking for, I was relieved. But when I couldn’t find the information, I didn’t stop to marvel about the taxonomy or navigation, or the color palette or experience, or the affordance on the buttons. What I noticed is that I had just wasted time looking on a site that was missing the information I had hoped to find. It’s not that I didn’t appreciate the navigation and colors and affordance and all the other good things that make up a smooth user experience. It’s that the beauty of the hunt is negated if the treasure is lacking or missing.

This is an all-too-common occurrence, the good-scent, bad-content user experience. Many theories have arisen about why this has become a recurring theme in the web world. The most plausible one is a variation on Alan Cooper’s *The Inmates Are Running the Asylum* [1]. The developers of software and, later, web applications drove the projects and had the power to determine the user experience. The focus was on technological possibilities, and the interface was an engineer’s view into their world. They wanted to code, not plan, and transmuted their mental model, whatever it might be, by developing code.

Cooper [2] championed the value of investing in the user experience, and we saw the shift to emphasizing user-centered design, whether that morphed into user experience [3], experience design [4], service design [5] or one of the other variations on the UX theme. The commonality is that before any code is written, we need to understand the consumers – from how they will typically use the product to the cognitive processes that help users process the information to the human factors involved in its use.

In the world of user-centered design [6], there was room for user analysis [7], information architecture [8], transaction design [9], visual design [10] and usability testing [11]. While this was an important step toward the maturity of the field, there was still a conspicuous gap in who got a place at the table. Content was considered outside of the scope of the user experience and often left to the client to figure out.

The problem with the model as it stands now is that content is still considered “the stuff that goes into the design.” Content is populated into the design; it is migrated from its previous location to the new design. The problem with this development model lies in the placement of content as an adjunct to the primary process, instead of its placement at the center of the
process. One system designer, Dorian Taylor, captured the essence of this conundrum when he asserted [12] that the web doesn’t have content, it is content.

Giving content a peripheral role creates spin-off problems that are not easily rectified through a tweak to the design or even through a change order. Putting content at center stage means changing some of the fundamental ways we think about content in the content of development projects:

- **Form follows function.** The principle of form follows function states that the form of an object must be based on its intended purpose. If the purpose of the site is to inform, sell, share or entertain, then the consumption of content is the function. When the primary function for a site (or application or software) is to provide information to content consumers, then the design should be created to support the content. If the content is not created before the design begins, then form is not following function. Instead, the function is being crammed into the form.

- **Content is the treasure; UX is the treasure hunt.** The elements of design – from the architecture and navigation to the look and feel to the code functionality and everything in between – are all components that come together to help the content consumer reach the information needed in the most efficient way possible. But in the end, if there is no content, the experience has failed. The UX treasure hunt was a success, but the experience will be remembered by the lack of treasure at the end.

- **Clients are subject matter experts, not content experts.** Content development has become too complex to be left in the hands of the client. We don’t expect clients to be experts at information architecture, though they know how to create folder structures on shared drives. Similarly, we shouldn’t expect clients to be experts at content strategy [13], just because they know how to use a word processor. Writers cannot be expected to know enough about content standards and content modeling, re-use models [14], content for metatags [15], microformats [16], writing for syndication [17] and componentization for content management systems [18] to make informed decisions about how to pull all of the pieces together.

- **Content has become a major pain point.** When project managers say that the content aspect of a project is the major pain point, they recognize only that the launch is being held up by lack of content. The absence of content can often be attributed to a few key failures:
  - Content migration didn’t go as planned, because the content on the old site was unsuitable, inconsistently structured or unmappable to the new site. The content could also be trapped in attachments, such as PDF files, which can’t be migrated without several passes requiring manual intervention.
  - The content, whether written or migrated, is unusable in the new site or app. It may describe outdated functionality, not be chunked in ways that are suitable for integration with the new design.
  - The new software/app/site design doesn’t accommodate the content. There is no way to provide the necessary information or instructions within the design that has just been, no doubt, approved in a lengthy and painful sign-off process.
  - There is simply no content for certain areas – often the new, key areas – because there was no understanding of how long it takes to create suitable content, or there is a lack of understanding about why accurate, readable content is important.
  - There is no budget. Content is a major budget item, so the redesign proposal omitted content, in order to lower the project cost. Now, the organization is told they are responsible for content development, and they realize they have a combination of no time, budget and/or expertise to start churning out content.

**Enter Content Strategy**

The creation and delivery of content is often examined during some period of change, perhaps during a website refresh project or a knowledge base upgrade. In those cases, developers own the code side of a project; the UX professionals own the design process; but when it comes to content, there is a vacuum. And as the saying goes, nature abhors a vacuum. As a result, content strategy has begun to fill the vacuum in what is generally an unclaimed and misunderstood space.
Content strategy is a repeatable system that governs the management of content throughout the entire lifecycle. This is a brief statement, and looking at it more closely gives us some insights into the nature of content strategy:

- **It's strategic.** It governs what happens to content during the implementation phases. This is the stage where the planning and analysis happen. It’s not only where the “how” is addressed but also the “why.” It’s about processes within.

- **It's repeatable.** A content strategy is not a one-off activity. It’s a way to handle content within a corporate context and moving up the publishing maturity model to a place where a commitment has been made to manage and sustain the content lifecycle. (See the information process maturity model [19] for an explanation of the levels.)

- **It’s about process.** The processes within a content lifecycle are system-agnostic, though any organization with a large corpus likely uses some sort of system to assist with process management. The processes are established as part of the strategy phase and implemented during the content lifecycle.

- **It’s governing.** Content strategy is being the guardian of content and the content strategy. It’s making all the important decisions about how content is created/collected, managed, published and curated.

- **It’s a system.** It’s not a technology, though it can be technology assisted. It describes an organic system that covers content from cradle to grave and all the iterations along the way.

**Benefits of a Content Strategy**

Having a content strategy acknowledges that content is an asset and needs as much asset management as the other corporate assets – physical, financial and information. It is also an acknowledgement that managing content is different from managing data or information. Content is more complex and nuanced, and as a result, needs to be governed by its own strategy.

The bottom line for any effort undertaken by an organization is return on investment (ROI) [20], and content strategy is no exception. The expectation is that developing and adopting a content strategy will create a benefit, either through increased revenue or operational savings. This rationale is the fundamental for any asset management through an organization. The Institute of Asset Management [21] defines asset management on its website as “the art and science of making the right decisions and optimizing these processes” to determine “the operational performance and profitability of industries that operate assets as part of their core business.” From this point of view, having a content strategy puts into place a framework that allows organizations to measure investment and results.

These measurements are highly situational and are generally tied to an organization’s marketing or operational goals. A content strategy allows an organization to look at effort throughout the content lifecycle. If the content is tied to entering a new market, with a resulting increase in sales, the ROI becomes readily apparent once the numbers have crunched. If the goal is operational efficiencies, the payback is in terms of internal rate of return [22]. The investment in a content strategy can be measured by shortening the turn cycle, savings in translation costs or a number of other possible operational goals.
Likely the best benefit of a content strategy is the peace of mind that comes with knowing that your content assets are present and accounted for and that you can use them to their fullest potential without the machinations and tribulations associated with ad-hoc or rudimentary systems.

Resources Mentioned in the Article

[1] Cooper, A. (1999). *The inmates are running the asylum: Why high-tech products drive us crazy and how to restore the sanity.* Indianapolis, IN: Sam’s Publishing


Understanding the Discipline of Web Content Strategy
by Kristina Halvorson

We, the people who make websites, have been talking for 15 years about user experience [1], information architecture [2], content management systems [3], coding [4], metadata [5], visual design [6], user research [7] and all the other disciplines that facilitate our users’ abilities to find and consume content.

Weirdly, though, we haven’t been talking about the meat of the matter. We haven’t been talking about the content itself.

Yeah, yeah. We know how to write for online readers. We know bullet lists *pwn* [8].

But who among us is asking the scary, important content questions, such as “What’s the point?” or “Who cares?” Who’s talking about the time-intensive, complicated, messy content development process? Who’s overseeing the care and feeding of content once it’s out there, clogging up the tubes and dragging down our search engines?

As a community, we’re rather quiet on the matter of content. In fact, we appear to have collectively, silently come to the conclusion that content is really somebody else’s problem – “the client can do it,” “the users will generate it” – so we, the people who make websites, shouldn’t have to worry about it in the first place.

Do you think it’s a coincidence, then, that web content is, for the most part, crap?

Dealing with content is messy. It’s complicated, it’s painful, and it’s expensive.

And yet, the web is content. Content is the web. It deserves our time and attention.

And that’s where content strategy comes in.

**What Is Content Strategy?**

Content strategy plans for the creation, publication and governance of useful, usable content. Necessarily, the content strategist must work to define not only which content will be published, but why publish it in the first place. Otherwise, content strategy isn’t strategy at all: It’s just a glorified production line for content nobody really needs or wants. (See your company’s CMS.)

Content strategy is also – surprise – a key deliverable for which the content strategist is responsible. Its development is necessarily preceded by a detailed audit and analysis of existing content – a critically important process that’s often glossed over or even skipped by project teams.

At its best, a content strategy defines at least the following items:
- key themes and messages
- recommended topics
- content purpose (that is, how content will bridge the space between audience needs and business requirements)
- content gap analysis
- metadata frameworks and related content attributes
- search engine optimization (SEO)
- implications of strategic recommendations on content creation, publication and governance.

**But Wait…. There’s More**

In her groundbreaking article, *Content Strategy: The Philosophy of Data* [9], Rachel Lovinger said:
The main goal of content strategy is to use words and data to create unambiguous content that supports meaningful, interactive experiences. We have to be experts in all aspects of communication in order to do this effectively.

That’s a tall order. I’d like to propose that, in fact, there are far too many “aspects of communication” for a solitary content strategist to truly claim deep expertise in all of them.

Instead, let’s assume that there are a number of content-related disciplines that deserve their own definition, by turn:

- **Editorial strategy** defines the guidelines by which all online content is governed: values, voice, tone, legal and regulatory concerns, user-generated content and so on. This practice also defines an organization’s online editorial calendar, including content life cycles.

- **Web writing** is the practice of writing useful, usable content specifically intended for online publication. This skill is a whole lot more than smart copywriting. An effective web writer must understand the basics of user experience design, be able to translate information architecture documentation, write effective metadata and manage an ever-changing content inventory.

- **Metadata strategy** identifies the type and structure of metadata, also known as “data about data” (or content). Smart, well-structured metadata helps publishers to identify, organize, use and reuse content in ways that are meaningful to key audiences.

- **Search engine optimization (SEO)** is the process of editing and organizing the content on a page or across a website (including metadata) to increase its potential relevance to specific search engine keywords.

- **Content management strategy** defines the technologies needed to capture, store, deliver and preserve an organization’s content. Publishing infrastructures, content life cycles and workflows are key considerations of this strategy.

- **Content channel distribution strategy** defines how and where content will be made available to users. (Side note: please consider e-mail marketing in the context of this practice; it’s a way to distribute content and drive people to find information on your website, not a standalone marketing tactic.)

Now this breakdown certainly doesn’t imply that a single content strategist can’t or shouldn’t be capable of playing these roles and creating the associated deliverables. In fact, in my experience, the content strategist is a rare breed who’s often willing and able to embrace these roles as necessary to deliver useful, usable content.

But, and this is a big but, if our community fails to recognize, divide and conquer the multiple roles associated with planning for, creating, publishing and governing content, we’ll keep underestimating the time, budget and expertise it takes to do content right. We won’t clearly define and defend the process to our companies and clients. We’ll keep getting stuck with 11th-hour directives, fix-it-later copy drafts, and we’ll keep on publishing crap.

We can do better. Our clients and employers deserve it. Our audiences deserve it. We as users deserve it.

**Take Up the Torch**

David Campbell, the founder of Saks Fifth Avenue, said, “Discipline is remembering what you want.”

When it comes to creating and governing content, it’s easy to forget what we want, or even worse, to settle for less. But until we commit to treating content as a critical asset worthy of strategic planning and meaningful investment, we’ll continue to churn out worthless content in reaction to unmeasured requests. We’ll keep trying to fit words, audio, graphics and video into page templates that weren’t truly designed with our business’s real-world content requirements in mind. Our customers still won’t find what they’re looking for. And we’ll keep failing to publish useful, usable content that people actually care about.

Stop pretending content is somebody else’s problem. Take up the torch for content strategy. Learn it. Practice it. Promote it. It’s time to make content matter.

Resources on next page
Resources Mentioned in the Article


Case Study: Developing a SharePoint 2010 Strategy. . .
or How Setting It Up and “Getting It Out There” Is Not a Strategy
by Jeff Carr

Why does an organization use SharePoint [1]? On the surface this question might seem relatively simple. In all likelihood, if you’re using SharePoint, you are able to list a handful of reasons off the top of your head that include everything from business collaboration and document management to business intelligence and enterprise search. However, if you take a moment to look past the functional capabilities of the product itself and step back to carefully consider exactly why you are employing it, what might the answer be then? If a detailed and specific reason is not immediately apparent this hesitation should be cause for concern.

The “Technology First” Approach
A common approach for many organizations has been technology-centered design – that is, start with the technology and push off the gathering and documenting of requirements until later, if at all. It is often left up to the folks responsible for the IT function to set up SharePoint and get it out there. As business users slowly become aware of its existence, a site or two are often provided for them to play around with. Initial sites are then followed by a few more and even more after that, and in what seems like the blink of the eye, an assortment of individuals and groups from across the organization have started to turn on various bits of functionality and deploy the product in a haphazard and confusing way.

SharePoint is a technology designed to remove management of the information environment from IT and place it into the hands of users. The problem lies in the fact that many organizations lack standard ways of managing content, and therefore granting permission and managing the site are often dropped into the lap of a single or small group of uninformed individuals. These people, along with the end users themselves, are for the most part unfamiliar with standard practices in information architecture, content management, taxonomy and metadata.

Before long, the effort required to support and manage growth of the platform dramatically increases as it rapidly evolves into a highly decentralized and ungoverned proliferation of sites, sub-sites, lists and libraries. Before you know it, this organically growing, highly complex and convoluted structure decreases the efficiency of the business users. The lack of consistency and integration leads to a fragmented and frustrating user experience that is compounded by an explosion of content as more business units come online.

An absence of ownership of information architecture leads to numerous issues related to findability. Users are forced to turn to search as a primary form of information seeking, but an absence of standardized content enrichment processes leads to a degradation of the out-of-the-box search experience. Simply put, a lack of strategy, process and governance around content management means that search doesn’t work. Third party add-ons and custom solutions often appear throughout the environment in an effort to overcome these issues, and in the end, what you’re left with is a complex and fragmented data repository with increasing operational costs.

Seven Key Components of a Successful Strategy
As a result of this situation, organizations are now faced with significant challenges in trying to rein in the proliferation and establish a more
disciplined foundation. Many are faced with a need to re-architect their SharePoint environments in a way that better aggregates the results of the proliferation into a more cohesive experience that aligns with and supports strategic objectives.

If you find yourself in the group considering a move to the newest release of the product, now is an opportune time to pause and be sure that your SharePoint 2010 strategy includes the following seven key components:

1. Purpose. Strategic objectives must be identified and clearly defined in conjunction with key executives and stakeholders. These individuals are responsible for articulating the overall vision and ensuring the direction chosen is tied back to organizational goals. Without their buy-in and ongoing support in the form of time, budget and dedicated resource allocation, the chances of success for the platform are dramatically reduced.

Arriving at a common purpose is oftentimes difficult so a recommended approach is to conduct an executive workshop to do the following:
- Identify key descriptors for the system in both the current environment (what it is now) and the future (what it need to be).
- Develop a roadmap based on gaps identified, including quantitative benchmarks from which future successes can be measured.
- Create a Vision statement for SharePoint outlining in detail overall purpose and intention.

2. Governance. Governance comprises the policies, processes, standards, models, roles and responsibilities that ensure successful management of the platform across the enterprise. More informally, it’s all the things required to make it work, as well as the glue that holds it all together. Because of SharePoint’s inherent nature to decentralize away from IT, stronger governance processes are required to make it a success.

An advisory council comprising cross-departmental representation is required, and must include active participation from the executive stakeholders who contributed to development of the overall vision. Subcommittees and working groups for specific areas like technology, information architecture, training and education need to be tasked with implementation, operation and enforcement, as successful governance requires accountability.

3. People & Objectives. It is essential to identify the audiences that have a stake in the environment. It’s important to fully understand who they are and what tasks they are required to accomplish. What are the key business processes and how will the technology be designed to support them? Strategy defines your approach to completing the following activities:
- Identifying all the people and groups required to participate in the environment.
- Determining the existing pain points along with potential solutions.
- Developing use cases and user scenarios to capture business processes and common interactions.
- Documenting opportunities for active and passive personalization that also include the serendipitous discovery of information.

4. Requirements & Analysis. The formal gathering of requirements, taken directly from users and captured in their own words includes an assessment of the current environment in the form of stakeholder interviews, core team working sessions, end user surveys and heuristic evaluations. These activities combine to identify what’s working and what’s not along with desired improvements in the form of features and functionality. Requirements must be analyzed, categorized, prioritized and ultimately tied back to the purpose.

5. Information Architecture. Information architecture defines the approach to two key areas: information organization and access. Prior to implementation of site structures, navigational schemes and search interfaces, it’s crucial that you develop comprehensive content models, which require clear understanding of the types and volume of content that exist. To do so you must define methods for completing the following:
- Content audits and inventories that identify volume, ownership, responsibility and overall scope of the problem.
- Identification of key global content types that have organizational value along with standard definitions for each. For example, defining and obtaining acceptance with respect to what constitutes a “procedure.”
Documentation of information lifecycles that address all aspects of management from creation to disposition.

- Development of metadata schemas, plan groups and term sets as a basis for content enrichment, including the definition of a standard set of fields applied to all documents.
- Design of workflow to automate all or portions of key business processes.
- Design of standardized publishing models outlining levels of organizational autonomy (centralization vs. decentralization).
- Establishment of consistent naming conventions along with a set of editorial guidelines.
- Site-map development to determine the logical hierarchy of site collections, sub-sites, lists and libraries.

Performing this analysis sets the foundation for the design of wireframes illustrating innovative access mechanisms that are consistent and standardized and provide a multi-faceted approach to information findability.

6. Technology. Technological considerations include coverage for the installation, configuration and maintenance of both hardware and software along with application integration between the SharePoint environment and other enterprise systems. They also include identification of third-party add-ons and custom development necessary to meet high priority requirements. The technology attribute of the overall strategy is, for the most part, the only piece that should be fully owned by IT.

7. Maintenance & Enhancement. How will you address improvements to the environment as business needs evolve? To do so, it will be important to ensure the availability of metrics from which benchmarks and end user satisfaction can be measured. Metrics, which must be tied back to the overall purpose, can be captured in the form of search and web analytics as well as through periodic qualitative measures indicating user satisfaction. New initiatives identified by business users need also relate back to the strategic objectives.

Pulling It All Together

The formal definition of an overall strategy for SharePoint that begins with an executive vision and proceeds to outline a clear set of business goals is the best method for enabling achievement of long-term objectives. Governance is a fundamental element of success and often finds its biggest challenges in changes to organizational culture. While difficult, this transformation is needed for growth. A cultural evolution will be required but can be made easier through strategies that address the socialization of business objectives as well as communication and training initiatives that assist with influencing user adoption. Without a strong governance model, even the best-designed environments are sure to fail.

A well-designed SharePoint implementation will be constructed from the perspective of the end user and will streamline business processes by providing a place for teams to perform their work more effectively, enabling the capture and dissemination of organizational memory and ultimately connecting people with the right content (or the right person) in the right context at the right time.

Without the development of a formal strategy in each of the areas identified, future opportunities will be limited as a result of the lack of the foundational capabilities that have not been established over time. Inevitably, starting with the technology itself will result in longer-term challenges and, potentially, failure from a lack of user adoption. Without careful planning your SharePoint environment will end up evolving into nothing more than a complex file share on the web, but one that is significantly more difficult to use and much more costly to maintain than it would have been without Sharepoint.

Resource Cited in the Article

Developing a Content Maintenance and Governance Strategy
by Seth Earley

Governance is not a simple process of writing up some plans and policies. Operationalizing governance requires the correct structures and working agendas.

The Missing Piece of Content Management
Information and content governance is frequently a missing piece of a content management plan. Think of building the new content management system (CMS) as building a new house. You design the layout of the house and requirements based on the needs of your family. Then you move into the house. In preparation for the move, you put all of your possessions in boxes and mark those boxes to indicate where they will be going in the new home. If you are moving into a larger home, you’ll likely take items that were in a single room and put them into multiple rooms.

The New Home Metaphor
Deploying content management systems is like building and moving into a new home. You need to plan the structure of the system based on the needs of your users and then need to mark all of your documents to indicate where they will be going in the new system. In some cases, content that was in one category (or room in our metaphor) will be split into multiple categories in the new system.

The migration is the move. In our house, when we recently moved, my stepdaughter packed up her own room and decided where some of her belongings were going in the new house since she had more space. She also threw a lot of stuff out (as we all did). In your content migration, part of the process of moving is getting people to take ownership of their content (their stuff) and throw away the things they no longer need.

After the Move
But what about after the move? In the new house we want to keep things in order, put things away, clean up the house and handle the day-to-day maintenance. Some maintenance is outsourced (we have a large yard that gets mowed by a service), and some is done by each member of the household.

There are rules and requirements, and there are spot checks to determine if we are doing things correctly (this is usually my wife preparing for a visit from our in-laws).

Content governance is the same. We need to assign ownership of content before moving to SharePoint or another CMS; we need to throw out the junk we no longer need – the redundant, out-of-date or trivial content (ROT); we need the people who own content and know something about content to determine where it goes in the new CMS (how the content is tagged with metadata); and we need to move the stuff (of course we hire movers for that process). In our CMS world, the movers are the IT organization, perhaps with the aid of specific tools or specialists.

But the real work starts after the move. How do we keep things clean and up-to-date? How do we prevent information sprawl? How can we make sure that people are using taxonomies and metadata correctly?

Components of Governance
Governance is the set of policies, procedures, guidelines, rules and compliance metrics that helps maintain the new household.

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Governance addresses short term, day-to-day processes for creating, tagging, maintaining and cleaning up content as well as longer term goals around content requirements, system updates and development of new capabilities. Who creates content? Who tags it? What is the lifecycle of different kinds of content? How often is it reviewed? What is the process for review? How are tags and metadata reviewed and checked for accuracy, completeness and quality of tagging?

The Business Purpose
At the highest level, governance needs to define the business purpose for content. This might be done at the organizational level or may be developed on a functional level, depending on the appetite of the organization to actively manage content.

Not all content is of equal value and not all functional areas make the same use of content. Content may be strategically more important to one part of the organization than another. This difference is why understanding the business process and purpose of content is a precondition for effective governance. If we do not identify a clear business value, then we are not going to get time, attention and resources devoted to the effort.

Organizational Responsibility
Once we establish business value and business objectives, we can assign organizational responsibility for the content. Customer support content needs to be the responsibility of a senior manager in customer support or her delegate. This person is the project sponsor and has ultimate accountability for success or failure of the initiative.

The Role of a Steering Committee
The next piece of the puzzle is to develop a group that contains a broad range of knowledge about various aspects of the organization. These areas of expertise include
- business drivers and requirements;
- tools and technical landscape;
- basic taxonomy and information architecture; and
- needs of the end users.

This group is typically called a steering committee and sets high-level policy and procedures and allocates resources for the system. They can also help settle conflicts and turf battles.

The steering committee will typically make business decisions about priorities and allocation of resources. It is the entity that decides on priorities when there are conflicts among business requirements and business drivers. There is representation from various stakeholders throughout the business.

Steering committees typically don’t handle day-to-day tasks of maintenance. They are more an executive, decision-making body. People in work groups or teams do the actual work. Work teams and working groups are tasked with specific agendas around ongoing maintenance processes as well as for special projects of limited duration.

High visibility, strategic projects of limited duration, on the other hand, are typically undertaken by a task force. The distinction between a work group and a task force is more than semantic. Designating a group as a task force calls out the importance of the work and/or the cross-functional nature of the team. A task force might also include more senior level executives who can establish new policies and priorities for the business. For instance, at one publisher, a content reuse task force was created to promote cross business unit content reuse that would help to create new business models. This initiative was extremely important, and the task force was made up of a wide range of stakeholders, including senior executives.

Best Practices in Model Structures
Content management governance models come in many shapes and sizes. Small, centralized groups or large decentralized teams, depending on the size and structure of the organization, can implement them. In general, we have found that the larger and more complex the governance body, the more likely it is to fail. Therefore, we try to keep governance structures as simple as possible and limit involvement to areas that are truly affected by or have a stake in the content management system.

Layers of Governance
There are three typical layers in a governance model: strategic, tactical and advisory.
The strategic layer of governance involves one or more roles dedicated to the overall ownership and strategic direction of content processes in the organization. It includes the content management system sponsor/owner and any other roles focused on evangelism and promotion of content processes across the organization. Someone such as a senior manager for customer support needs to ultimately be in charge of the content management system. This person is the content management system owner. A CMS owner straddles the strategic layer and the tactical layer, which also includes the steering committee.

The tactical layer includes the roles of direct producer and consumer of content. People in these roles are generally involved in the day-to-day content management process and have ownership of certain parts of the CMS — potential members of working groups and task forces. They may include representatives from specific functional areas, lines of business, regions and so forth. This layer also includes the taxonomy manager, who straddles the strategic and tactical layers. The tactical layer may also include some secondary consumers of the taxonomy such as those that use it for searching and browsing.

The advisory layer involves roles that may not be directly involved in content management and curation but may need to be consulted for or advised of overall direction, be apprised of changes or be involved in special projects around the CMS. Such roles may include trainer, user experience designer, subject matter expert or representative from other committees. Groups that simply consume the content as an input to other processes may be considered part of this layer. These members often do not attend regular meetings.

Depending on its level of involvement in taxonomy management, IT may be considered tactical or advisory.

Size of a Governance Team

What size should the overall governance team that includes all these layers and structures be? Here’s the short answer: as few as you can get away with while still representing all the necessary players. The longer answer is that optimal team size is definitely between four and 10. More than 10, and it becomes difficult to run effective meetings. Less than four, and it isn’t really a governance team. That said, it is possible to have a team structure that, on paper, is larger than 10, but when you consider who will actually show up regularly at meetings, the number is still within limits.

You want to ensure that all groups that need to have a seat at the table have one but that people are clear about their roles and know whether their presence is required for regular meetings.

Who Needs to be on the Governance Team?

As usual, it depends on the organization. It is always a multidisciplinary team with many skill sets and functional areas represented.

Here are a few key areas you can choose from:

- Marketing
- Product management
- Business intelligence
- Creative/editorial
- IS/Library
- IT
- Site management/web content management
- UI/UX
- Legal
- Training

Here are a few roles that may be represented:

- Executive sponsor
- Taxonomy manager
- Content creators/editors
- Content managers
- Librarians
- Regional representatives
- Line of business/functional area representatives
- Search specialists
- System owners
Where Should I Start?

You can assume the need for a CMS sponsor and lead at the strategic level and see if this is an easy place to lead the discussion.

Otherwise, the best place to start is with representatives who will own content in the CMS. They form the bulk of the team and are the heart of the day-to-day operations – the tactical team. They will also give you an idea of how big your team is shaping up to be. If the CMS is big and ownership is split across 15 groups, for instance, this spread is an indication that you likely will not be able to have one, joint, content management meeting with everyone, but rather that you may need to split your team into a few sub-teams or come up with processes that mitigate having this many stakeholders.

Once you have identified your core tactical team, you can start filling in the peripheral players. Remember to limit yourself to people in roles that will be affected by or need to have a say in content matters. You can always add people later, but it is hard to cut people once they are included.

Working Agendas

The purpose of your governance organization is to make sure that content is managed effectively and that the CMS meets the needs of users. This means that correct lifecycles are established for information, that content is tagged appropriately based on its value to the organization, that taxonomies are maintained and leveraged correctly (in tagging, search and IA) and that systems function as required and updates that meet the changing needs of users are carried out cost effectively.

It is also important to continually examine the structure of the governance team and determine what changes need to take place to ensure problems are solved and market needs are addressed ahead of time. For example, a publisher needed to anticipate the role of e-books in evolution of its business model. This new line of business was not the responsibility of the content management team (it was in the purview of product management), but in this case, the content team investigated tools and technologies and created the capabilities that allowed the publisher to migrate content to e-readers.

Here, a task force with a working agenda was created specifically to address this challenge. The working agenda included technology evaluation, prototyping, content tagging, XML structures and migration. The ability of the CM governance group to handle this project reflected the continual examination of their goals in the context of the needs of the business. This task force made it much easier for the organization to extend its business model to e-books once the market was ready.

Conclusion

Developing a CMS and not including governance and maintenance is like building a house and not budgeting for upkeep. It will be great for a while, but will soon fall into disrepair. Just as you would never move into a new home without planning on upkeep, don’t make that mistake with your content management systems and tools. ■
An Intelligent Content Strategy for the Enterprise
by Ann Rockley and Joe Gollner

One of the challenges facing anyone considering a content strategy [1], whether on the scale of a single web offering or a global enterprise, is sustainability. It is only with intelligent content [2] that it becomes possible to talk about a sustainable enterprise content strategy. Automation can be used to minimize the time, effort and money needed to apply a good content strategy. However, automation doesn’t just happen. Content must be consciously designed to support it. An intelligent content strategy establishes a coherent plan under which content will be designed, developed and deployed so as to achieve maximum benefit to the customer and the organization while minimizing the cost to the organization.

What Is Intelligent Content?

Historically, content has been managed as documents. Metadata is applied to documents to facilitate document search and retrieval for both users and for the content creators. Unfortunately, applying metadata to a completed document means that it can only adequately describe the content at a very superficial level; it cannot identify the many types of content within the document. The searcher must still examine the complete document and extract the information they were looking for.

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This limitation explains why there has been a steady increase in interest being directed toward open content standards [3] and specifically the Extensible Markup Language (XML) [4]. If we design and prepare content in a way that is completely portable and open, then a wide range of applications can be used to automate common content tasks such as formatting. If we make the content intelligent by tagging and structuring it, designing and preparing it for discovery and reuse, we can be freed from managing it within the “black boxes” of completed documents.

We can move forward to actually managing the content itself once we take the step of making it intelligent. Intelligent content is content that is structurally rich and semantically categorized, and is therefore automatically discoverable, reusable, reconfigurable and adaptable.

Let’s look at this definition of intelligent content in a little more detail.

Structurally Rich

The structure of a marketing brochure might contain a positioning statement, value proposition, features and benefits. Structure makes it possible to manipulate it. For example, we can automatically determine how to publish it to multiple channels (print, web, mobile) or we can filter out some content (for example, tables may not work as well in the mobile environment). We can perform searches or narrow our search to the particular type of information we are interested in (for example, we can look for all occurrences of a word in the context of a specific element such as positioning statement).

Semantically Categorized

The word semantic means “meaning.” Semantically categorized content [5] is content that has been tagged with metadata to identify the kind of content within it. For example, you might tag your content with industry,
role or audience, and product, allowing you to automatically build customized information sets based on audience or industry. As content is pushed to wikis, integrated through mashups [6] or pipes [7], it becomes even more important to ensure that our content is semantically tagged. Without semantic metadata it is very difficult to automatically, let alone manually, find the content we need.

**Easily Discoverable**
If the content has semantic tags and is structurally rich, it is a whole lot easier to find exactly what we are looking for. And when it is structurally rich, and assuming our content is in XML, we can use XQuery [8], a standard that supports queries of XML data – not just XML files, but anything that can appear as XML, including databases. We can use XQuery to query the structure of the content to find specific information. Then when we add semantic tagging to the content, we have a great deal of information that will allow us to zero in on exactly the content we are looking for (that is, content mining).

**Efficiently Reusable**
Reusable content [9], content that is created once and used many times, reduces the time to create, manage and publish and reduces translation costs. We can create modular structured content that can either be easily retrieved for manual reuse or automatically retrieved for automated reuse.

**Dynamically Reconfigurable**
In structured content the words and the look and feel of the content are not embedded in the content. That independence makes it very powerful. Knowing the structure of the content, we can output it to multiple channels reconfiguring it to best meet the needs of the channel, or we can automatically mix and match content to provide us with the information customers need [10]. We can even transform content (reconfigure it) from one structure to another, but only if we know what the structure is in the first place.

**Completely Adaptable**
We frequently create our content for a particular need or audience, but content can be adapted (used in a different way), often without our knowledge, to meet a new need. Think of mashups: We don’t know how our content is being aggregated, but we know that it can be because we have structured and tagged it intelligently.

**Who Is Using Intelligent Content?**
A number of industries are making use of intelligent content. Companies whose product is content, such as publishing and media companies, have begun to adopt intelligent content as a methodology for moving away from their traditional print to a truly multichannel (print, web, mobile, eBook) and often personalized content offering. Companies who produce huge volumes of content, such as life sciences and financial companies, use intelligent content to optimize access and retrieval. The high technology and aerospace industries have been developing intelligent content for a number of years. Government is starting to use intelligent content to manage and deliver legislative content.

**Benefits of Intelligent Content**
There are many benefits of intelligent content. The following are among the things we can do with intelligent content:

- find it more easily
- deliver it
- customize it
- personalize it
- automatically deliver it to multiple channels
- simultaneously release content in multiple languages.

And...

- reduce costs
- speed up delivery time
- optimize resources
- do more with the same resources
- increase customer satisfaction.
Case Study: Intelligent Marketing Content

The business problem. A large global telecommunications company had over 150 products aimed at large business telecommunications infrastructure. Marketing was key, but the department had been cut to the bone with the downturn in the economy. A small department of five had to create and maintain all marketing materials. The print design and creation were contracted out to a creative agency. They were responsible for more than 25 different information products including brochures, case studies, data sheets, product overviews, product comparisons, whitepapers, tweets, posts and sales training materials.

A number of pain points existed:
- They were short staffed and unable to keep up with the workload.
- The company planned on releasing more products in a shorter period of time than ever before.
- Content was localized into nine different languages, a costly and time consuming process.
- A core document was typically created and then distributed via email to multiple recipients. Content was modified for each channel, region and audience. Changes were sent via email, but there was no guarantee that everyone who needed it got it or that the revised messaging was incorporated.
- Content was written and rewritten over and over rather than reused.
- The cost of creative services was growing exponentially, and they often had to make the decision to not produce print materials for some products because they couldn’t afford it.

Goals and objectives. The following were their goals and objectives:
- Do more with the same resources.
- Develop standard core information products so it is easy to rapidly create new content rather than redesigning each time.
- Develop a repeatable reuse strategy to reduce the workload and reduce the cost of translation.

- Make it possible to easily reskin content for multiple sites giving it a product look-and-feel while retaining common structures.
- Reduce the cost of translation.
- Reduce the cost of creative services.

The solution. We determined that the Darwin Information Typing Architecture (DITA) [11] was appropriate for the content development. With DITA – an XML-based, end-to-end architecture for authoring, producing and delivering technical information – we could create structured, modular, reusable content [12] that could be automatically adapted to each of the desired outputs (print, web, mobile). It also provided a strong support for translation. While a component content management system was desirable, it was not in the budget.

A core-messaging document was created. Each of the messages within the core document was saved as a separate component, making it possible to rapidly update a single component as necessary. Content was distributed through workflow. Every action on content was tracked (recipients, version, changes and translation). At every point in the lifecycle content was controlled.

Creative services provided traditional well-styled publishing tool templates, and an XSLT [13] (XML stylesheet) was designed to map the DITA to importable XML recognized by the publishing tools. Approved content was automatically pushed through the templates (no designer was required). Final layout tweaks were sometimes necessary, but as automation was optimized this intervention occurred less often.

Project success. The team was able to develop and publish content in a marketing campaign 25% faster than they could before. They reduced their creative costs by 60% and their translation costs by 25%.

Challenges. Marketing was adverse to structure, feeling that it limited their creativity and made all messaging bland and uniform. In addition, XML scared them. We made sure that the XML was under-the-covers by selecting a friendly authoring tool. As far as they were concerned they were working in their familiar authoring environment. However, they had to use defined styles rather than hand-formatting the content in order to publish automatically
to multiple output types (a Word/printed file, a presentation or on the web). They quickly realized the styles didn’t reduce their creativity but rather helped them save time and minimize mistakes. We also showed them how to create variants on the standard message for specific customer positioning while using the core messaging as a source.

**Case Study: Design of a New Aircraft**

**The business problem.** In setting out to design a completely new aircraft, an airplane manufacturer realized that they were faced with both an opportunity and a challenge. The global marketplace for aircraft was changing rapidly, and radically new design concepts were required. This business environment meant that the very latest in design technologies and manufacturing techniques would be needed. The content sources existed in a number of different formats, ranging from proprietary databases, arcane desktop publishing files and even custom data structures with their own unique, dedicated compilers. The sources were shared across many aircraft fleets, encompassing both military and civilian variants. Some were even shared with competitors. They would need to dramatically increase the level of intelligence exhibited by a bewildering volume of content sources in order to succeed.

**Goals and objectives.** What was needed was an intelligent content strategy that would establish the authoritative source for all content assets and that would set out a sustainable approach to managing these sources so that they could be used by a massive array of consuming applications.

**The solution.** The intelligent content strategy needed to accommodate what was termed a *multidimensional content architecture* where content assets would be managed in a way that would simultaneously support many different standards. This goal was accomplished by deploying an extensibility framework based on the DITA.

Once in DITA, the content sources would be pulled into the three-dimensional design modeling environments, into the part selection applications and into the manufacturing control tools. In all of these environments, applications and tools would be operated by different suppliers working in various locations around the world and using software products provided by many different vendors. A sophisticated content-sharing architecture was established where content was dynamically accessed, modified, augmented and monitored across this global network of collaborators. Driving the sophistication of the architecture were considerations such as security, with the entire program operating under strict export controls, and performance, as necessitated by the fact that the design and manufacturing tasks needed to be coordinated on a near real-time basis.

**Project success.** Leveraging the new level of content intelligence they were able to move ahead with their design innovation goals while at the same time ensuring that the rich design knowledge available within historical repositories could be leveraged. They were able not only to maintain the required levels of control and oversight, but to take them to an even higher level. One of the benefits associated with content intelligence is the ability to apply very precise analytics to every step in the content lifecycle.

The types of aircraft that can be designed and manufactured using an intelligent content strategy are fundamentally superior to anything that has come before. The aircraft being produced are safer, more maintainable and much more economical to operate. And future aircraft design projects will have the benefit of starting from a far more intelligent content repository of historical knowledge and regulatory guidance.

**Challenges.** Finding the authoritative source for any given element of content was far harder than we expected, and once identified, the authoritative content sources were found to exist in a wide range of proprietary formats. Establishing reliable and cost-effective ways to extract the content sources from these legacy formats and to enrich them with the necessary intelligence proved to be a challenge. A number of technologies and techniques were introduced to overcome these obstacles. Authors and editors were also going to need specialized tools to handle these complex structures efficiently and effectively.

At the end of the project, one of the lead developers working on the solution confessed something to the client: “I have to tell you that many parts of this project were really difficult.” A senior technical representative from the client organization did not hesitate with his answer. “That’s OK, we thought it was impossible.”
Developing the Intelligent Content Strategy

**Content models.** The information modeling process [14] forces you to consider all information requirements (either for a specific project or within an entire organization) and to assess what information is available to fulfill those requirements. In an intelligent content strategy, the information model reflects the semantic structure of your information both at the information product level (for example, brochure) and at the element level (for example, value proposition).

**Reuse strategy.** A reuse strategy identifies what types of content will be reused, the level of granularity, how the content will be reused and how to support authors in easily and effectively reusing it. Your strategy will depend upon your goals, your content, your authors and your selected technology.

**Taxonomy strategy.** The taxonomy strategy enables you to intelligently store and retrieve your content based on a common vocabulary and shared metadata. In addition to traditional metadata for information storage and retrieval, it is important to develop metadata to define the delivery channel (print, web, wireless), the method of filtering the content (product, customer segment/audience, region, product version) and the final information product (brochure, web, eBook).

**Creating intelligent processes (workflow).** An intelligent content strategy also involves people and intelligent (collaborative) processes. Collaboration ensures that the content elements are consistent and can be reused wherever they’re required. Processes should be redesigned to match the intelligent content strategy and support the way the authors work. Workflow can be used to support these processes.

**Implementing your strategy: The role of XML.** Everywhere you go, you hear about the use of XML. XML is being used on the web, in rich media and for content. While you don’t have to use XML for your content, XML really helps make your content intelligent. Traditional office documents are simply files, and you have no access to the content because content is unstructured.

**DITA.** DITA, which has been mentioned above, is being adopted faster than any other XML standard today. It is an open content standard that defines a common content structure that promotes the consistent creation, sharing and reuse of content. DITA is supported by Organization for the Advancement of Structured Information Standards (OASIS) [15]. It was originally developed for technical documentation but it is now being adopted for business documents and pharmaceutical materials. It is also being used for eBooks.

**DocBook.** DocBook [16] has been around for almost 20 years. It began to lose ground with the advent of DITA, but the eBook revolution has revived it. Like DITA, it was originally developed for the technical documentation industry, but it was also adopted by organizations managing large volumes of content and the journal publishing industry. Business documents can be converted to DocBook relatively easily. The DocBook content can then be converted to EPUB [17], a standard promoted by the International Digital Publishing Forum for reflowable electronic books. DocBook does not support reuse as effectively as DITA, but it does provide a simpler conversion path from traditional business documents to XML.

**The power of XML for delivery.** When it comes to delivering content, XML gives us a very wide range of options. In fact, part of the rationale for XML was to liberate content owners from being limited to providing only one or two delivery formats. Once content is encoded with XML, its intelligence can be leveraged by automated publishing processes that can be put into place, and continuously refined, so that all of the output formats that the customers need can be produced with the push of a button. With the steady advances in the level of XML awareness in mainstream software applications and infrastructure components, it is becoming increasingly common for delivery processes to simply package XML-encoded content so that these tools can provide minute-by-minute views of the content.

**Writing in XML.** When the discussion turns to XML for content, there is often the concern about complexity. Certainly in the early days of XML, authors had to work with codes to tag the content, much in the same way early word processors forced the writer to display and use formatting codes as they created content, but author tagging is not necessary any more. XML can be hidden, providing a Word-like interface, or authors can even work in...
Word with structured authoring supported by Word styles that are mapped to XML structure. XML does not need to be intimidating.

**Technology.** An effective strategy begins at the design stage, works through the authoring stage, ends at the delivery stage and is continually revisited to ensure it continues to meet the needs of authors, content and customers. When implementing your strategy, you need to assess how authoring, content management and delivery tools will help to support your intelligent content strategy.

**Authoring.** Before content can be managed, manipulated or reused, it must be created. To support an intelligent content strategy, content must be written so that it can be structured and reused according to the content life cycle. When evaluating authoring tools, give serious consideration to whether you should maintain your traditional authoring tools or move to XML.

**Content management systems.** Intelligent content needs an XML-aware system like a component content management system (CCMS) [18]. CCMS manage content at a granular (component) level of content, rather than at the page or document level. Each component represents a single topic, concept or asset (such as an image or table). Components are assembled into multiple content assemblies (content types) and can be viewed as components or as traditional pages or documents. Each component has its own lifecycle (owner, version, approval, use) and can be tracked individually or as part of an assembly.

**Delivery.** Delivery systems have many different capabilities. The content management system may have built-in facilities for delivering content, or you may have to integrate a delivery system with your content management system. Some delivery systems will enable you to deliver to a variety of outputs such as web, HTML, PDF, mobile or eBook while others may be restricted to a single output. Determine your delivery requirements, and see if your content management system will support them. And if you see an opportunity to deliver your content in a new way, you always know that, with your content in XML, you can add a new delivery option at any time. Perhaps you might add a new third-party component to your CMS or perhaps develop a new publishing process yourself to do exactly what you need.

**Closing Thoughts**

With the speed of change occurring in all industries and with the rate with which new devices for content consumption and interaction are proliferating, enterprises must consider seriously how they are going to make their content more intelligent and how they are going to continuously improve the information products they produce. We need only look at the dramatic change in the publishing industry to see how the business can be imperiled by having content locked into old formats and technologies. An intelligent content strategy is adaptable to the changes you will face today and in the future.

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**Resources Mentioned in the Article**


Resources Mentioned in the Article, cont.


Where’s Your Next Great Idea Coming From? Interdisciplinarity, Innovation and InfoCamp
by Cortney Leach

Autumn: time to head back to campus, to enjoy the finest weather the Pacific Northwest has to offer and to rev up for InfoCamp, Seattle’s favorite unconference for the information community. Okay, it’s not only Seattle’s favorite unconference; it’s my favorite unconference. Allow me to explain.

As a student, it’s my job to be a sponge. A contributing sponge, but a sponge nonetheless. And in my pursuit of sponging up good and useful insights I’ve found nothing has been more good or useful than casting a wide net. Because where do ideas come from? The answer: everywhere but you. At least that’s what one wise professor has told me, and I’m convinced of its validity. Where’s your next great idea coming from? Probably from someone or something you have yet to consider.

As a student, following this edict means constantly finding new ways to feel uncomfortable. It means taking an HCI seminar when you have a background in comparative literature; it means taking advanced classification theory and programming if you want to be a stellar public librarian. It means getting outside of your comfort zone when while you simultaneously try to gain expertise in a particular academic niche.

This isn’t easy. It’s time consuming. And it requires playing the role of the neophyte over… and over, which isn’t necessarily fun. And this effort is only in the context of graduate school – the pressures that prevent us from exploring the rich and confusing landscape in which our concerns play out only increase in the professional world. But pushing at the borders of our subject niche will not only stave off dreaded mental decline; it makes us better at what we do. I recently read that adaptive challenges as simple as brushing our teeth with the non-dominant hand help mental acuity.

Most of the problems we confront as students and professionals are diffuse, messy and occasionally wicked. Of course they are! Otherwise we’d have them in check by now, presumably. So if we choose to tackle global warming with multidisciplinary teams, why not do the same when it comes to choosing an ILS, developing metadata schemas or discerning how best to serve stakeholders? Maybe these potential teams are not in your office with you, but valuable outsiders are out there. And interacting with them may help, nay force, you to frame your questions differently. Voltaire asked us to judge a man by the content of his questions rather than his answers – and if there’s a way to form better questions it’s by sifting them through the mental filters of folks who are not the usual suspects.

It has been proven that having a diverse workforce isn’t just the right thing to do; breadth of background and perspective is associated with increased profits. We know open source systems are deeply valuable because they facilitate exposure to the multi-faceted hive mind, leading to advances such as those we’ve seen recently in Alzheimer’s research [1]. So it follows that we, as individuals, would benefit from living (within reason – don’t stop using those Facebook filters!) a bit like an open source system.

And that brings me one prime example of how we can set the stage for innovation: the InfoCamp phenomenon. I choose to call it a phenomenon because I think InfoCamp isn’t only an exhilarating event, but a framework for thinking about how innovation happens that we can carry beyond the conference walls. As you may know, InfoCamp is an unconference for the
information community, featuring an egalitarian, community-driven format in which most presentations are designed and delivered by participants. Starting in Seattle, it has spread to Berlin and Berkeley with Boise and Portland currently in the works. And there’s a reason folks get InfoCamp fever – the format and community-driven nature promotes a rare level of cross-pollination and sector-bridging collaboration.

A sample of InfoCamp Seattle session topics since its inception in 2007:

- WTF is Content Strategy?
- Reality for the Library: What High Tech Looks Like in Public Library Practice
- How to Incentivize Knowledge Sharing when Culture Benefits Aren’t Clear
- Geoinformatics: Why You Need the Science, Why the Scientists Need You
- Web of the Physical World: Impact of Worldwide Instrumentation of Devices in Everyday Life
- WikiLeaks: Information Between Legal Borders
- iPhone Dev and Design for Non-programmers
- Applying Permaculture Garden Design Principles to Social Applications & Interactive Sites
- Data as Journalism

Compelling, yes? The best part: these topics were discussed in rooms containing the active brains of folks from all corners of the information world: academics and practitioners, programmers and public librarians, private sector UX designers and public sector managers. I’m not sure if this mix happens anywhere else.

I know that dabbling in HCI design theory has helped me come up with better public policy options; those ideating tools can be directly applied to the process of muddling through complex problems faced by governments and non-profit agencies. How will another sector’s practices help you to tackle your challenges?

Please, the world needs you to get uncomfortable, share, question presumptions and ask your neighbor how her group approaches their top challenges. Go InfoCamping. And encourage your students and colleagues to do the same. You might just come up with your next great idea. You’ll have to excuse me now – I need to get back to using behavioral science research techniques to communicate the value of public library story times.

Editor’s Note: Cortney Leach was the 2010 Student Member of the Bulletin Advisory Board. The chapter (or chapters) of the Student Chapter-of-the-Year award winner(s) selects a student to serve on the board.
As a Washington, D.C., resident, I often begin my morning reading the Washington Post. Today, I spotted a quote from a disenfranchised citizen. “Government seems disconnected,” the paper reported. “It doesn’t seem to address the people.” Here’s some good news. News about hope and change.

**President Signs Plain Writing Act**

In late September, the 111th Congress passed the Plain Writing Act of 2010. The purpose of this act is to improve the effectiveness of federal agencies and their accountability to the public by promoting clear communication that we can all understand and use. The President signed this act into law on October 13.

The act does not provide for enforcement, so perhaps we can only hope the government promotes clear communication. But I envision more. I suggest that hope is inherent in how the legislation defines plain writing. It says, “The term plain writing means writing that is clear, concise, well-organized and follows other best practices appropriate to the subject or field and intended audience.” I see hope for users of government documents.

**Why This Matters to Us**

This focus on crafting writing so that it is appropriate to the subject, field and intended audience is central to our work as information architects, content strategists and writers. We consider the material that best meets the needs of our audience. We analyze the language of the field and how different audiences respond to labels. We offer hope for users of government documents who want to understand choices, do what they want to do and get on with the rest of their lives.

**What This Means for Citizens**

The act creates change because it encourages government writers to think differently about their content and direct information toward their readers. It’s a shift – a major shift. In my 15 years of teaching government writers how to shape content, I am always delighted by the “aha” moment – that shift when writers recognize the “someone” they are writing for. “I get it,” they say to me. “The doctor really won’t want to sit and read the fraud manual from front to back. I’ll tell you what I understand now,” they tell me. “I now envision someone wanting to get a job done. I now see my job as helping them.”

Helping others – that’s the work we do. With the Plain Writing Act of 2010, government writers now have a legally recommended structure for addressing citizens and asking, “How can I help you see connections?” We have a vehicle for creating change.