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Report on eLibrary@UBC 4

Research, Collaboration and the Digital Library - Visions for 2010

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For the past four years, the main library at University of British Columbia (UBC) has held symposiums "to promote awareness and discussion of the kinds of opportunities presented by the evolution of a university-based research library, as collections and services become more digital and network-oriented." The annual events have been called eLibrary Symposiums. The Fourth eLibrary Symposium at UBC was held on November 14 - 15, 2002.

This year's symposium explored future directions toward making the university research library an active participant in a research program to deliver new, collaborative services and study the impact of those services on a diverse, learning and research-oriented university community. It was intended that this year's meeting would seed a broad, multi-disciplinary research program at UBC and initiate a coalition of such projects across Canada.

To that end, we invited two prominent speakers (Clifford Lynch from the Coalition for Networked Information [1], and Douglas Engelbart [2], one of the most significant innovators in the history of computing) to present their visions for networked university research libraries. We also organized two panels and a half-day workshop to explore and discuss the various possibilities on the topic of multi-disciplinary university research libraries.

The meeting was Webcast live, and archives of the keynote addresses and notes from the presenters are available at the meeting website [3].

Clifford Lynch was the first keynote speaker and he provided a broad overview on the relationships among digital libraries, collaboration, scholarship and scholarly communication. He began by discussing the relationship between digital libraries and traditional libraries and stressed that digital technologies open up significant new possibilities for transforming libraries from passive to active entities. His view is that transformation can be accomplished by refocusing on the traditional activities of storage, preservation, and dissemination of knowledge to find new ways that these services could be done that would result in turning libraries into "collaboratories".

He then discussed the impact that this kind of evolution can have on the many and diverse communities within a university and suggested possibilities for new kinds of community building.

One of the most promising possibilities now being explored is that presented by the recent interest in "institutional repositories", exemplified by the DSpace Project [4] at the Massachusetts Institute of Technology (MIT) in the US. Lynch stressed the important possibilities that DSpace and other similar efforts present for forming a core resource around which more active, integrated services could be offered. He closed by referring to the NSF's Blue Ribbon Advisory Panel on Cyber-infrastructure [5], and the panel's recommendations to view scientific data as a community resource and to have it properly integrated with the literature. This report also highlights the need to better understand how scholarly communication in both science and the humanities is evolving and how libraries can be at the forefront of this evolution.

Cliff Lynch's speech was followed by a panel featuring reports of two ongoing digital library projects involving UBC researchers and their visions for the future of these projects.

The first of these project reports, presented by Dawn Mills and Marek Hatala, concerned the development of a highly interactive digital library about the Delgam'Uukw trial, a court case that forms one of the most significant legal precedents on native land claims in modern Canadian history (a sample of some of this material prepared by the Assembly of First Nations is available at [6]). Mills and Hatala concentrated on presenting the difficulties they faced while organizing information from the trial transcripts and supporting documentation (including oral histories accepted as evidence). They also spoke about continuing research on the case in Anthropology, Law, History and Geography. They discussed community issues, ontology development, and delivery strategies as well as the promise of new, semantic Web technologies and work on ontologies to allow this collection to adequately serve disparate communities that might be aided by knowledge of the trial.

Sonia Talwar presented the second report. She spoke about the Digital Library Project [7] in the Sustainable Development Research Institute at UBC [8]. This project has created a number of tools to aid both researchers and community members to explore and understand issues related to the sustainable development of the Georgia Basin area of British Columbia. Talwar provided information about two project tools: QUEST, a web-based simulator for examining competing development goals and planning in future scenarios; and GBExplorer, a geospatially-organized interface to a digital library that allows community residents to interact with each other and with researchers to explore local development issues. She discussed the challenges and opportunities in delivering research results to local communities in this fashion and the need to provide transparent, situated, human-oriented services that reflect community needs and concerns.

The afternoon session on November 14 started with a presentation by the second special invited speaker, Douglas C. Engelbart. He summarized the conclusions he reached during his 50 years of research towards "Augmenting Human Intellect" through the development of network-oriented computer technologies for capturing, organizing and exploiting human knowledge. In 1959, he first noticed that the nature and scale of modern problems had become so great that no individual could hope to grasp all the complexities of those problems, let alone propose informed solutions. Therefore, he began a research program to focus on community-based solutions that bring together tools for managing media, portrayal, study, manipulation, retrieval, computation and communication in integrated environments and to match these tools to human systems. Engelbart observed that while many aspects of the needed tools are now available for mainstream use, they are rarely integrated or properly matched to the human systems they are intended to serve.

Engelbart then described the concept of co-evolution in which evolvable technologies matched to human systems are deployed and studied in order to understand how they change human environments. Since the tools necessarily affect the communities in which they are deployed and these changes are reflected in the evolution of tools, co-evolution of the human system and the tool system is inevitable and must be understood and cultivated. He argued that this insight and the scaling of his capability models for the tool systems and the human systems from small organizations to transnational environments have demonstrated the significance of the capability

model, as well as the need for managed co-evolution at all organizational levels. Engelbart next introduced his model of Dynamic Knowledge Repositories (DKRs) and their relationship to active models of digital libraries. He stressed the need for coordination and "concurrency" of overlapping knowledge resources within these DKRs. He concluded by presenting a vision for the concurrent evolution of these small scale DKRs and the sharing of high-level knowledge about the improvement of capability within these communities to form larger "Improvement Communities". The consequent sharing of knowledge of these Improvement Communities would further evolve to form "Networked Improvement Communities" (NICs).

The afternoon panel on November 14 focused on articulating and exploring models for future digital libraries. The first presentation was by Terry Eastwood of the UBC School of Library and Archival Studies, who described the InterPARES Project [9] for the long-term preservation of electronic records. Eastwood summarized the findings of the first phase of the project, which examined the issues of authenticity and preservation of inactive electronic records (i.e., those no longer needed for day-to-day business by their originating bodies). He also described work planned for the second phase of the project, which will expand the project focus to include reliability and accuracy of electronic records throughout their life cycle in a much wider variety of activities. Eastwood shared information about some of the major findings from phase one of InterPARES, relating to authenticity and trust, selection for preservation, long-term issues, and policies, strategies and standards. He referred the audience to the published project report [10] for more detailed information. Eastwood closed by describing some of the new challenges presented by the expansion of scope in phase two of the project.

The second presenter was Lee Iverson of UBC's Department of Electrical and Computer Engineering. He described a proposed model for organizing research in community-oriented services for future digital libraries. Iverson suggested that current libraries use the concept of community to organize collections and services but concentrate primarily on service-delivery models directed towards individuals as members of communities. He said that this delivery model maps well to a traditional, passive library, but it doesn't map to the kinds of future services useful to a scholarly community actively producing, filtering and validating knowledge. Iverson said that since these activities are community activities, a research library must consider collaboration and community services as part of an evolving family of services. He suggested that what is needed is a model combining personalization services (e.g., an online research carrel) with shared knowledge services (e.g., community ontology and document-centered knowledge-sharing tools) to present an online scholars portal. Iverson closed by demonstrating the wide range of research areas needed to manage the co-evolution of these technologies and the university environment in which they would be deployed, thus emphasizing the broad multi-disciplinarity of any such effort.

Discussions following the talks by Lynch and Engelbart and the panel presentations, as well as the workshop that followed on November 15, explored issues raised as well as the many different research topics that will need to be addressed by a collaborative institutional repository integrated with a research library's collections.

At UBC, we have now started to build the kind of Improvement Community Engelbart proposed. We are developing a community vision along with research plans to achieve that vision.

As we seek to follow up on this promising beginning, we invite participation from interested parties, especially within Canada. For further information or to share ideas you might have on this subject, please contact, Lee Iverson <leei@ece.ubc.ca> or Brian Owen <lbri@frizzel.library.ubc.ca> at the University of British Columbia.

References

[1] Clifford Lynch, Coalition for Networked Information,

<http://www.cni.org/staff/clifford_index.html>.

[2] Douglas C. Engelbart, Bootstrap Alliance, <http://www.bootstrap.org/engelbart/index.jsp>.

[3] "eLibrary@UBC 4: Research, Collaboration and the Digital Library: Visions for 2010" <http://www.library.ubc.ca/home/elibrary/welcome.html>.

[4] "The DSpace Project", <http://dspace.org>.

[5] "Revolutionizing Science and Engineering through Cyber-infrastructure: Report of the NSF Blue-Ribbon Advisory Panel on Cyber-infrastructure", <https://worktools.si.umich.edu/workspaces/datkins/001.nsf>.

[6] "The Delgamuukw/Gisday'wa National Process", <http://www.delgamuukw.org>.

[7] "The Georgia Basin Digital Library Project", <http://www.georgiabasin.info/>.

[8] "Sustainable Development Research Institute", <http://www.sdri.ubc.ca>.

[9] "The InterPARES Project", <http://www.interpares.org>.

[10] "The Long-term Preservation of Authentic Electronic Records: Findings of the InterPARES Project" <http://www.interpares.org/book/index.htm>.

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