This activity report describes highlights of our work in 2012 (and early 2013). Further information can be found at our website: http://www.oclc.org/research.html. If you have any specific questions or thoughts, contact us at OCLCResearch@oclc.org. We are always interested in suggestions about projects to be pursued, collaborations, or areas in which we should become more interested.

We hope you enjoy reading it!

—Lorcan
Vice President, Research, and Chief Strategist
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Introduction

The mission of OCLC Research is to **expand knowledge** that advances OCLC’s public purposes of furthering access to the world’s information and reducing library costs.

OCLC Research is one of the world’s leading centers devoted exclusively to the challenges facing libraries and archives in a rapidly changing information technology environment. Since 1978, we have carried out research and made technological advances that enhance the value of library services, improve the productivity of librarians and library users, and identify new opportunities for OCLC services.

**OCLC Research is dedicated to three roles:**

1. To act as a community resource for shared research and development (R&D)
2. To provide advanced development and technical support within OCLC itself
3. To enhance OCLC’s engagement with members and to mobilize the community around shared concerns.

This report pulls together our recent work in these areas, providing highlights of OCLC Research activities, **focusing on 2012 and the first months of 2013**. It provides a flavor of important themes in our internal work and our external shared work agenda. Our outputs include prototype systems or services, published reports, webinars, podcasts, videos and meetings ranging from task group sessions to our influential symposium, “Libraries Rebound.” We feel it presents a story of achievement and contribution, representing significant value provided to OCLC, the membership, and the larger community.
Shared community R&D

This role clusters around our shared work agenda, which gives shape and purpose to our work and changes over time to meet existing needs. Current themes are: Advancing the Research Mission, Mobilizing Unique Materials, Metadata Management, System-wide Library, and User Behavior Studies and Synthesis. We also do community work in Infrastructure and Standards Support.

We collaborate with external partners where it makes sense to amplify our work or to draw on outside expertise. Some of those collaborations are highlighted in this report.

Advanced development and consultation within OCLC

OCLC Research, including the Innovation Lab, is an important source of expertise, development and consultation with the enterprise. The Innovation Lab is a technology-based incubator within OCLC Research, providing a framework within which OCLC staff, members and commercial organizations can collaborate to advance ideas for new services, service improvements or technology adoption.

The OCLC Innovation Lab infuses innovation into all aspects of the OCLC cooperative to help it become more agile and responsive to library needs. Its efforts include investigating ideas and developing systems to assure that libraries are well-equipped to extend the value of library services into the digital, networked environment. It does this by generating new services, testing existing services in new markets, and exploring new ways to deliver existing services to the OCLC cooperative.

The Innovation Lab has accelerated the introduction of new services relating to mobile, social, analytics, and services for the smallest libraries. It is an important facilitator of cross-company discussion, helping to align technology and service options, creating a bridge between OCLC Research and product groups, providing advice or rapid consulting, and jump-starting shared initiatives. A key example of this during the period of this report is the leadership role the Innovation Lab played in coordinating OCLC’s Linked Data initiatives—various details of which are mentioned at various places in what follows.

We are making significant contributions to the ongoing development of mobile, “big data” infrastructure, bibliographic processing, data and text mining, linked data, analytics, and data architecture. Several OCLC products and services originated in OCLC Research last year and others are being incorporated into services this year. We provide specialist expertise for internal efforts; for example, our search engine expertise was called upon during the update of the OCLC corporate website.

I have just read [the Print Management at “Mega-scale”] report and found it fascinating and thought provoking. I am a big fan of Richard Florida and it was interesting to think about solving library problems on the mega regional level. Kudos to the authors! I hope it receives wide distribution.

Kathleen Imhoff
OCLC Trustee and Library Consultant
### Member and Partner engagement

The OCLC Research Library Partnership is a leading venue for research institutions to convene with each other and to connect with OCLC, allowing us to engage with members and mobilize the community around shared concerns. It provides a venue for research institutions to work cooperatively on designing library futures. The OCLC Research Library Partnership is a global alliance of like-minded institutions that focuses on making operational processes more efficient and shaping new scholarly services.

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**The work that’s going on under the Partnership is really important, and [I] want to do whatever I can to help move it forward.**

Clifford Lynch  
Executive Director, Coalition for Networked Information
We are deeply interconnected through personal and formal engagement with library and archival institutions and organizations, engaging both directors and operational staff and representing OCLC interests and positions in our relations with them. We also represent library and archive interests in internal OCLC discussions, and regularly provide context or introductions for colleagues.

The Research presence in Europe has been successfully established with a team operating out of OCLC’s Leiden office. They take the lead in relations and joint projects with research institutions and library support agencies based in Europe.

OCLC Research staff members regularly make keynote presentations and publish in a wide range of venues, contributing to discussion and the literature in our field. We are pleased to collaborate with ALISE (the Association of Library and Information Science Education) on a grant program to faculty in iSchools/library schools each year.
Connecting libraries and Wikipedia

OCLC Research and our Wikipedian in Residence Max Klein have been exploring mutually beneficial projects between OCLC, library stakeholders, and the Wikipedia community. Over the past year we have:

- Edited 60,000 Wikipedia articles (with 200,000 more to do) to include VIAF.org identifiers with Wikipedia-community approved VIAFbot, a computer program that reciprocates links from VIAF into Wikipedia.
- Held two webinars: “Wikipedia and Libraries: What’s the Connection?” and “Librarians are Wikipedians Too” that were attended by over 500 people.
- Led a seminar about link reciprocation at UC Berkeley School of Information.
- Organized Wikipedia Loves Libraries event at Wikimania 2012 to bring Wikipedia and libraries together, and encouraged libraries to host similar events.
- Investigated creating a WorldCat-Wikipedia map with colleagues in Leiden.
- Broadly promoted and encouraged Wikipedia participation via our HangingTogether blog, Twitter, Facebook, and other communication channels.

Shared community R&D—
the OCLC Research work agenda

OCLC Research staff members actively engage in a wide range of projects, programs and initiatives in six thematic areas. We develop themes on our own and in consultation and collaboration with others.

Advancing the Research Mission

Libraries need to offer high-value, distinctive services that directly support researchers, manage and aggregate research output, and ensure that it enhances the reputation of the faculty and the institution.

Selected activities:

- **Changes in Scholarly Communication**—Published *Lasting Impact: Sustainability of Disciplinary Repositories*, an environmental scan of the repository landscape, intended to help librarians support researchers in accessing and disseminating research information. [http://www.oclc.org/research/publications/library/2012/2012-03r.html](http://www.oclc.org/research/publications/library/2012/2012-03r.html)

- **Role of Libraries in Data Curation**—We launched a pair of activities to help academic institutions with data management, one dealing with campus-wide policy and one with selection and retention decisions. [http://www.oclc.org/research/activities/datacuration.html](http://www.oclc.org/research/activities/datacuration.html)

Mobilizing Unique Materials

To help libraries and archives efficiently deliver on the promise of unique materials, we’re working to change both parts of the cost/benefit equation associated with special collections and archives. Working with Partner Libraries, we’re investigating how to efficiently describe materials, investing only what is necessary to make them discoverable.

Selected activities:

- **Survey of Special Collections and Archives in the UK and Ireland**—OCLC Research and Research Libraries UK (RLUK) surveyed library special collections holdings and practices of RLUK members and OCLC Research Library Partnership institutions in the UK and Ireland. [http://www.oclc.org/research/activities/specialcollections-survey.html](http://www.oclc.org/research/activities/specialcollections-survey.html)

- **Demystifying Born Digital**—This project focuses on enhancing the effective management of born-digital materials. [http://www.oclc.org/research/activities/borndigital.html](http://www.oclc.org/research/activities/borndigital.html)
Metadata Management

We investigate how metadata structures can evolve to work effectively in a semantically richer Web and to connect to network hubs. Making our data work harder, to release greater value in systems and services, will help us make future descriptions of library materials less costly, more responsive to network-level discovery requirements, and more consistent with user expectations. Our work on metadata, terminologies and authorities is used in new relationships and associations that are valued by a wider Web community. Selected activities:

- **Conducting Europeana Innovation Pilots**—OCLC and the European digital library, Europeana, are collaborating on ways to create semantic links between the millions of digital objects accessible online through Europeana.eu in order to improve “similar object” browsing.

- **Sharing and Aggregating Social Metadata**—Working with Partner libraries, we identified the user contributions that enrich the descriptive metadata created by libraries, archives, and museums and the issues related to sharing user contributions on the network level. http://www.oclc.org/research/activities/aggregating.html

- **mapFAST**—A Google Maps mashup prototype designed to provide map-based access to bibliographic records using FAST geographic authorities. We recently released a mobile version, accessible via browser and available soon as an Android app. http://www.oclc.org/research/activities/mapfast.html

- **Kindred Works**—A newly launched experimental service that provides a list of items similar to an item of interest. The prototype service uses various characteristics of a sample work, such as classification numbers, subject headings, and genre terms, to retrieve related resources from WorldCat. This approach is called content-based recommendation. http://www.oclc.org/research/activities/kindredworks.html

- **Prototypes and consulting**—Metadata management is a central part of our work. We develop prototypes, provide internal consulting around data architecture and linked data, and support OCLC’s community engagement around the future of bibliographic infrastructure. Some of this work is described below.

---

So, I had an Arabic name to enter into a record as part of a note, and I wasn’t confident about the diacritics. So, I look in the authority file to temporarily download it, copy the form of the name, and then move on. Couldn’t find the name in OCLC. Look in Wikipedia under his common name – bingo. Even better, Wikipedia has a link to VIAF, double bingo! With the authorized form from VIAF, I could readily find the record in OCLC (I was tempted to copy the name form directly from VIAF, but didn’t want to push my luck.) The miracles of an interconnected bibliographic dataverse!

John F. Myers
Catalog Librarian, Schaffer Library, Union College
Infrastructure and Standards Support

We bring library interests to bear on mainstream standards work and help to ensure that important library and archive standards activity is supported and noticed. We participate in architecture and standards work, supporting adoption and sometimes providing infrastructure support. We also build and promote Web service prototypes that help to improve library catalogs, engage users and create mobile experiences.

Selected activities:

- **SRU (Search and Retrieve via URL)**—OASIS, the Organization for the Advancement of Structured Information Standards, approved SRU (Search and Retrieve via URL) 2.0, the web-based successor to Z39.50, as a standard. OCLC Research has been actively involved in the development of an appropriate successor to Z39.50 for over a decade. [http://www.oclc.org/research/activities/srw.html](http://www.oclc.org/research/activities/srw.html)

- **Preservation Health Check**—OCLC Research and the Open Planets Foundation are conducting a Preservation Health Check pilot from July 2012 to July 2013 to analyze the quality of preservation metadata created and in use by operational repository and deposit systems and evaluate the potential of such metadata for assessing digital preservation risks. [http://www.oclc.org/research/activities/phc.html](http://www.oclc.org/research/activities/phc.html)
Working with Linked Data—OCLC Research and the Innovation Lab are exploring Linked Data from various perspectives to improve interoperability of library data with the modern web and improve discoverability of library materials—as a publisher, consumer, applications-builder, project partner, and through our involvement with standards bodies like the W3C, Library of Congress, and schema.org, among others. Some of OCLC’s linked open data resources include:

— FAST (Faceted Application of Subject Terminology)—a rich LCSH vocabulary that is available as a post-coordinate system in a Web environment. http://www.oclc.org/research/activities/fast.html

— Dewey Decimal Classification (DDC)—a full set of more than 23,000 assignable numbers and captions in English, available at the Dewey.info experimental space for linked DDC data.

— Virtual International Authority File (VIAF)—a single name authority service comprised of a combination of multiple name authority files from 24 national libraries and agencies from 19 countries. http://viaf.org

— WorldCat.org/Schema.org—the entire WorldCat catalog, about 270 million pages, is publicly available using Schema.org mark-up with library extensions for use by developers and search partners. This is based on the special ‘enhanced WorldCat’ maintained in Research.

System-wide Library

We are helping the community understand the factors that guide institutions in sourcing and scaling choices as they seek maximum impact and efficient provision of library collections and services. We’re exploring the shift from local provision of library collections and services to increased reliance on cooperative infrastructure, collective collections, shared technology platforms, and “above-the-institution” management strategies. At the same time, we’re examining the array of collections and services that are best provided at the level of the local institution. Our purpose is to maintain an outcomes-based orientation that is widely applicable, yet sensitive to institutional differences, and can provide useful context for decision-making without necessarily prescribing a single “best” course of action.

Selected activities:

Print Management at “Mega-scale”: a Regional Perspective on Print Book Collections in North America—This work provides a deep understanding of what regionally consolidated print collections would look like if they came to pass, as well as the implications for system-wide issues such as mass digitization, resource sharing, and preservation. http://www.oclc.org/research/activities/megascale.html

OCLC Research Library Partner Collection Profiles—We prepared and distributed individual, customized reports to each OCLC Research Library Partner institution to create a fresh perspective on their local collections, viewed in the context of the growing mass-digitized corpus embodied by the HathiTrust Digital Library, and the aggregate print collection, as represented in the WorldCat bibliographic database.
User Behavior Studies and Synthesis

We’re helping libraries calibrate their services around a completely new set of user expectations that have been shaped by consumer technologies. We provide the library community with behavioral evidence on their users’ perceptions, habits and requirements to inform the design of future library services.

Selected activities:

- **Cyber Synergy: Seeking Sustainability through Collaboration between Virtual Reference and Social Q&A Sites**—This project proposes a new model that enables Virtual Reference Services (VRS) to remain viable despite today’s environment of reduced resources, addressing collaboration between knowledge institutions such as libraries and the social Q&A community. http://www.oclc.org/research/activities/synergy.html

- **Digital Visitors and Residents: What Motivates Engagement with the Digital Information Environment?**—A JISC-funded collaboration with the University of Oxford investigates the theory of digital residents and visitors among learners in four educational stages, from late-stage secondary (high school) into post-degree professional practice. http://www.oclc.org/research/activities/vandr.html

- **User-Centered Design of a Recommender System for a “Universal” Library Catalogue**—A joint research project of OCLC Research and the Information School, University of Sheffield to investigate the development of recommender systems for the retrieval of journals, books, digital media, video, etc., in a cloud-based multi-institution, international catalog. http://www.oclc.org/research/activities/recommender.html

I train 40 new staff each year in the areas of Virtual Reference and patrons’ use of the online library, as well as speak to library school classes in these areas. I reference work by Lynn Connaway and her co-authors for these training sessions. She is able (both in terms of skill and funding) to conduct larger-scale research than most library studies and this really makes a difference in the scope and impact of her work. I have confidence when quoting her findings about VR use and patrons’ online library activities and the qualitative examples really illustrate the data in a way with which trainees can connect.

M. Kathleen Kern
Reference Librarian and Associate Professor, University of Illinois Library
Vice-President, Reference and User Services Association (ALA)
Collaborative work

OCLC Research works with a variety of organizations, often as a partner in grant-funded work. These engagements amplify our capabilities, share expertise, and broaden the community investment of the OCLC cooperative. We stay alert for opportunities for productive collaboration and strive to maintain good personal relationships across a wide spectrum of partners.

Selected collaborations (in addition to the Research Libraries UK, Europeana, and Open Planets Foundation collaborations mentioned above):

With IMLS support:


With JISC support:


External consultation and contribution:

- We consulted on a range of topics and projects with colleagues at:
  - ALA Accreditation Committee
  - ALA—Library Research Round Table Research Forums
  - CalTech
  - Carnegie Mellon University
  - Digital Public Library of America (DPLA)
  - Dryad Board finance committee
  - Dublin Core Metadata Initiative
  - Faculty of Informatics and Information Technologies STU in Bratislava
  - HathiTrust
  - IMLS grant review panel
  - Institute for Advanced Technology in the Humanities at University of Virginia/Social Networks and Archival Context Project (SNAC)
  - Kent State University
  - Latin Word Frequency in Cataloging project
  - NISO OpenURL Maintenance Agency
  - University of Amsterdam
  - University of Maryland, College Park
  - University of North Dakota Libraries
  - Yale University

- Bibliographic Framework Transition Initiative at the Library of Congress. OCLC Research and other OCLC divisions collaborated to prepare for the second BibFrame meeting at the Library of Congress in mid-December, applying BibFrame markup to all of WorldCat, analyzing the relationship between BibFrame and the OCLC Schema.org/Library model for linked data, and launching an experimental website to provide evidence of usage of the MARC standard to inform decisions. Research continues to support the OCLC position in ongoing BibFrame analysis and discussion.
We are working with The Ohio State University and the Committee on Institutional Cooperation to develop a framework for distributed print management as a focused application of our mega-regions framework.

The Scholar’s Funnel for eXtensible Authority File allows scholars to contribute their research to enrich the information already in VIAF, some in scripts that would not otherwise be supported. This work is a collaboration with Syriac and Arabic scholars.


The Innovation Lab is collaborating with The Ohio State University and local industry in projects to improve information access and sharing.

OCLC Research and our Wikipedian in Residence have been exploring mutually beneficial projects connecting libraries and Wikipedia. Over the past year we have:

— Edited 60,000 Wikipedia articles to include VIAF.org identifiers with a Wikipedia-community approved computer program that reciprocates links from VIAF into Wikipedia.

— Held two webinars, a seminar at the UC Berkeley School of Information, an event at Wikimania 2012 to bring Wikipedia and libraries together, and a free Open Access Wikipedia Challenge to teach basic Wikipedia skills; produced a series of YouTube videos; and broadly promoted and encouraged Wikipedia participation via our Hanging Together blog, Twitter, Facebook, and other communication channels.

**Prototypes and software**

Many of our activities produce prototypes that we make freely available to the community for the benefit of libraries, archives and other cultural heritage organizations. Some prototypes transition to OCLC services. Many of our prototypes are available from [http://www.oclc.org/research/activities/researchworks.html](http://www.oclc.org/research/activities/researchworks.html) and [http://experimental.worldcat.org](http://experimental.worldcat.org).

[OCLC Research staff in the Leiden office] coped with all the stuff we threw at them. Not only they managed to munge it in an innovative way; their input also helped us getting better insight on our data!

Antoine Isaac
Scientific Coordinator, Europeana
ArchiveGrid

ArchiveGrid is a collection of nearly two million archival material descriptions, including MARC records from WorldCat and finding aids harvested from the Web. Originally offered as an OCLC subscription-based discovery service, ArchiveGrid is now freely available from OCLC Research, which supports it as the basis for experimentation and testing in text mining, data analysis, and discovery system applications and interfaces. It also provides a foundation for our collaboration and interactions with the archival community.

- The ArchiveGrid index includes 1,064 contributors, and a total of 1,762,567 collection descriptions. Of those, 178,347 are finding aids, the other 1,584,220 are based on MARC catalog records extracted from WorldCat.
- In 2012 the OCLC Research ArchiveGrid system had 140,000 unique visitors and 375,000 pages viewed, with 81 percent of visitors reaching the service through search engines.
- [http://beta.worldcat.org/archivegrid/](http://beta.worldcat.org/archivegrid/)

*The Archives of American Art is a long time contributor of both MARC records and EAD finding aids, and is very excited about the “new” ArchiveGrid interface.*

Barbara Aikens
Chief, Collections Processing, Archives of American Art, Smithsonian Institution
Classify supports the assignment of classification numbers and subject headings for books, DVDs, CDs, and other types of materials. During 2012 Classify was integrated into the Connexion production cataloging service.

- **Works:** 46,003,806
- **Bibliographic records:** 117,928,424
- **Classes:** 102,880,068
- **http://classify.oclc.org/**
WorldCat Genres

Genre profiles allow users to browse genre terms for hundreds of titles, authors, subjects, characters, places, and more, ranked by popularity in WorldCat. [http://www.worldcat.org/genres/](http://www.worldcat.org/genres/)

Kindred Works

Kindred Works is a newly launched experimental service that provides a list of items similar to an item of interest. The prototype service employs content-based recommendation, using various characteristics of a sample work, such as classification numbers, subject headings, and genre terms, to retrieve related resources from WorldCat. [http://www.oclc.org/research/activities/kindredworks.html](http://www.oclc.org/research/activities/kindredworks.html)

VIAF (Virtual International Authority File)

A collaborative effort between national libraries and organizations contributing name authority files, VIAF is now an OCLC production service that includes authority data from 24 agencies in 19 countries, representing a variety of formats. [http://www.oclc.org/en-US/viaf.html](http://www.oclc.org/en-US/viaf.html)
VIAF (continued)

- Approximately 103 million bibliographic records
- Total page requests in 2012 via browsers: 3.7 million in 882K visits from 490K unique visitors
- Number of names in 2012: 23,596,343 (same as # clusters), but we get 33.8 million authority records from contributors
- Participating institutions: 24
- Wikipedia links: 290,401
- http://www.viaf.org

VIAF-related activity:

- Transitioned to a production service in April 2012
- Added VIAF links to Wikipedia
- Added about 5 million International Standard Name Identifier (ISNI) links to VIAF

VIAF as Linked Data

- Clusters: 23,596,343
- Links between source records: 34 million
- Personal names: 17,614,332
- Corporate names: 3,664,917
- Uniform titles: 1,909,589
- Geographic names: 407,505
- Explored the use of the VoID Vocabulary for expressing metadata about RDF datasets.
  http://viaf.org/viaf/data/

FAST (Faceted Application of Subject Terminology)

FAST is an enumerative faceted subject heading schema derived from the Library of Congress Subject Headings (LCSH). Easier to apply and capable of successful application by nonprofessionals, FAST provides a rich LCSH vocabulary that is available as a post-coordinate system in a Web environment. OCLC Research has been working to develop FAST for over a decade. A range of prototype applications is now available:

- assignFAST

This Web Service, new in July 2012 and currently being integrated into production, automates the manual selection of FAST Subjects based on autosuggest technology.

http://experimental.worldcat.org/fast/assignfast
mapFAST
A Google Maps mashup that provides map-based access to bibliographic records using FAST geographic authorities

— mapFAST allows users to access FAST headings for specific locations, as well as FAST headings for surrounding locations that also are FAST subjects.
— Top three user countries: United States, Netherlands, Spain
— http://experimental.worldcat.org/mapfast/
— We recently released a mobile version, accessible via browser and available soon as an Android app.
  http://experimental.worldcat.org/mapfast/

searchFAST
searchFAST is a full-feature user interface for identifying and accessing FAST (Faceted Application of Subject Terminology) authority records. http://fast.oclc.org/searchfast/

— Top three user countries: New Zealand, United States, Netherlands
— http://fast.oclc.org/searchfast/

FAST as Linked Data
This experimental Linked Open Data service provides access to the FAST data set under the Open Data Commons Attribution License.

— Total headings: 1.7 million
— Facets:
  • Personal names: 704,143
  • Corporate names: 357,625
  • Events: 11,915
  • Uniform titles: 61,633
  • Chronological: 676
  • Topical: 392,593
  • Geographic: 148,722
  • Form/Genre: 1,905
— Deprecated/deleted: 46,719
  • More information: http://www.oclc.org/research/activities/fast.html
— Access FAST as Linked Data at: http://id.worldcat.org/fast/
— The FAST data set is available for download at http://www.oclc.org/research/activities/fast/download.html

PURL (Persistent Uniform Resource Locator) service
PURLs are Web addresses that act as permanent identifiers on the web. Instead of resolving directly to Web resources, PURLs provide a level of indirection that allows the underlying Web addresses of resources to change over time without negatively affecting systems that depend on them. OCLC Research has maintained a free PURL service on the Web (http://purl.org) for nearly 15 years, recently upgraded in collaboration with Zepheira.
Advanced development and consultation within the OCLC enterprise

Within OCLC Research and throughout the OCLC enterprise, the Innovation Lab provides an important source of expertise, development and consultation, bridging the gap between Research and product groups and facilitating discussion across the enterprise to help jump-start shared initiatives and align technology and service options. The Lab also provides advanced development and technical support that speeds the adoption of new ideas, new methods and new policies.

The Innovation Lab provides opportunities for libraries and library developer communities to work directly with OCLC developers and OCLC data and services to advance ideas for new services, service improvements or technology adoption.

Of course, OCLC Research overall contributes to the development and dispersion of advanced technology and service support within OCLC. These efforts are not exclusive to the Innovation Lab, and include both new services that transition to production as well as ongoing support for, and enhancement of, existing production services.

Recent areas of focus

- **Analytics**: Making library data work harder by understanding its usage and influence on purchasing workflows and the movement from print to electronic.
- **Mobile technology**: Accelerating our mobile deployment and testing new mobile gadgets as they are introduced. We want to put libraries in all of the places users may be.
- **Data innovations**: Investigating policy and methods for speeding the path of data innovation in WorldCat and related data sets. As the cooperative needs to move beyond simple record supply, we explore new ways to involve end users and domain experts, and include rapid integration of research work into a widely available platform.

Many of our experiments are “blue sky” ideas that embrace new and emerging technologies in order to discover ways to better enable data sharing, cooperative services and community growth within the profession. Others may influence existing OCLC products and services or even evolve into new services themselves. Or they may simply provide a fertile ground for learning. You can find several examples of these experiments at [http://experimental.worldcat.org/](http://experimental.worldcat.org/).
New service introduction

Library Finder

- Launched as a prototype that uses the WorldCat Registry API to locate libraries near a given location and displays the contact information, website, and library type when available.
- http://experimental.worldcat.org/libraryfinder

OCLC Experimental Data Transform service

- Launched new prototype service that transforms arbitrarily formatted input into standard MARC Format for holdings data suitable for loading via OCLC’s Local Holdings Record Updating service. This will be an important support element in the provision of an OCLC Shared Print Management service.

Website for Small Libraries

- Released as a beta version on the OCLC WorldShare® Platform to enable small libraries to quickly and easily set up a website that provides basic functionality for making small-collection information available on the Web, setting up users, checking materials in and out, placing holds, and providing library contact, location, service and event information.
- http://beta.worldcat.org/lib/-/-/public/home

WorldCat Live!

- Launched this API service that provides an easy-to-consume, real-time feed of newly added items to the WorldCat global catalog of library collections and published materials.
- View real-time feed, with links to items in WorldCat: http://experimental.worldcat.org/xwwg/
- Visualization interface: http://experimental.worldcat.org/live/

MARC Usage in WorldCat

- This project will study the use of MARC tags and subfields in WorldCat—the largest aggregation of library data in the world—and produce an evidence base to inform decisions about where we go from here with the data that has been encoded using the MARC standard.
- http://www.oclc.org/research/activities/marcusage.html

Fascinating data on MARC usage in WorldCat http://experimental.worldcat.org/marcusage/
Helps inform construction of a replacement for MARC.

Simon Barron
Twitter: @SimonXIX
Advanced technology development: service support

Linked Data

- The Innovation Lab took the lead role in coordinating the addition of 270 million Worldcat.org pages decorated with Schema.org vocabulary and suggested library extensions, which was made publicly available in June 2012. This effort is the culmination of years of prior research efforts around linked data, intersected with market opportunity created by Schema.org and the availability of Hadoop/HBase™ technology for fast processing. It required coordination of virtually every OCLC product portfolio, as well as marketing, systems, research and engineering divisions plus significant collaboration with library industry linked data experts and the major search engines. The market reception of this release was very positive.

- Posted downloadable linked data file (RDF-XML) for the 1 million most widely held records in WorldCat

  http://www.oclc.org/research/activities/linkeddata.html

Advanced Data-management Technologies

- Continued significant work with configuring, testing, and processing using Hadoop, HDFS, HBase, and map-reduce techniques to support production and research systems and processes.

Metadata Crosswalk Service

- Consulting Software Engineer Devon Smith has a temporary assignment as Product Manager for this service, which was previously transitioned from OCLC Research.

Dewey

- Developed the XSLTs that transformed MARC data into RDF prior to the 18 June release of Dewey 23 as linked data.

WorldCat

- Provided WorldCat quality team with thousands of corrections and enhancements on Dewey number fields and MeSH headings.

- Facilitated production integration of Schema.org markup to WorldCat.org.

- Matching Google-supplied lists of OCLC numbers to so that Google Books can be synchronized with WorldCat.

- Moved all FRBR processing to Hadoop technology; added identifiers to the model to help separate digital and print manifestations that get thrown into the same WorldCat record.

- Updated WorldCat with Wikipedia links.

Consulting

- Held Hadoop and HBase training course in Dublin, and prepared a development environment around Hadoop for the text mining team.

- Conducted informational sessions for all OCLC staff about data-related initiatives, including Linked Data, Data Ingest, Data Quality, Authority Data and the Knowledge Graph that OCLC data could potentially support, including a vision of how we can transform the core WorldCat data assets from record silos to a knowledge map representing the collective knowledge of member libraries.
OCLC Research provided support to the Dewey team for development of the **Dewey Religion Browser**, a virtual browser of the Dewey 200 Religion class based on the new optional chronological/regional view of the Bible and specific religions arrangement, and linked to Dewey-classified resources in WorldCat.org.

Participated in reloading production FRBR work identifiers and aligning them with the Research work set code. We continue to work as part of the production FRBR team toward more complete integration.
Member and Partner engagement

Each year, OCLC Research hosts a range of meetings where we exchange information, develop projects and learn from each other and from outside experts. We engage staff from libraries, archives and museums and advance the work of the OCLC Research Library Partnership in regular meetings, feature notable speakers in our Distinguished Seminar Series, hold webinars to encourage and facilitate remote participation, and record podcasts of discussions we have with industry leaders. Our staff members also attend various meetings and conferences where they serve as speakers or panelists and engage with colleagues from around the world. Complete information about all of our events—upcoming and past—is available from http://www.oclc.org/research/events.html.

- We had a well-received presence at the IFLA 2012 Conference in Helsinki, Finland, due to staff presentations and our coordination of the release of the Most Highly Held Dataset as linked data. Several staff also presented at the 76th Annual Meeting of the Society of American Archivists (SAA) in San Diego.

- Jackie Dooley began serving as SAA President, and Eric Childress was appointed to the NISO Content and Collection Management Topic Committee and the DCMI Oversight Committee.

The OCLC Research Library Partnership—engaging research libraries around shared issues

The OCLC Research Library Partnership is an energetic and influential global collaborative of research libraries and archives that work with a sophisticated and robust technical capacity, highly skilled on-staff experts and external consultants to achieve significant, innovative and collective action for the benefit of scholars and researchers everywhere. The OCLC Research Library Partnership engages senior managers to collectively identify, analyze, prioritize and design scalable solutions around our shared issues as well as to make operational processes more efficient and shape new scholarly services.

I write belatedly to say a big thanks for the RLP collection profile. . . . We truly appreciate this excellent work—the institutional focus of the profile and the important research you are doing. Our thanks to you for your leadership in this effort and to everyone who worked on it.

Hjordis Halvorson
Vice President for Library Services, Newberry Library
Each year, in addition to events for the larger community, such as the Distinguished Seminar Series, OCLC Research hosts a range of activities, presentations, and meetings on behalf of the OCLC Research Library Partnership to work together and to learn from each other and from outside experts. We engage staff from libraries, archives and museums in the work of the OCLC Research Library Partnership through teleconferences, webinars, podcasts, and videos. Our staff also attend various meetings and conferences where they serve as speakers or panelists and engage with colleagues from around the world.

The OCLC Research Library Partnership consists of 160 dues-paying Partner Institutions, including 122 from North America (76%), 28 from the Middle East and Europe (18%), and 10 from the Pacific Rim (6%). Partner Institutions are a prestigious group: they represent 88% of the top 25 institutions on the Times Higher Education (THE) World University Rankings (22 Partners), as well as 50% of the Association of Research Libraries (ARL) members (63 out of a total of 125 ARL members), and 58% of Research Libraries UK (RLUK) members (19 out of a total of 33 RLUK members). There were also 10 active working and advisory groups within the Partnership, which represented over 80 institutions and 148 individuals from eight countries.

Events

Libraries Rebound: Embracing Mission, Maximizing Impact

This OCLC Research Library Partnership meeting took place 5–6 June 2012 in Philadelphia, Pennsylvania. We held this meeting to foster a conversation about how academic and research libraries have an opportunity to frame the library as a set of distinctive services that better align the library with the mission of its parent institution. There were three broad themes for the meeting: creating services to more directly support researchers; aligning special collections with institutional mission; and exploiting space as a distinctive asset. Presentations by OCLC Research Library Partners and other distinguished individuals who have demonstrated leadership in these areas offered guidance on assessing appropriateness, dealing with staffing practicalities, launching a program and sustaining a successful program. Over 500 OCLC Research Library Partners attended this event: 125 in person and over 400 attended remotely online.

I have to tell you that this was the best webinar I've virtually attended, in regard to the technologies used to present. I could easily hear all the presenters and the visuals were very helpful. I took notes on my computer as I watched and listened, and found the experience quite satisfying. I experience no technical difficulties! I also found the topic useful and the discussion helpful for my institution. Thanks again for offering this to those of us who find it difficult to travel to these events.

Jan Robertson
J. Willard Marriott Library, University of Utah

MOOCs and Libraries: Massive Opportunity or Overwhelming Challenge?

Hosted by OCLC Research and the University of Pennsylvania Libraries, this event featured thoughtful and provocative presentations about the ways libraries are getting involved with massive open online courses (MOOCs), including the challenges and strategic opportunities they are facing. More than 500 people participated in this event, in person and online. These attendees learned from the pioneers how library content and services can be represented in these new learning environments, and about new opportunities for supporting teaching on campus.
Research grants: supporting library/archival research and education

Each year OCLC Research and ALISE, the Association for Library and Information Science Education, collaborate to offer research grants to full-time faculty in schools of library and information science or related fields. The overall goal is to promote independent research, particularly work helping to integrate new technologies that offer innovative approaches, and research that contributes to a better understanding of the information environment and user expectations and behaviors. International proposals and collaborative projects are encouraged.

Awards made in 2012—work to be done in 2013

- Lynne Bowker (University of Ottawa): “Can machine translation facilitate outreach to newcomers? A pilot study investigating the needs of Spanish-speaking users of the Ottawa Public Library”
- Kyung-Sun Kim (University of Wisconsin–Madison) and Sei-Ching Joanna Sin (Nanyang Technological University): “Social Media as Information Sources: Use and Evaluation of Information from Social Media”
- Sanghee Oh (Florida State University): “Understanding Health Information Behaviors in Social Q&A: Text Mining of Health Questions and Answers”

Projects funded in 2011—work conducted in 2012

- Abdulhussain Mahdi and Arash Joorabchi (University of Limerick): “A New Unsupervised Approach to Automatic Topical Indexing of Scientific Documents According to Library Controlled Vocabularies”
- Laura Saunders and Mary Wilkins Jordan (Simmons College): “Reference Competencies from the Practitioner’s Perspective: An International Comparison”
- Carolyn Hank (McGill University) and Cassidy Sugimoto (Indiana University Bloomington): “The Biblioblogosphere: A Comparison of Communication and Preservation Perceptions and Practices between Blogging LIS Scholar-Practitioners and LIS Scholar-Researchers”

Webinars

OCLC Research webinars encourage and facilitate remote participation and time-shifted review of meetings and presentations.

- Jonathan Rochkind (Johns Hopkins University): “Umlaut” [TAI CHI Webinar Series]
- Kenning Arlitsch and Patrick OBrien (University of Utah): “Search Engine Optimization (SEO) for Institutional Repositories” [TAI CHI Webinar Series]
Publications: contributing to the literature

OCLC Research publications


**External publications**


http://crln.acrl.org/content/73/6/311.full.


...Above the Fold is now my favorite blog—just about everything you identify turns out to be something I want to know about.

Jane Treadwell 
University Librarian & Dean, Library Instructional Services, University of Illinois at Springfield


Wakeling, Simon, Paul Clough, Barbara Sen, and Lynn Silipigni Connaway. 2012. “‘Readers Who Borrowed This Also Borrowed...’ Recommender systems in UK libraries.” Library Hi Tech, 30(1).

OCLC Research staff

Recognitions

- Brian Lavoie was elected to the Dryad Data Repository Board of Directors (June).
- OCLC Research and University of Oxford were awarded £50,000 (approximately $77,000) in continued funding from JISC for a third phase of our joint Digital Visitors and Residents study (June).
- Received the ALA RUSA Reference Service Press Award for article, “Are we getting warmer?” at the ALA Annual Conference, June 24, Anaheim, California (Silipigni Connaway, Confer and colleagues) (June).
- Eric Childress was appointed to a three-year term on the NISO Content and Collection Management Topic Committee, as well as to a position on the DCMI Oversight Committee (August).
- Jackie Dooley began serving as SAA President (August).
- Senior Research Scientist Lynn Silipigni Connaway, Ph.D. was elected to a three-year term on the Board of Directors of the American Society for Information Science and Technology. (September)
- Jeff Young was honored as the 2012 Kent State University SLIS Alumnus of the Year for his significant accomplishments with using Linked Data to increase the presence and discoverability of library data and materials on the Web (October).
- Senior Research Scientist Lynn Silipigni Connaway and her Rutgers University colleague Marie Radford won the 2013 ALISE/Bohdan S. Wynar Research Paper Competition Award for their paper, “Not Dead Yet! A Longitudinal Study of Query Type and Ready Reference Accuracy in Live Chat and IM Reference” (November).
- Senior Program Officers Ricky Erway, Merrilee Proffitt and Roy Tennant were featured in Digital Pioneers, an IMLS-funded project that documents early innovations in the use of digitization in libraries, museums, archives and historical societies in the words of the people who were an integral part of it all. A total of 22 innovative interviews are documented on the Digital Pioneers website (November).
- OCLC Post-Doctoral Researcher Ixchel Faniel, Ph.D., and colleagues won Best Conference Paper at the International Digital Curation Conference (IDCC13) in Amsterdam, Netherlands for “Trust in Digital Repositories” (January 2013).
- Senior Research Scientist Lynn Silipigni Connaway, Ph.D. served as Vice-Chair (2011-2012) and Chair (2012-2013) of the American Library Association’s Library Research Round Table. (Elected 2011)
[The First Steps report is] a great primer, exactly what so many archivists who are paralyzed into inaction about e-records need... The main point is that it’s a great combination of sound practical advice and clear exhortation to “Just Do SOMETHING!” Kudos.

Mark A. Greene
Director, American Heritage Center
(Regarding You’ve Got to Walk Before You Can Run: First Steps for Managing Born-Digital Content Received on Physical Media)

Transitions

OCLC Research provides a range of opportunities for various career stages, including occasional full-time permanent positions and, more often, fixed-term engagements for graduate students, grant-supported positions, and post-doctoral engagements.

- Shenghui Wang joined the Leiden office in May 2012 as a Research Scientist (permanent).
- Jeff Mixter joined OCLC in May 2012 as a Research Assistant to support FAST and other activities (fixed term).
- Max Klein joined OCLC in May 2012 as the OCLC Research Wikipedian in Residence (fixed term).
- Laurinda Weisse joined OCLC Research as an intern for the summer of 2012, to work with Professor Beth Yakel of the University of Michigan and Ixchel Faniel on the DiPIR project (fixed term, now complete).
- Julianna Barrera-Gomez began a one-year term in July 2012 as the OCLC Diversity Fellow in the Dublin office (fixed term).
- Marc Bron, a Ph.D. student from the University of Amsterdam, joined our San Mateo office in February 2013 as an intern to investigate information retrieval applied to archival collection descriptions that we’ve aggregated in ArchiveGrid (fixed term).
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| Lorcan Dempsey |
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@lorcanD
Lorcan Dempsey

11,883 Followers

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Tweeters

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| Merrilee Proffitt |
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| Dennis Massey   |
| @mrenspie       |
| Melissa Renspie |
| @genschaffner   |
| Jennifer Schaffner |
| @KarenS_Y       |
| Karen Smith-Yoshimura |
| @teamteets      |
| Mike Teets      |
| @btwashburn     |
| Bruce Washburn  |
"Excellent service... I use it for reclassifying my old collection."

- Medha Balkrishna Taskar