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## Building an e-Science Portal for Librarians: A Model for Collaboration

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### Abstract

The e-Science Portal for New England Librarians (<http://esciencelibrary.umassmed.edu>) is an openly accessible website targeted specifically for librarians working in research institutions that generate, share, store and/or use data for basic scientific research in the health, biological, and physical sciences. The portal provides links to information on e-Science, e-Science librarianship, current practices, and science disciplines. The portal's *e-Science Community* blog (<http://esciencecommunity.umassmed.edu>) serves as a bulletin and discussion forum for the latest news, upcoming events, and commentaries. While the portal was originally developed to provide e-Science information to New England Librarians, its openly accessible content is relevant to librarians interested in networked science worldwide. Content for the e-Science Portal for New England Librarians is contributed by a team of nine content

editors who are science and medical librarians from diverse New England research libraries. Each content editor identifies, annotates, and aggregates links to resources for a designated focus area of the portal and submits them to the portal's project coordinator for further review. Following this review, the project coordinator and the portal development team plan the organization and layout of the content in the relevant subject web pages of the portal. The effective collaboration among the content editors and the portal design team has been crucial to the development of an e-Science Portal that provides the essential resources and tools needed by librarians engaging in networked science. The focus of this paper is the model of collaboration adopted by the portal's design team and content editors.

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### Background

During an afternoon breakout session at the first University of Massachusetts and New England Area Librarian e-Science Symposium in April 2009, attendees brainstormed ways that practicing science and medical librarians could acquire the knowledge and tools to effectively engage in the nascent sphere of e-Science librarianship. The idea

for a centralized online resource that would provide information on e-Science, strategic planning tools for the configuration of library e-Science support services, science subjects, and a discussion forum for librarians to exchange ideas and questions arose out of this brainstorming session.

Following the symposium, the Lamar Soutter Library at the University of Massachusetts

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**Keywords:** eScience, portal, content, editors, collaboration, portal design

Medical School (UMMS), applied for and was awarded a grant from the National Network of Libraries of Medicine New England Region (NN/LM NER) to develop an e-Science portal for librarians.

One distinction of the grant proposal was the charge for a collaboration of New England science, health science, and technology library administrators and subject librarians to oversee the Portal's development and contribute content to the e-Science Portal. A precedent for this concept of inter-library collaboration on an internet project is the HealthWeb project in which seventy librarians from twelve libraries spanning eight states contributed to a virtual library of annotated health science resources (Redman et al. 1997). In planning the e-Science Portal, the Lamar Soutter Library shared the HealthWeb project's vision that a collaboration would "extend the capabilities of any single institution by building on the existing strengths and interests of cooperating institutions" (Redman et al. 1997, 326).

In July 2009, a librarian project coordinator and two library school interns were hired. Under the guidance of the Project Investigator and the Associate Director of the NN/LM NER, the project coordinator, student interns, and the library website manager were the initial members of the Portal's web development team.

One of the first steps in planning the Portal was the development of a portal needs assessment to provide the Portal development team with information about the educational backgrounds, e-Science learning needs, and preferred modes of instruction of New England science, health science, and technology librarians. The assessment was distributed to one hundred and sixty eight New England science and medical libraries and individual librarians in August and September of 2009. Creamer et al. 2011 describe the methodology and analysis of the portal needs assessment.

One of the most striking findings from the needs assessment was that roughly half of the respondents had degrees that were not in the sciences. This finding underscored the need for resources on science subjects that librarians who do not have a science background could access for introductory information and terminologies.

Another critical first step was the establishment of a portal advisory board made up of librarians from diverse New England science research libraries. Charges for this advisory board included the creation of a portal scope statement, the development of focus areas for the Portal, and selection of content editors for the Portal's editorial board. At the advisory board's kickoff meeting, board members discussed and identified the scope for the portal and established this scope statement:

"The e-Science portal is a resource for librarians to learn about and discuss:

- e-Science and its impact on librarianship
- domain sciences that use e-Science techniques

The portal is designed for librarians working in research organizations that generate, share, store and/or use data for basic scientific research in the health, biological, and physical sciences. Bringing together resources on education, outreach and collaboration, current practices and e-science news—the portal provides librarians with the tools, knowledge and skills to effectively participate in networked science" (e-Science Portal for New England Librarians, 2011).

Along with the creation of this scope statement, the advisory board identified four key focus areas for the Portal's content: News/events, current practices, education, and virtual community.

During a subsequent meeting, the advisory board discussed these four main key focus areas in more depth and planned the scope and range of topics for each focus area. Further planning by the portal development team resulted in further delineation of topics

and headings for each focus area:

- About e-Science: data and the research process, cyberinfrastructure, government and institutional policies, scholarly communications.
- e-Science and Libraries: Library roles, research support services, data literacy instruction, education
- Current projects: e-Science library initiatives and practices, both in New England and nationally that serve as models of current practices
- News/events: dynamic content on upcoming classes, workshops, conferences, job postings, and hot topics related to e-Science
- Science primers: geared at a level that librarians with little or no science background would be able to understand, links to online textbooks, courses, glossaries, primers and tutorials
- About the portal: Description, scope statement, portal personnel, selection criteria

The portal development team planned the integration of blog tools on the portal so that users could post questions and exchange ideas and gradually foster the development of a virtual community of librarians interested in e-Science.

The advisory board members recommended specific New England librarians who were subject specialists on topics within the focus areas to serve as content editors. Invitations were sent, and within a few months the editorial board was populated with eight science and medical librarian content editors. Each content editor was charged with selecting, aggregating, annotating, and submitting links to resources for a specific focus area in the Portal. The poster "Building an e-Science Portal for Librarians: A Model of Collabora-

tion" illustrates the collaborative work processes among the content editors, project coordinator, and the website manager in populating the e-Science Portal with resources (Kafel et al. 2011).

### **Selection Criteria**

Early on in the process of content selection for the Portal, the portal coordinator and the content editors noted a need for selection criteria to guide them in identifying authoritative, accurate, current, and openly accessible resources with functional link. Once these criteria were established, the content editors found it easier to gauge appropriate content for the Portal. (e-Science Portal for New England Librarians, 2011).

### **Coordinating Content Submission**

The general work flow for selecting, annotating, aggregating, and submitting content for the Portal can be described in the following steps:

#### *Content Editor's Activities:*

1. Identifies and selects resource (majority of resources on the portal are digital)
2. Notes title, date, and URL of resource
3. Writes brief 1-2 sentence annotation describing content
4. Submits annotated resource via e-mail to portal coordinator

#### *Project Coordinator's Role:*

1. Reviews resource and annotation, noting its relevance to the scope of the Portal, ease of navigation, currency, and source
2. If project coordinator accepts content, she forwards content to the portal website manager. If there is some question about the relevance or quality of content, she discusses it further with content editor and occasionally the portal development team.

The project coordinator provides instructions to the website manager regarding the placement of each resource on the Portal

3. Meets regularly with portal development team to plan Portal structure, design, navigation tools, and organization of content on web pages

*Portal Site Manager's Role:*

1. Meets regularly with project coordinator and librarian design consultants to plan structure of Portal
2. Develops portal site using Drupal, an open source content management platform
3. Receives content for Portal web pages from project coordinator and posts it on the Portal as directed by project coordinator

**e-Science Community**

e-Science Community is the Portal blog. The co-editors of e-Science Community meet with the portal design team to plan the blog's structure, design, guidelines for posts, and blog posting schedule for guest contributors. The blog is intended to serve as a bulletin board with postings of upcoming events, classes, job opportunities, and weekly commentaries from guest contributors. During this first year of the Portal launch, members of the Portal's advisory and editorial boards have been alternating writing blog postings on a weekly basis. The blog co-editors review the submissions of user comments, remove spam, and forward any relevant comments to the portal coordinator. One content editor submits postings about news/events and e-science "hot topics" to the portal coordinator for posting on the e-Science Community.

**Conclusion**

During the early stages of the project, the establishment of guidelines and an efficient work flow among the members of the portal team and content editors evolved by trial and error. Coordinating collaborative projects involving participants from multiple external organizations is challenging. The libraries where the portal editors work are scattered across a broad geographic area and each editor juggles her time on content selection alongside the demands of her normal workload. While the project coordinator was able to make a few initial visits to some of the content editors at their libraries, most meetings were by phone, or at regional conferences that the editors were attending.

One editor noted that she felt like she was in a "silo", not knowing what types of content her fellow editors were collecting when she first began searching for content on her delegated science subjects. She suggested to the portal coordinator that all contributed content be posted on a project wiki so that each editor could get a sense of what the other editors were submitting. This was subsequently done and content editors found it to be helpful.

The advisory and editorial boards meet jointly every few months to review the progression of the Portal and recommend next steps. Key to the success of this team effort is the dedication and passion for promoting e-Science librarianship that each board member has demonstrated. The effective collaboration among the content editors, advisory board, and portal development team has been crucial to the development of an e-Science Portal that provides essential resources and tools needed by librarians engaging in networked science.

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