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Next Generation E-content Integration: If You're Not Open, You're Not Integrating

Mark Johnson

HighWire Press, mjohnson@highwire.stanford.edu

Anh Bui

HighWire Press, anhbui@stanford.edu

Helen Szigeti

HighWire Press, hszigeti@stanford.edu

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Perhaps the best example here came from our experience building **EDS** to maximize the value that end users get from book-related information. When we added catalogs to **EBSCO Discovery Service**, we had to ensure that all catalog content, and book information in particular, was highly accessible and optimally presented to users. For example, on the detailed record for a catalog item, we show the following important widgets — *Other Books by this Author*, *Related Books*, *Reviews of this Book*, and soon-to-be-released *Other Editions and Formats* — bringing all the institution's book information together in one integrated cohesive view. eBooks will fit seamlessly into this view and will automatically have equivalent widgets.

In the end, we had undertaken the largest development project that our company had ever executed. We extended an already fully-featured platform that allowed eBooks to be found using the same tools and within the same site as many students were accustomed to using for their research. We are eager to see eBook usage and awareness increase, and for libraries to be able to get greater value out of their eBook investments. 🌱

Endnotes

1. *Library Use of E-books*, 2008-09 Edition, **Primary Research Group Inc.**, 2008, ISBN #: 1-57440-101-7
2. *Library Use of E-books*, 2011 Edition, **Primary Research Group Inc.**, 2010, ISBN #: 1-57440-157-2.
3. *THE SURVEY OF AMERICAN COLLEGE STUDENTS: Student Use of Library E-book Collections*, **Primary Research Group Inc.**, 2009, ISBN #: 1-57440-113-0.
4. **Emanuel, Jenny**, and **M. Kathleen Kern**. 2009. "Next Generation Catalogs: What Do They Do and Why Should We Care?." *Reference & User Services Quarterly* 49, no. 2: 117-120. *Library, Information Science & Technology Abstracts with Full Text*, **EBSCOhost** (accessed July 13, 2011).
5. **Connaway, Lynn Silipigni**, **Timothy J. Dickey**, and **Marie L. Radford**. 2011. "If It Is Too Inconvenient, I'm Not Going After It.: Convenience as a Critical Factor in Information-seeking Behaviors." *Library and Information Science Research*, 33: 179-190. doi:10.1016/j.lisr.2010.12.002 Pre-print available online at: <http://www.oclc.org/research/publications/library/2011/connaway-lisr.pdf>.
6. **Michael Jensen** and **William Meckling** published "The Nature of Man" in 1994, where they discuss the "Resourceful, Evaluative, Maximizers Model." http://papers.ssrn.com/sol3/papers.cfm?abstract_id=5471

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by **Mark Johnson** (HighWire Press) <mjohnson@highwire.stanford.edu>

and **Anh Bui** (HighWire Press) <anhbui@stanford.edu>

and **Helen Szigeti** (HighWire Press) <hszigeti@stanford.edu>

I. Non-Traditional Information, User Workflows, and Supplier Choice in Open Platform Solutions

Ask a researcher, scholar, society member, or student what "e-content integration" means to him/her and chances are you will receive one of two responses: a quizzical look indicating that your information industry jargon has no meaning in his/her world, or a general statement about "getting the information I need when I need it the way I want it." The latter response is the more useful, of course, because it tells us something about the nature of e-content integration, namely: a) that it involves integrating more than "content" in the traditional sense (journals, books, databases), b) that it is only truly achievable if it is accomplished within the end user's established workflow, and c) that it depends in large part on the degree to which the technologies we employ are interoperable. Integration options are only feasible if there is the requisite technology to support it: only those technologies that are fundamentally open and interoperable — that "can play nicely together" — will be able to serve as the foundation we need. Whether we are approaching this task from a librarian or a publisher perspective, we need to collect, connect, and integrate resources — whether ones we offer ourselves or those available externally through others — around the end-user experience in ways that are more personalized, more relevant, and more targeted. As one of last year's popular **Charleston Library Conference** preconference sessions clearly illustrates, what we really mean is "e-everything integration."

At **HighWire**, our 16+ years of experience with society publishers has allowed us to see the evolution of e-content integration from its infancy (isolated journal sites connected through cited reference hyperlinking), through its adolescence (suites of inter-searchable and multi-linked journals, reference works, books, conference proceedings, and member newsletters, with extended links to external databases, platforms, and search engines) to where we are today

(the emergence of open integration platforms for co-development across boundaries). Today, societies and associations are advancing enterprise-wide strategic initiatives that assemble the full range of information resources from across their organizations. This includes the traditional content from the publishing divisions as noted above, but also encompasses layering on additional member resources, student offerings, conferences, training, jobs, and community activities, and allowing new levels of personalization and user targeting. No longer just the purview of the Society publishing division alone, e-content integration has become an organizational directive.

This means that both publishers and librarians need to embrace the three core aspects of next-generation integration: going beyond traditional content sources, moving information to the moving user (addressing both discoverability and visibility), and ensuring best-of-breed technology and service partners (supplier choice).

II. Cross-Organizational E-content Integration: The Society Publisher Approach

Going beyond traditional content sources

Societies and publishers have always been multi-divisional businesses — journals, books, indices, membership, meetings, training, standards, advocacy, outreach, etc. In the past, these divisions have been siloed, each distributing content as if its audience was segmented by type of information (e.g., training vs. journal articles) rather than topic (e.g., pediatrics vs. cardiology, or biomechanics vs. aerospace engineering) or audience or purpose. Now that all divisions have their resources available online in some fashion, for the first time societies have the opportunity to integrate that information in more meaningful ways. RSS-based dissemination of news from the membership division, podcasts and video of presentations at the Annual Meeting or related symposia, 24x7x365 online continuing education testing, and article-

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by-article “continuous publication” models for scholarly journals are some of the divisional pieces that are coming together to form a more cohesive experience for the end user while still providing new levels of serendipitous discovery.

Moving information to the moving user (addressing both discoverability and visibility)

The “moving user” is the researcher or student who starts a task on his iPad at home in the morning, continues it on his smartphone on the bus to work or class, and picks it up throughout the day on various devices in different locations (office, lab, library, class, community commons, etc.). Whether using Dropbox to read an article, an RSS feed reader to keep abreast of multiple sources of news and alerts, or Twitter to follow thought leaders (or just friends and colleagues) in a particular field, the moving user offers new challenges for society publishers wanting to keep their offerings foremost in the user’s mind.

In a competitive market for the time and attention of readers, it is important for a society to address its specific audience with the tools, services, and content that match the user workflow, and that differentiate the society from other more commoditized sources of content (government Websites and repositories, e.g.) that deliver only the basics. Putting the right information in front of — or better yet, inside of — the user’s workflow is now part of what editors and publishers need to do. This means redefining and optimizing the user experience: for example, making audio a featured medium in a speech pathology journal, offering video as a highlighted feature in a surgery journal, or ensuring that reader commentary is given high visibility in a public policy journal.

Discoverability refers to making sure that content is easily found when a user is looking for it. For society publishers, this means recognizing that although the Society-branded digital library may be a destination site for some of the people some of the time, the vast majority of the time search engines (followed by the library website for students) will be the initial point of any search. The technology platforms underlying the Society site must provide search engine optimization (SEO) and facilitate the discovery process lest they find, for example, their flagship journal suddenly un-indexed by Google.

In parallel, there is a need to facilitate visibility, which is providing needed content to the user who is not actively searching for it. For example, technology platforms need to embrace the use of RSS and APIs for content syndication (widget construction kits provided to both publishers and their readers can help enormously in this area), and to embrace a comprehensive mobile strategy including mobile apps, mobile Web, eReaders, and tablets. Although some of the most promising technology advances are still a bit in the future (such as EPUB3 as a dissemination format for scientific and scholarly eBooks) the time is now to start planning.

Ensuring best-of-breed technology and service partners

Many large societies have strong programs in several divisions, and each division is charged with delivering the maximum benefit to the society and its mission. No single package, platform, or vendor is likely to have all the features that match a strong program in each division, without compromising one division’s needs (e.g., conference management) to choose the best tools for another division (e.g., journal publishing). Each division should be able to choose the best tools for its goals, while still allowing the integration of information across program divisions. At the same time, the technologies selected need to be interoperable, or else, once again, the result will be a set of siloed resources.

That is why the selection of an open and interoperable platform to serve as the main infrastructure for a suite of tools and services is key. Where once there was a vast sea of proprietary systems, over the past few years there has been a maturing of standards within the industry (XML, Web Services, APIs, RESTful design) and an emergence of

strong open source options for Web framework and light content management systems (such as Drupal). Information industry leaders who are embracing these standards and re-architecting their platform offerings into open solutions — as HighWire has — are best poised to serve as the core infrastructure for new Society-level integration. An open platform allows different divisions’ separate best-of-breed tools to access content so that information can be widely shared, without having everything compressed to fit one document repository that serves no document types particularly well.

**III. Cross-Organizational E-content Integration:
A Society Publisher Example**

An open platform allows publishers to connect disparate content within and across platforms, to choose the vertical products and services that best fit their needs, and to manage the visibility of and user interaction with information in a way that supports the user workflow, the society mission, and the publisher business.

One example of the kind of cross-organizational integration experimentation currently in play by society publishers is the concept of the themed “mini-site.” A society in a particular discipline creates multiple subject-based mini-portals focused on targeted segments within their general member population, re-purposing content and presenting it in a way designed to reach users in a new way. A society in clinical oncology care offers a suite of portals, each focused on a particular type of cancer (melanoma, pediatric cancer, breast cancer, etc.) or a society in mechanical engineering offers mini-sites to the various subsections of their membership (manufacturing, bioengineering, energy conservation, etc.). The **American Society of Clinical Oncology** Breast Cancer Portal (<http://breast.jco.org/>) — one of the 11 ASCO “Cancer Portals” launched earlier this year — offers an example of a successful mini-site.¹ These kinds of themed sites can draw content not just from scholarly journals and traditional resources, but also from the society’s meetings/conference site, jobs board, news and community divisions. Readers discover information and services offered by the society as well as content from external resources that are pulled into the site, such as information from discipline-specific databases (such as PubMed, in the case of the ASCO sites). Information can be presented in a variety of formats including multimedia, podcasts, and video, depending on what best suits the user experience.

However, unlike traditional (and often silo-ed) destination sites, when these mini-sites are built on an open platform they have the advantage of “playing well with others.” Because of the targeted information and incorporation of new tools and content types, they catch and keep the attention of the moving user.

The quizzical looks we receive when we ask about “e-content integration” are not going to go away anytime soon (if ever). However, at least now we are starting to see examples that we can point to and say “e-content integration *like this* ...” and begin to have a true dialogue with our researchers, scholars, society members, and students.

Whether provided to increase reader interactivity, to highlight important topics, or for monetization purposes (creating new scholarly resources), the next generation of e-content integration solutions promises to open the door to a new era of experimentation, connections, and creative enterprise. 🐼

Endnotes

1. The foundational technology for the ASCO Cancer Portals is HighWire’s open platform, which leverages the HighWire all-standards-based H2O epublishing infrastructure along with the Drupal open source Web framework and content management system to create the mini-sites. Drupal is also the technology behind HighWire mobile Websites.