DAVID LINDAHL

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Strategic leader | Computer Scientist | Faculty Librarian IV
Design-research methodology | Collaboration | Outcomes-focused assessment

Objective:

To apply my experience with strategic, outcomes-focused organizational leadership, innovative library technology development, and design-research methods in a role that challenges me to lead and engage with people, to uncover unmet user needs, and to collaboratively and rationally design products and solutions to meet those needs. My approach to leadership places value on diverse collaboration, accountability, learning, rational decision-making processes, innovative infrastructure, authentic communication, and trust.

Innovative leader: envisioning, co-designing, executing

Over the past 24 years, I have worked in public and private higher education institutions and for-profit corporate research organizations as well as founding and securing funding for a not-for-profit open-source software startup. This experience includes managing and coordinating the efforts of cross-organizational teams, engaging in multi-disciplinary collaboration, co-designing innovative technologies, and fostering robust organizational practice.

Leadership experience

- **Organizational strategy** theory and practice with emphasis on adaptive and interpretive strategy, culture change, authentic communication, and applied research.
- **Project management,** including planning, tracking, and oversight.
- **Assessment and outcomes-based** program design.
- **Fundraising** through grant writing and partnerships totaling $3 million.
- **Presentations** at the Library of Congress, National Library of Australia, CNI Task Force, and many more.

Technology and design experience

- Community driven open-source **software architecture** and design for scalable, interoperable, modular and standards-based systems.
- **Applied, user-centered design-research methods** including in-context observation, interview, cultural probe, design charrette, participatory design, and work practice study.
- Academic **library technology design** including institutional repository, faceted search interface, metadata transformation platform (RDA, FRBR, MARC, linked data), and discovery system.
- Contributor to widely used library **technology standards** including ODI and NCIP from NISO, and the RDA standard from the Library of Congress.
- **User interface patent** for a browser-based image search and retrieval tool.

PROFESSIONAL EXPERIENCE

Director of Strategic Initiatives and Planning   **2013-Present**
University Libraries, University of Missouri-Kansas City   Kansas City, MO

- **Director** of the Information Technology and Strategy Division which includes the User Centered Design department (4.2 FTE), the Libraries Technology Office (2 FTE), and the University Libraries' strategic planning efforts.
- **Strategic Leadership:** Collaboratively developed strategies, and introduced policies, processes, technology, training, and competencies to enable the organization to set and achieve goals that align with user outcomes, stakeholder interests and university strategic goals.
    - o **Conducted** interviews with 67 library staff and faculty members to gather insight into the organizational culture.
    - o **Led** the Student Library Advisory Council to gather student input.
    - o **Implemented collaborative strategic planning activities** to develop mission, vision, values, goals and initiatives including a director's retreat.
    - o **Selected and implemented an outcomes model for assessment:** Developed a Blackboard course for Outcomes Based Planning and Evaluation (OBPE) based on the shapingoutcomes.org course from IUPUI. Created a new Outcomes and Assessment Librarian position to focus on staff training and an outcomes focused culture of assessment.
    - o **Implemented** web-based work planning and tracking software (JIRA) across many library departments to improve project and work management.
    - o **Implemented** team collaboration software (Confluence) across all library departments to support project planning, communication, iterative design, requirements management, and institutional memory for project work.
- **Design Research:** Co-lead on a photo-elicitation and interview based study of music and dance conservatory students to inform the planning for UMKC's new Downtown Campus for the Arts.

Co-Executive Director and CTO, eXtensible Catalog Organization, LLC   2007 - 2013
University of Rochester   Rochester, NY
- **Lead and conduct software design and development activities** for eXtensible Catalog, a suite of open source, user-centered software applications for academic libraries and consortia. XC incorporates a discovery layer on Drupal together with a Java-based metadata management server and standards-based ILS connectivity tools (http://eXtensibleCatalog.org). Each of the four applications has a modular, plug-in architecture. Communication among applications is standards based. XC has had broad influence, for example on standards efforts and on LC's decision to move forward with RDA implementation, and has been implemented in Spain and Japan and by the CARLI consortium in Illinois.
    - o **XC Drupal Toolkit**: Faceted search interface for end-users that integrates with academic library systems. XC was the first fully production-ready demonstration of the FRBR (Functional Requirements for Bibliographic Records) data model and RDA (Resource Description and Access) metadata schema. XC Implementation Examples:
        - ▪ Single Point of Consultation of the Libraries of the General State Administration (Spain) http://pcu.bage.es/
        - ▪ Kyushu University Library http://catalog.lib.kyushu-u.ac.jp/xc/search
        - ▪ Fukuoka University Library http://nlopac.lib.fukuoka-u.ac.jp/en/xc/search
        - ▪ Kanazawa University Library OPAC plus http://www1.lib.kanazawa-u.ac.jp/en
        - ▪ Thailand Cyber University/Asia Institute of Technology http://globe.thaicyberu.go.th/
        - ▪ Everglades Explorer at Florida International University http://ee.fiu.edu/

- o **XC Metadata Services Toolkit**: Metadata management system based on OAI-PMH with modular services, record aggregation, format conversion, and automated synchronization. A web-based staff interface includes faceted browsing for debugging metadata issues. Designed to handle on the order of 100 million records, the MST splits and combines records to expose relationships, resulting in a new set of records that enables the XC Drupal Toolkit to provide a more usable interface to library users. The MST maintains the relationships between the source records in the legacy format, on the one hand, and the records with the improvements to the way important relationships are revealed, on the other.
  - o **XC NCIP2 Toolkit, XC OAI Toolkit:** Connectivity suite enabling legacy integrated library systems to communicate with the other XC toolkits using standard protocols.
- **Technologies and standards:** Java, PHP/Drupal, Apache SOLR, MySQL, OAI-PMH, XML, NCIP, LDAP, RDA, FRBR, MARC, and Dublin Core.
- **Provide leadership and management oversight** for XCO, a not-for-profit organization launched by University of Rochester in 2009 to sustain, lead, and foster community participation in the eXtensible Catalog software project. XCO operational activities included fundraising, marketing, budgeting, software development, software project management, website maintenance, staffing, and coordination with community partners.
- **Co-wrote grant proposals and negotiated partnerships** to support the seven-year XC project. $2.4 million in external funding and host institution support
  - o Planning project: $280,000 Andrew Mellon Foundation (2006-2007) (Co-PI).
  - o Development, user research, and implementation grant (2007-2009, 22 month).
    - $750,000 Andrew Mellon Foundation
    - $600,000 Partner institutions (2007-2009)
    - Acted as co-PI, supervising seven software developers and the Director of Community Development.
  - o Continuation/bridge grant: $175,000 Andrew Mellon (2009-2011) 24-month grant to fund development and maintenance (PI).
  - o Continuation partner funding: $500,000 (2012-2013)
  - o Continuation partner staffing: $175,000 (2012-2013)
  - o Agency: Andrew W. Mellon Foundation, Scholarly Communications Program Grant
  - o Grant names: eXtensible Catalog Bridge Grant, eXtensible Catalog Phase 2, and eXtensible Catalog Phase 1.
  - o **Organized and co-managed** every aspect of a two-day, invitation-only conference that brought together more than 30 internationally recognized library technology leaders and innovators to critique and contribute improvements to every element of the draft project plan.
- Transitioned project to new host institution (CARLI).

Design Workshop Team Leader, Undergraduate Research Refresher Project   **2011 - 2012**
River Campus Libraries, University of Rochester   Rochester, NY

- **Co-led and facilitated research activities** for an eight-member project team. Conducted participatory design workshops with undergraduates to understand practices, perceptions and unmet needs for both academic writing and group study work to inform future library spaces, technologies and services.

Director, Digital Library Initiatives   **2004 - 2007**
River Campus Libraries, University of Rochester   Rochester, NY

- **Provided leadership** to guide the development of digital library projects, information technology initiatives, and user-centered design through collaboration with library staff, administration and project leaders.

- **Managed** a staff of seven. The Digital Initiatives Unit under my leadership included four developers, a designer, an anthropologist, a project manager, and student assistants. The unit was responsible for the design, development, and maintenance of the River Campus Libraries website.
- **Managed** and engaged in design and development of several digital initiatives, including:
  o UR Research: the institutional repository for the University of Rochester. Responsible for the design, software project management, and coordination of project resources across organizations. Completed public launch in 2005. https://urresearch.rochester.edu/
  o CUIPID: an experimental, XML-based, FRBR-inspired catalog project. Responsible for visioning and software architecture.
  o GUF (Getting Users to Full-text), an intermediate OpenURL-based linking server that eliminates the usability issues with current linking tool menus by taking the user directly to full text.
- Grant Writing: **Co-Principal Investigator, "Enhancing Repositories for the Next Generation of Academics," 2006-2008,** Institute for Museum and Library Services, National Leadership Grant, **Co-wrote** a $320,000 two-year grant to conduct research on graduate student work practices and develop improved institutional repository software for academic and university libraries and thereby to improve any university library's ability to collect, preserve, catalog, and disseminate the work of its faculty members and researchers. **Project outcomes** included the release of IR+. IR+ is open-source institutional repository software that incorporates researcher pages and a document co-authoring and versioning system. A final report details findings and next steps based on the research. URResearch, the institutional repository at the University of Rochester, utilizes IR+ software. http://code.google.com/p/irplus/
- Project: **Team Member and Sub-team Leader, Undergraduate Research Project, Co-led and participated in** user research and participatory design activities including observations, interviews, cultural probes, design workshops, and data analysis to understand the process that undergraduates go through to write papers, informing space, technology and reference service design. **Co-led design workshops** that informed the design of Gleason Library, a $5 million 23,000 sq. ft. space renovation for undergraduate study and collaboration. http://www.library.rochester.edu/gleason/ **Led the Digital Initiatives Sub-team** to facilitate group analysis of research data including co-viewing of interviews and "magic wand" brainstorming activities to uncover unmet needs in support of next-generation digital products and services.

Web Initiatives Manager   2001 - 2004
River Campus Libraries, University of Rochester   Rochester, NY
- **Managed** a multidisciplinary, web design and development group. Responsible for proposing and carrying out technology initiatives for an 11-branch university library system. Increased staffing from zero up to six direct reports in three years.
- **Developed** "Find Articles," a simple yet powerful web-interface to a meta-search application enabling undergraduates to find scholarly articles in library databases. Implemented in XML and OpenURL, using the Endeavor ERA API.
- **Managed a user-centered design** process to redesign a library website with over 6,000 pages, involving 50 content writers, several project teams, and a six-person usability testing group. Led hands-on development of user interface, content organization, and system architecture.
- **Designed and implemented** a custom content management system with web-based administration, automatic backups, link checking, persistent URL support, dynamic links, web statistics, page-level metadata, software change request management, and section 508 (ADA) compliance tools. Implemented in ColdFusion and SQL.
- **Grant funded project: Co-Principal Investigator, "The Social Life of Grey Literature," 2003-2004,** Institute of Museum and Library Services, National Leadership Grant, **Conceived and co-wrote** a $103,000 one-year grant to conduct a work-practice study of faculty use of "grey literature" and to develop open-source software extensions to MIT's DSpace institutional repository platform. **Project**

outcomes included the institutionalization of participatory design and work-practice study at the University of Rochester Libraries, a better understanding of faculty priorities for institutional repository software and the development of enhancements to DSpace that enable faculty members to highlight their own work within the repository (called "Researcher Pages") and to track downloads by others. This grant enabled me to hire the original "**anthropologist in the library**," leading to a national profile for the University of Rochester Libraries and the proliferation of studies of work practices in academic libraries worldwide.

Xerox Corporation

Advanced Systems Developer   **1999 - 2001**
Knowledge Works, Xerox Palo Alto Research Center   Rochester, NY

- **Implemented** an extension to a web-based document repository (DocuShare) as an advice sharing system (Eureka) for the worldwide Xerox service organization. Implemented in XML and Python.
- **Conceived and implemented** a Microsoft Outlook add-on in which file attachments would be uploaded to a web-based document repository with an embedded link replacing the actual attachment. This integration became a part of the Xerox DocuShare product offering. Implemented in Visual Basic as a COM Add-In to Outlook.
- **Provided software quality assurance** to the team responsible for organization-wide documentation review and signoff. Xerox was working towards their goal of software process improvement to attain Level 2 on the Capability Maturity Model.

Lead Software Engineer   **1996 - 1999**
Work Practice and Co-Development, Xerox Palo Alto Research Center   Rochester, NY

- **Managed** the development of ImageShare, a web-based image search and access tool based on a light table metaphor. Implemented in Java, HTML, Z39.50, and the Innovative OPAC.
- **Awarded** U.S. Patent (6590586) for the ImageShare user interface.
- **Led** the technical aspects of a two-year work-practice and technology design engagement with Wallace Library at the Rochester Institute of Technology. Studied collection management and classroom use of a large collection of art and architecture images through on-site, in-context interviews and observations with library staff, faculty members and students, co-viewing of videotaped interactions, and participatory design sessions. Developed several technology prototypes.
- **Managed** the implementation of an add-on to a Xerox metasearch product that allowed it to connect to Z39.50 sources enabling it to be used by libraries.
- **Defined, prototyped and field-tested** several web-based systems in support of geographically distributed working groups and online community. The "Looking Glass" was an implementation of an awareness tool called Portholes (from Xerox PARC) that was put into production in a French museum. "Web Companion" brought take-along capabilities with you on your web journey. "Quest" was a search engine that connected Xerox researchers based on project work or research area using automated reminders to keep the information current.

Software Engineer and Senior System Administrator   **1992 - 1995**
Corporate Research, Xerox Corporation   Rochester, NY

- **Developed** an end-user client interface to a desktop videoconferencing system similar to today's instant messenger clients. Ported 25,000 lines of C source code from SunOS platform to Win32 API. Designed, implemented, tested, and put into use at Xerox.
- **Designed and implemented** a three site, 70-seat desktop videoconferencing system based on research software from PARC and the University of Toronto. Implemented hardware, network infrastructure and

software (SunOS servers, analog A/V hardware, matrix video switches, Picture Tel CODECs, ISDN, and PC/Mac/SunOS client interfaces).
- **Implemented** a driver for serial control of a Utah Scientific matrix A/V switch.
- **System administrator** (Mac and SunOS) responsible for configuration, backups, printing, cross-platform file sharing, secure dial-up with callback, training, and troubleshooting.

EDUCATION

Earned 18 credits towards a Doctor of Education, Higher Education Leadership   **2012**
Warner School of Education, University of Rochester

Master of Science, Computer Science   **1996**
Rochester Institute of Technology, Rochester, NY

Bachelor of Science, Computer Science   **1992**
University at Buffalo, Buffalo, NY

INDEPENDENT EXPERIENCE

Consultant and Presenter,   **2012**
"Creating a Program and Plan of Service Based on User Needs"   Baltimore, MD
Academic Library Planning and Revitalization Workshop, Academic Impressions
- Delivered a workshop session on how to align library facility projects with the needs and work practices of users. Presented case studies on undergraduate and graduate student study spaces.

Curriculum Developer and Trainer,   **2006 - 2007**
"User-Centered Design: Design Process & Usability"   Multiple Locations
LITA Regional Institute
- Designed and implemented a two-day course on an organizational management approach to website design that separates content, design, usability, and development priorities into distinct roles with defined responsibilities. The end result is a focus on iterative improvement, which contributes to shortened prototyping, design, and implementation cycles.

Consultant   **2002**
Element K   Rochester, NY
- **Subject matter expert** for the development of Macromedia ColdFusion MX (CFML programming language) online courseware, and classroom training modules.

Website Founder and Developer   **1996 - 2009**
Gay Rochester Online (no longer operational)   Rochester, NY
- **Identified a market opportunity** for a website focused on the LGBTQ community in Rochester. The site was featured in national magazines including The Advocate and Passport and exceeded 8,000 registered users.
- **Managed** all aspects of the business including content development, design, marketing, sales, accounting, customer billing, and outsourced web hosting.
- **Implemented** database-driven content management system with web-based administration, membership features, integration with a third party Java-based chat application. Implemented in HTML, JavaScript, ColdFusion and SQL.

PATENTS AND AWARDS

1. Recipient, "Movers and Shakers Award," Library Journal, 2010 - Recognized as a leader in shaping the future of libraries and as an innovator who is focused upon serving user needs.
   http://tinyurl.com/qb5h7u9
2. Swenton-Wall, Patricia L., Andrea Mosher, Susan L. Stewart, Francoise Brun-Cottan, David L. Lindahl, and Nelson G. Mejias-Diaz. **"User interface for a browser based image storage and processing system."** U.S. Patent Number 6590586.
   http://patft.uspto.gov/netahtml/PTO/srchnum.htm (USPTO Patent Number Search Page