FALL FORUM 2006

THE FAIRMONT COPLEY PLAZA BOSTON, MA

NOVEMBER 8 – 10, 2006

Washington, D.C.

CONTENTS

ACKNOWLEDGMENTS

DLF Forum Fellowships for Librarians New To the Profession

The Digital Library Federation would like to extend its congratulations to the following for winning DLF Forum Fellowships:

- Suzanne Chapman, User Testing & Interface Specialist, *University of Michigan*
- Tiffani Conner, Project Manager, *University of Tennessee, Knoxville*
- Liz Milewicz, Research Associate, *Emory University*
- Dawn Schmitz, CLIR Post-doc Fellow, *University of Illinois at Urbana-Champaign*
- Lauren Scott, Digital Collections Project Manager, *Stanford University*
- Timothy Stinson, CLIR Post-doc Fellow, *The Johns Hopkins University*

DLF Fellowship Selection and Program Committees

DLF would also like to extend our heartfelt thanks to the DLF Fall Forum 2006 Program Committee and Fellowship Selection Committee for all their hard work. They are as follows:

- Stephen Abrams, *Harvard University*
- John Chapman, *University of Minnesota*
- Hannah Frost, *Stanford University*
- Barrie Howard, *Digital Library Federation*
- Chris Ruotolo, *University of Virginia*
- David Seaman, *Digital Library Federation*
- Sarah Shreeves, *University of Illinois at Urbana-Champaign*
- Perry Willett, *University of Michigan*

SITE MAP

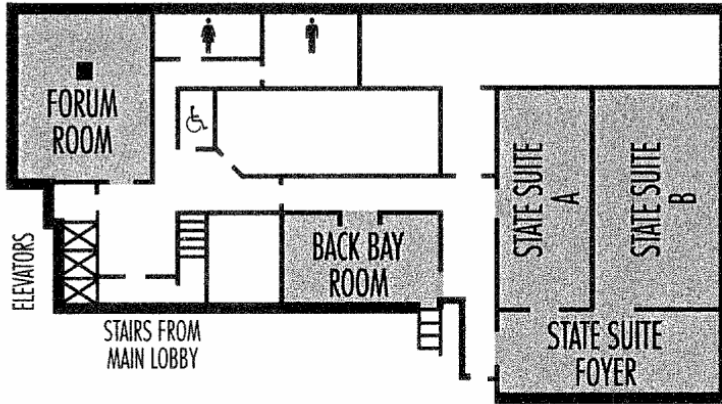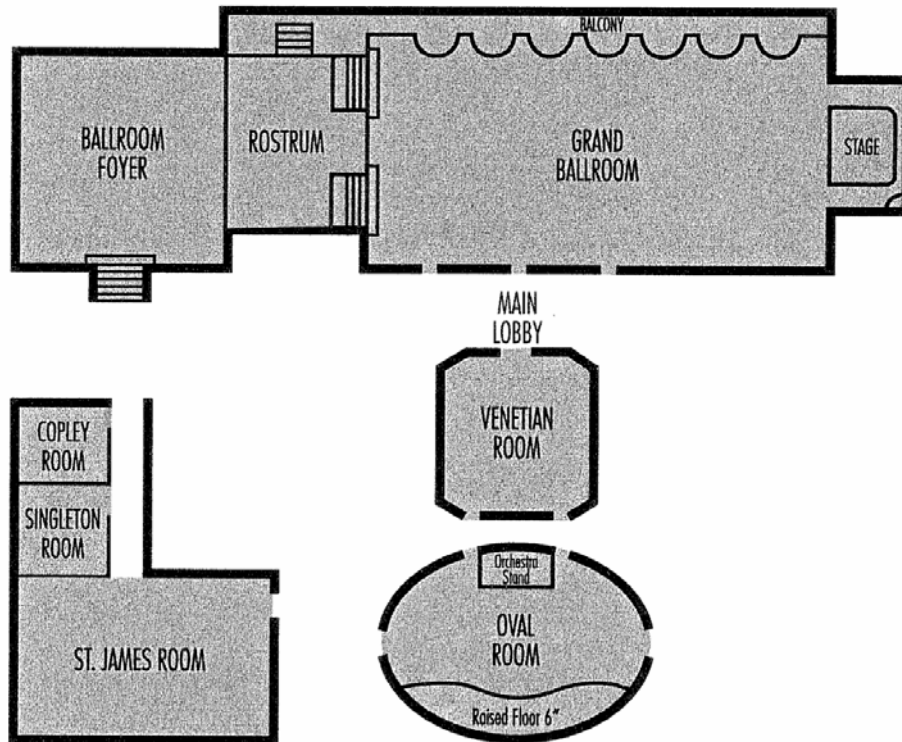Figure 1. Site Map of the Lower Lobby of The Fairmont Copley Plaza.

Figure 2. Site Map of the Main Lobby of The Fairmont Copley Plaza.

SCHEDULE AT A GLANCE

PRECONFERENCE: TUESDAY, NOVEMBER 7, 2006

9:00AM–5:00PM *METS Editorial Board Meeting—*
open to project participants (Back Bay Room, Lower Lobby Level)

9:00AM–5:00PM *PREMIS Tutorial—open to all, registration*
required (Harvard Divinity School, Cambridge)

9:00AM–5:00PM *Workshop on Developing a Services Framework*
for Libraries—open to all, registration required
(Forum Room, Lower Lobby Level)

PRECONFERENCE: WEDNESDAY, NOVEMBER 8, 2006

8:30AM–12:30PM *Developers' Forum—open to developers from DLF*
member institutions (State Suite B, Main Lobby Level)

9:00AM–12:00PM *PREMIS Tutorial—open to all, registration*
required (Harvard Divinity School, Cambridge)

9:00AM–12:00PM *NDIIP Roundtable—open to anyone from a DLF*
member institution (State Suite A, Lower Lobby Level)

9:00AM–12:00PM *DLF Aquifer Metadata Working Group Meeting—*
open to project participants (Back Bay Room, Lower Lobby Level)

DAY ONE: WEDNESDAY, NOVEMBER 8, 2006

10:30AM–1:00PM   *Registration* (Opposite Teacourt, Main Lobby Level)

11:30AM–12:15PM   *First-time Attendee Orientation* (Ballroom Foyer, Main Lobby Level)

1:00PM–1:30PM   *Opening Remarks* (Grand Ballroom, Main Lobby Level)

1:30PM–3:00PM   *Session 1:* Semantics and Resources (Grand Ballroom, Main Lobby Level)

"Collex: NINES in the Semantic Web."

"Swimming in the Resource Pool: The USC Libraries' Gandhara Project."

"SIMILE—Semantic Web browsing in DSpace."

1:30PM–3:00PM   *Session 2:* PANEL **"Web Archiving Update and Archive-It."** (Ballroom Foyer, Main Lobby Level)

3:00PM–3:30PM   *Break* (Rostrum, Main Lobby Level)

3:30PM–5:00PM   *Session 3:* Architectures and Collaboration (Grand Ballroom, Main Lobby Level)

"PennTags: Social Bookmarking in an Academic Environment."

"Cooperative Architecture and Cooperative Development of a Course Reserves Tool."

"OpenURL Unleashed: Six Questions (Q6) and the OpenURL Object Model (OOM)."

3:30PM–5:00PM   *Session 4:* Archives and Rights (Ballroom Foyer, Main Lobby Level)

"Archiving Katrina Web Content for Enduring Access & Research: Lessons Learned from the Deployment of Open Source Tools & Resources for the Historic Preservation of Current Events."

"SCETI @ Ten."

"Faculty Rights and Other Scholarly Communication Practices."

6:00PM–9:00PM *Reception* (Boston Public Library)

Note the Boston Public Library is on Dartmouth Street, kitty corner to The Fairmont Copley Plaza and directly across the street from the Copley Plaza lawn.

6:00PM–8:00PM *Posters* (Boston Public Library)

1. *"Testing METS Based Digital Object Viewers for the Calisphere Web Site."*

2. *"Using Wikipedia to Extend Digital Collections."*

3. *"GOOBI: A Workflow Management Software for Digitization Processes."*

4. *"The Olympic Community Museum: A Community-based Digital Project."*

5. *"From Project to Program: A Checklist for Sustainability."*

DAY TWO: THURSDAY, NOVEMBER 9, 2006

8:00ᴀᴍ–9:00ᴀᴍ   *Breakfast* (State Suites A & B, Lower Lobby Level)

9:00ᴀᴍ–10:30ᴀᴍ   *Keynote Address:* Anurag Acharya, Google Principal Engineer and founder of *Google Scholar* (Grand Ballroom, Main Lobby Level)

10:30ᴀᴍ–11:00ᴀᴍ   *Break* (Rostrum, Main Lobby Level)

11:00ᴀᴍ–12:30ᴘᴍ   *Session 5:* PANEL **"***Developers' Forum Panel: Networked Storage***."** (Grand Ballroom, Main Lobby Level)

11:00ᴀᴍ–12:30ᴘᴍ   *Session 6:* Partnerships with Scholars (Ballroom Foyer, Main Lobby Level)

"The Voyages Project: A Sustainable Model for Partnership between Scholars and Digital Librarians"

"Collaborating with International Faculty to Develop Video Resources: A Case Study."

"Partnering with Scholars: Exposing a City's Hidden Collections."

12:30ᴘᴍ–2:30ᴘᴍ   *Break for Lunch* [Individual Choice]

2:30ᴘᴍ–4:00ᴘᴍ   *Session 7:* Collections and Access (Grand Ballroom, Main Lobby Level)

"Virtual Collections: Challenges in Harvesting and Transforming Metadata from Harvard Catalogs for Topical Collections."

"Is the World Flat? Sharing Hierarchical Image Metadata with Flat Database Partners."

"Contextualizing Access to Subject Headings across Digital Collections: The "See Also" Problem."

"SUSHI as a Model for Library/Vendor Collaboration."

2:30PM–4:00PM   *Session 8:* Preservation (Ballroom Foyer, Main Lobby Level)

"Expanding the CDL Digital Preservation Repository for New Projects"

"Global Digital Format Registry (GDFR): An Interim Status Report."

"Life Cycle Management Meets Digital Preservation: Role of Collection Maintenance in Digital Collections Sustainability."

4:00PM–4:15PM   ***Break*** (Rostrum, Main Lobby Level)

4:15PM–5:15PM   ***Birds of a Feather (BOF) Session 1:***

1.   **"PREMIS with METS."** (Ballroom Foyer, Main Lobby Level)

2.   **"*A Framework for the DLF Aquifer Distributed Digital Library.*"**
     (Back Bay Room, Lower Lobby Level)

3.   **"*JHOVE2: A Next-Generation Architecture for Format-Aware Preservation Processing.*"** (State Suite B, Lower Lobby Level)

4.   **"*Developers' Forum BOF: Networked Storage.*"** (State Suite A, Lower Lobby Level)

5.   **"Provision of Electronic Resources to Library Users in Transitional and Developing Countries."** (Forum Room, Lower Lobby Level)

5:25PM–6:25PM   ***Birds of a Feather (BOF) Session 2:***

6.   **"*DLF Implementation Guidelines for Shareable MODS. DLF Aquifer Metadata Working Group.*"** (Back Bay Room, Lower Lobby Level)

7.   **"*Global Identifier Resolution.*"** (State Suite B, Lower Lobby Level)

8.   **"*Global Digital Format Registry (GDFR): A Review of Functional Requirements and Technical Specifications.*"** (State Suite A, Lower Lobby Level)

9.   **"*OCLC Programs and Research: A Discussion of Work Agenda with Inclusion of RLG.*"** (Forum Room, Lower Lobby Level)

DAY THREE: FRIDAY, NOVEMBER 10, 2006

8:00AM–9:00AM *Breakfast* (State Suites A & B, Lower Lobby Level)

9:00AM–10:30AM *Session 9:* PANEL **"***DLF/IMLS OAI Project Update***."**
(Grand Ballroom, Main Lobby Level)

9:00AM–10:30AM *Session 10:* PANEL (with paper) **"Mass Digitization"** (Ballroom Foyer, Main Lobby Level)

"Mass Digitization and the Collective Collection."

"Mass Digitization: Building a Digital Library of Alexandria or a White Elephant."

10:30AM–11:00AM *Break* (Rostrum, Main Lobby Level)

11:00AM–12:30PM *Session 11:* PANEL **"***MBooks: Google Books Online at the University of Michigan Library***."** (Grand Ballroom, Main Lobby Level)

11:00AM–12:30PM *Session 12:* Preservation Repositories and OAIS
(Ballroom Foyer, Main Lobby Level)

"Co-operating Preservation Archives: Sharing OAIS Collections Among Dissimilar OAIS Repositories."

"Implementing OAIS Information Packages and Producer-Archive Agreements."

"A DSpace-based Preservation Repository Design."

12:30PM *Adjourn*

FULL PROGRAM WITH ABSTRACTS

PRECONFERENCE: TUESDAY, NOVEMBER 7, 2006

8:30AM–5:00PM   *METS Editorial Board Meeting— open to project participants* (Back Bay Room, Lower Lobby Level)

Agenda:

8:30 – 9:15	Introductions and Round-robin Updates
9:15 – 12	Communications and Outreach

- METS, *the book*, feedback, possibilities for publication
- METS Web site & wiki development
- Documentation maintenance
- Planning for METS events including European Board meeting / MIM &/or training

12 – 1	Break for lunch
1 – 2:15	Board administration

- Board vacancy
- Developing workgroups with METS community

2:15 - 4:45	METS and Profile schemas

- Revision process
- Proposed revisions to schema

9:00AM–5:00PM   *PREMIS Tutorial—open to all, registration required* (Harvard Divinity School, Cambridge)

This 1.5 day tutorial provides an introduction to PREMIS, core metadata for digital preservation. It covers the PREMIS data model, the Data Dictionary, implementation considerations, and using PREMIS with METS. The tutorial includes hands-on exercises and an opportunity for participants to share their own implementation issues and experiences.

9:00AM–5:00PM   *Workshop on Developing a Services Framework for Libraries—open to all, registration required* (Forum Room, Lower Lobby Level)

This workshop will provide an overview of the work of the group to date and then focus on a hands-on approach to define various library/digital library activities. The workshop attendees will break into three small groups to work through the business logic for three library areas: Digitization, Storage of digital assets, and Discovery of digital assets.

The output of the Services Framework Workshop is expected to be a series of flow charts and a set of decomposed business processes and functions that will be included in the services framework. These will provide a basis for further systems analysis in the future as a SOA-based approach to library automated services is considered. Workshop attendees are expected to have experience with library IT management and/or technical development of digital library projects.

PRECONFERENCE: WEDNESDAY, NOVEMBER 8, 2006

8:00AM–12:30PM   *Developers' Forum—open to developers from DLF member institutions*
                              (State Suite B, Main Lobby Level)

9:00AM–12:00PM   *PREMIS Tutorial—open to all, registration required*
                              (Harvard Divinity School, Cambridge)

This 1.5 day tutorial provides an introduction to PREMIS, core metadata for digital preservation. It covers the PREMIS data model, the Data Dictionary, implementation considerations, and using PREMIS with METS. The tutorial includes hands-on exercises and an opportunity for participants to share their own implementation issues and experiences.

9:00AM–12:00PM   *NDIIP Roundtable—open to anyone from a DLF member institution*
                              (State Suite A, Lower Lobby Level)

The Library of Congress is sponsoring this information exchange session, which open to staff from DLF member institutions. Representatives from several institutions participating in the National Digital Information Infrastructure and Preservation Program (NDIIPP) will provide updates about their projects and detail their experience as part of a network of preservation partners. Attendees are encouraged to engage in discussions about the projects and related digital preservation issues and activities.   The projects to be discussed are:

- The ECHO DEPository (University of Illinois at Urbana-Champaign in partnership with OCLC)
- Web-at-Risk: A Distributed Approach to Preserving our Nation's Political Cultural Heritage (California Digital Library)
- Collection and Preservation of At-Risk Digital Geo-Spatial Data (the North Carolina State University)
- MetaArchive (Emory University)
- Preserving Digital Public Television (Educational Broadcasting Corporation/Thirteen, WNET-TV)

Agenda:

8:30	Breakfast
9:00	Welcome
9:10	The ECHO DEPository (University of Illinois at Urbana-Champaign in partnership with OCLC)
9:40	Web-at-Risk: A Distributed Approach to Preserving our Nation's Political Cultural Heritage (California Digital Library)
10:10	Break
10:30	Collection and Preservation of At-Risk Digital Geospatial Data (North Carolina State University)
11:00	MetaArchive (Emory University)
11:30	Preserving Digital Public Television (Educational Broadcasting Corporation/Thirteen, WNET-TV)
12:00	Adjourn

9:00AM–12:00PM *DLF Aquifer Metadata Working Group Meeting*— *open to project participants* (Back Bay Room, Lower Lobby Level)

DAY ONE: WEDNESDAY, APRIL 10, 2006

10:30AM–1:00PM *Registration* (Opposite Teacourt, Main Lobby Level)

11:30AM–12:15PM *First-time Attendee Orientation* (Ballroom Foyer, Main Lobby Level)

1:00PM–1:30PM *Opening Remarks* (Grand Ballroom, Main Lobby Level)

David Seaman, Digital Library Federation (Grand Ballroom, Main Lobby Level)

1:30PM–3:00PM   *Session 1:* **Semantics and Resources**
                         (Grand Ballroom, Main Lobby Level)

"Collex: NINES in the Semantic Web."
Duane Gran, Bethany Nowviskie, and Erik Hatcher, University of Virginia.

        This presentation describes the technologies behind Collex and some decisions
developers made in producing a "semantic collections and exhibits builder for the remixable
web." We will demonstrate the Collex software and describe opportunities for collaboration and
for integration of the system into digital libraries. Collex is a generalizable, web-based tool for
COLLecting and EXhibiting digital resources described with RDF, a standard format for the
semantic web. It allows users to search and annotate objects and repurpose them in annotated
bibliographies, course syllabi, and illustrated essays. Collex converts the semantics of RDF into a
faceted browser with auto-suggest fields to reveal full text search matches in real time. Users
produce a folksonomy by tagging objects and creating collections and exhibits. Patterns of use
emerge as scholars annotate and repurpose objects. The software leverages these patterns to
promote knowledge discovery in our prototype database of nearly 50,000 digital objects from ten
scholarly digital editions of nineteenth century British and American literature (the NINES
federation). Collex uses Lucene to index RDF for fast retrieval and Solr provides a neutral
software platform for user queries as well as for real-time updates of distributed contributor
metadata. Ruby on Rails supports the web tier of Collex, MySQL and Lucene are used for data
storage, and Solr serves as middleware. We have expanded on basic Dublin Core with
specialized metadata suited our initial dataset and user research interests. Emerging "Web 2.0" or
"Ajax" technologies make the application immediately responsive to user actions such as search,
object collection and annotation, and drag-and-drop exhibit building. We also provide
syndicated feeds for user-created tags, metadata facets, and saved searches to promote infiltration
of Collex data into other information environments. A next step for Collex is a proper web-
services API.

"Swimming in the Resource Pool: The USC Libraries' Gandhara Project."
Todd Grappone and Zahid Rafique, University of Southern California.

        The original goal of USC's Gandhara Project was to provide a search interface to all
metadata regarding resources and locally produced research. This goal has largely been realized.
By combining a simple locally developed XML wrapper technology with open-source software
and programming labor resources, we have developed an elegant open standards based library
information system that will be the basis for our future knowledge systems at USC. We created
a system to organically store, index and represent items regardless of format or origin. In
addition, by using XML and open standards we are developing a user-centered tool for designing
online libraries.

Using ingest harvesting and crawling technology, Gandhara creates a single search interface to the USC ILS, the USC Digital Archive, Institutional Repository, online chat reference sessions, the usc.edu web site as well as the medical library catalog. Not only does Gandhara offer new bibliographic services but it also allows for backend flexibility. For example, by focusing on multiple metadata formats, the USC digital library team has been able to produce a taxonomic browse by collection. In the system currently being developed, indexing is not wedded to a single metadata standard; any resource that produces XML can be indexed and searched. By focusing on developing collection-to-collection and collection-to-user data feeds, the "locked box" of an ILS is opened. This paper presentation will discuss the development of the system, a demonstration of the current system and next steps.

"SIMILE—Semantic Web browsing in DSpace."
MacKenzie Smith, MIT.

Project SIMILE has created a new faceted browsing interface for the DSpace institutional repository platform that demonstrates the value of RDF and Semantic Web technology for that category of digital library systems. The new UI will be demonstrated, and its implications for DSpace and other IR platforms discussed. Since 2003, the MIT Libraries have been conducting a research project called SIMILE to demonstrate practical applications of Semantic Web technology for digital libraries, particularly in the area of metadata interoperability. The project has recently developed Dwell, a faceted browsing interface for the DSpace digital repository platform based on the Longwell (general purpose) faceted browser.
Dwell uses OAI-PMH to extract RDF-encoded metadata from DSpace repositories and provides new and powerful ways to explore the contents of the repository while still integrating the new features into the standard DSpace user interface. Dwell has been released to the DSpace community, and clearly demonstrates how RDF and Semantic Web technology can lower the cost of improved functionality in digital library systems. The Dwell UI will be demonstrated, as well as more general applications of Longwell, and we will present information about how this tool can be used in other digital repository contexts as well. http://simile.mit.edu/

1:30PM–3:00PM *Session 2:* **PANEL "Web Archiving Update and Archive-It."**
(Ballroom Foyer, Main Lobby Level)

- Dan Avery, Kristine Hanna, and Molly Bragg, Internet Archive
- Kathy Jordan, Library of Virginia
- Tracy Seneca, CDL
- John Tuck, British Library
- Taylor Surface, OCLC
- Martha Anderson, Library of Congress

Web archiving services under development and deployment at a number of different institutions will enable librarians and other document selectors to extend their historic collection-building roles into the domain of web-based materials. Such services allow curators to initiate and monitor web crawls relevant to specific topic areas, analyze and annotate harvested data, and search and browse local archives built from sites that may have been harvested multiple times. This presentation will include an overview of Internet Archive's web based application Archive-it and its major functions; partners will give an overview of why they are interested in Web archiving, challenges they face in their own institutions regarding Web archiving, what they've learned so far using the Archive-it Web application, and how it's being applied in their own institutions. Internet Archive team members and their partners will review lessons learned during Archive-It's first full year of service, including a discussion around challenges of Web archiving in general, and partners will be able to provide information and informed experiences to audience members. Archive-It is a Web application uniquely designed for the needs of library, university and government institutions interesting in preserving Web content. The application allows organizations with limited infrastructure and technical staff to harvest, catalogue, search, manage and store archived Web content through a Web interface.

3:00PM–3:30PM   *Break* (Rostrum, Main Lobby Level)

3:30PM–5:00PM   *Session 3:* **Architectures and Collaboration (Grand Ballroom, Main Lobby Level)**

"PennTags: Social Bookmarking in an Academic Environment."
Michael Winkler and Laurie Allen, University of Pennsylvania.

PennTags is a social bookmarking system that has been developed at the University of Pennsylvania for use in an academic environment. PennTags allows owners to capture links to content on the open web, much like del.icio.us and other social bookmarking tools. But, PennTags can also capture content links from the Library catalog, DOI & OpenURL sources and other proprietary research-support systems that can be elusive to non-academic bookmarking systems. After capture, PennTags allows owners to enhance their bookmarks with tags and annotations that support user-driven classification, contextualization and critical analysis of these resources. Owners can organize posts into projects – logical, synthetic groupings that enhance meaning and utility of the publication. Recent changes to PennTags enable multiple project participants that can add, edit and shape its intellectual content. Over the past year as PennTags has matured, we've observed several ways in which a tool like PennTags can be a powerful tool in an academic setting to organize resources, create content and support communities of learners and researchers. Librarians are using it to quickly produce on-the-fly research guides that can continue to grow and self-organize. Increasingly, the Library is using PennTags as a content management system for its web presence. But more exciting is that communities of users – librarians, researchers, students – have used PennTags to create shared knowledge-bases that range from class projects in film studies, to bibliographies on copyright, to resources collected by students in Veterinary Medicine, to reference tools discovered by and for medical interns.

In each case, the community used PennTags to produce this corpus of resource links, metadata and synthetic organization in a harvestable, public venue. As the use of PennTags continues to grow, PennTags faces opportunities and challenges to support diverse and specialized needs to organize and present content, to support classroom use of digital objects and resources, and to integrate with the tools that researchers, faculty, students and librarians routinely use in their work. In this presentation, we discuss how PennTags has developed and what plans we have for further development.

"Cooperative Architecture and Cooperative Development of a Course Reserves Tool."
Randy Stern and David McElroy, Harvard University.

Harvard University Library and the Harvard University iCommons team have jointly developed a web based system to automate faculty creation and submission, library processing, and student display of course reserves reading lists. In its first year of operation, the system processed over 14,000 reserves requests for more than 900 courses in the Faculty of Arts and Sciences and this year has been extended to support 5 Harvard graduate schools as well. Independent library, registrar, and courseware teams worked together over a 2 year period to cooperatively design, develop, pilot, and implement a unique set of SOAP services for communication of course and library data, and service requests from web based tools running in disparate environments. Citation requests can incorporate reading lists from previous years, on-line submission, as well as legacy submissions in paper or email format. The presentation will describe the technical architecture of the solution, the management challenges of development and support in a distributed organization, and present some screenshots of the system.

"OpenURL Unleashed: Six Questions (Q6) and the OpenURL Object Model (OOM)."
Jeffery A. Young, OCLC

Forget what you think you know about OpenURL. Think of it this way instead: OpenURL is the little bit of glue that allows programmers to drop their raw business logic on a server's classpath and have it appear as a web service. This glue amounts to six questions that a three year old could understand: who, what, where, why, when, and how. Since any imaginable web service request can be expressed in these terms, this simpler understanding breaks down the barriers that have prevented OpenURL from realizing its full potential. Furthermore, the OpenURL Object Model (OOM) is offered as a language- and platform-independent view of an OpenURL application that allows developers to focus on two simple interfaces for transforming their business logic into web services.

3:30PM–5:00PM   *Session 4:* **Archives and Rights (Ballroom Foyer, Main Lobby Level)**

"Archiving Katrina Web Content for Enduring Access & Research: Lessons Learned from the Deployment of Open Source Tools & Resources for the Historic Preservation of Current Events."
Gordon Mohr and Kris Carpenter, Internet Archive.

On September 4, 2005, the Internet Archive began to collect, archive and make publicly accessible Web content covering Hurricane Katrina's historic landfall in the Gulf of Mexico and its immediate aftermath. The Internet Archive, the Library of Congress, a select group of universities, and many individual contributors worked together to compile a comprehensive list of websites to create this historical record of the devastation and the massive relief effort that followed. The goal was to collect content as it was generated or updated and to preserve each page for immediate viewing and for future research. The project was executed using a full suite of open source web archiving tools and end user applications including the

- Heritrix web crawler
- Hadoop scheduler
- Nutch search, and
- Nutch wax & Wayback machine archive file viewers

The Katrina collection spans content generated between September 4 and November 8, 2005 and has over 61 million unique pages, all text searchable, from over 1700 Sites. The collection is hosted at http://websearch.archive.org/katrina/. This talk describes the Katrina archives, the open source tools and applications used to create and support the collection, the lessons learned, and how these open source tools and applications have evolved as the result of this community-based collaboration.

"SCETI @ Ten."
David McKnight, University of Pennsylvania.

The Schoenberg Center for Electronic Text and Image (SCETI) celebrates its tenth anniversary in 2006. A jewel in the crown of the University of Pennsylvania Library system, SCETI was at the forefront of the production and networked distribution of high quality digital facsimiles drawn from the University of Pennsylvania's rich and varied rare book collections. Touted as an integrated digital library, over the course of the past ten years SCETI has evolved and changed, like other comparable programs to the point where "integrated" by necessity must be redefined. While continuing to add significant content to the Web, the program faces a number of challenges many of which are driven by internal and external forces.

The purpose of my presentation is four-fold 1) review, briefly, the history of SCETI from its inception in 1996 and the programs achievements; 2) examine the problems and issues related to the migration from a hybrid relational database system to an open source modular and tiered system architecture based upon XML; 3) analyze the impact the implementation and adoption of a new production model will have on SCETI's management, production and workflow; 4) explore the benefits that an XML production model will have upon the development of the expanding UPenn digital library and envisage the quality and nature of the user's experience while accessing and interacting with the Library's rare and special collections during the next ten years of operation.

"Faculty Rights and Other Scholarly Communication Practices."
Denise Troll Covey, Carnegie Mellon University.

This presentation will report preliminary findings from interviews with a stratified random sample of Carnegie Mellon faculty. The data, analyzed by discipline, faculty track, rank on the track, gender, and age, reveal similarities and differences in how faculty keep current in their fields, how they disseminate their work, and why – without pay – they serve on editorial boards and referee articles for journals and conference proceedings. Beyond that, the data surface faculty perceptions and misperceptions of open access, the Creative Commons, and copyright, and their awareness of and concerns about both the economics of traditional scholarly publishing and the movement to change this tradition. The data identify striking differences in when and why faculty will try to negotiate the right to self-archive their work on a website or library repository, and what they will do if the publisher refuses to grant the copyright transfer terms they want. Differences in faculty understanding of open access and their stated conditions for participating in or resisting the movement suggest needed tools, education and training that would be most effective if designed and targeted to specific faculty groups.

6:00PM–9:00PM   *Reception* (Boston Public Library)

6:00PM–8:00PM   *Posters* (Boston Public Library)

1. *"Testing METS Based Digital Object Viewers for the Calisphere Web Site."*
Brian Tingle, California Digital Library.

In August 2006 the University of California announced the launch of the Calisphere Web site. This free Web site -- http://www.calisphere.universityofcalifornia.edu -- offers educators, students and the public access to more than 150,000 images, documents and other primary source materials from the libraries and museums of the UC campuses and cultural heritage organizations across California. These digital objects are represented by METS documents inside of an access repository. The poster will explain the METS Profile aware systems that are used by Calisphere and describe the methodology that was used to test these systems during the development of the Calisphere Web site.

A "profile driver" is used by the system to manage the information needed view and extract metadata from the METS documents. A test page selects up to 20 random samples of documents matching each profile and allows the tester to examine how the METS are working or failing to work in the system.

2. ***"Using Wikipedia to Extend Digital Collections."***
Ann Lally and Carolyn Dunford, University of Washington.

In the summer of 2006 the University of Washington Libraries Digital Initiatives unit analyzed the content of its Digital Collections for subjects relevant to articles in Wikipedia; and edited the Wikipedia articles to include links to our collections. Since that time the use of our collections has increased tremendously. This presentation will talk about the history of the project, the culture of Wikipedia as applied to this project and the results of our analysis of our web server statistics.

3. ***"GOOBI: A Workflow Management Software for Digitization Processes."***
Markus Enders, SUB Göttingen.

GOOBI is a workflow management system developed at SUB Göttingen, to manage and organize complex production workflows by integrating specific modules into a workflow engine which steering the production process. The production of Images and METS-metadata had become less error-prone and more efficient.

Business processes in digitization projects: The key to success of a digitization project is the production process. The efficiency of the digitization process depends on the management and its decisions:

- How to arrange duties? How do people know, what they should next?
- How to name processes? Folder? files?
- How to document the project's status?
- How to react in unconsidered situations – new workflows in the business process are needed?

The bigger the projects gets, the more locations are involved, the higher the division of labor is, the more important the software support for project management gets. To manage and organize complex time- and place independent production processes in larger scale, GOOBI - a workflow management software for digitization projects was developed at the SUB Göttingen. The software supports the project manager with detailed statistics about the ongoing production, arranges duties to the project members and provides modules to carry out certain tasks. For platform independence it provides a web-based user interface. GOOBI consists of a highly configurable workflow engine with integrated data management. The data management manages the storage of images and metadata files while the workflow engine provides access to the data according to the process status and access privileges by copying the data to the user's home directory and document the process status. Using file system based access mechanism allows the integration of common tools as Photoshop, ACDSee etc. into the workflow.

Beyond file system access, individual modules provide functionality for certain tasks: Access the OPAC to retrieve metadata, export metadata in METS/MODS format to the document management system, capture metadata and structure of work (based on a ruleset) using the web interface. Originally GOOBI was developed for a cooperative project between German and Russian partners. Because of the flexibility of its workflow engine, it was easy to adapt the system for the common GDZ digitization workflow. Based on the good experiences (less errors, higher quality of data) and more efficient workflow, the GDZ is offering the system as a service to other libraries as well. For the future the release under an open source license is planned.

4. ***"The Olympic Community Museum: A Community-based Digital Project."***
   Anne Graham, University of Washington.

For the past three years, the University of Washington Libraries, in partnership with a variety of community organizations and individuals on Washington's Olympic Peninsula have been digitizing materials intended to showcase aspects of the rich history and culture of the region. The Olympic Community Museum project is made possible by a National Leadership Grant for Library and Museum Collaboration from the IMLS (IMLS). This work resulted in an online "virtual museum," available to all web users, and served through CONTENTdm. Materials are organized as a series of exhibits, each representing a different aspect of the culture and history of the region. Community Museum online exhibits include: Makah and Quileute tribal cultures; timber history; the lives of early pioneers; and the growing local Hispanic population's culture. Curriculum materials were also created for use by teachers of grades 9 and beyond. A community-based approach was used to collect images and curate them. This poster will present the successes and problems which were overcome in the process of identifying, digitizing, and organizing over 12,000 items, and the lessons learned, which may in turn be useful to others involved in community-based digital projects. Lessons regarding permission procurement, especially permissions from the three tribal entities involved, will be presented. Other concerns to such a project, such as publicity, management approaches, training, and curating will also be described.

5. ***"From Project to Program: A Checklist for Sustainability."***
Barrie Howard, Digital Library Federation

Many digital library projects are funded on private and public funding in two-year timeframes, with little attention paid to how to sustain successful projects past the grant period. There is sparse literature about business planning for sustainability to help prepare these projects for integration into their host institutions' organizational and operational structure, and articulate their value to decision makers. This poster session will discuss the importance of business planning for digital libraries, and present a checklist of criteria for project directors and managers to consider when faced with a decision of whether or not to approach upper administrators with a case for sustaining a project.

DAY TWO: THURSDAY, NOVEMBER 9, 2006

8:00AM–9:00AM   *Breakfast* (State Suites A & B, Lower Lobby Level)

9:00AM–10:30AM   *Keynote Address:* Anurag Acharya, Google
                                 Principal Engineer and founder of *Google Scholar*
                                 (Grand Ballroom, Main Lobby Level)

10:30AM–11:00AM   *Break* (Rostrum, Main Lobby Level)

11:00AM–12:30PM   *Session 5:* **PANEL** *"Developers' Forum Panel: Networked Storage."*
                                 (Grand Ballroom, Main Lobby Level)

- John Kunze, California Digital Library
- Keith Johnson, Stanford University
- Shigeo Sugimoto, University of Tsukuba 1-2 (Japan)

The amount of online storage required by digital libraries is growing at a rate that is straining traditional IT disk and tape configurations. Systems that make it possible to leverage the potentially vast collective storage resources of groups of providers would supply welcome relief to the pressure of accommodating the surge of information that our institutions are called upon to save, to replicate, and to make available in a variety of forms. At the same time, myriad policy, service, business, and technical choices introduce challenges that may take some time to understand. This session will surface a range of approaches to networked storage.

11:00AM–12:30PM   *Session 6:* **Partnerships with Scholars (Ballroom Foyer, Main Lobby Level)**

"The Voyages Project: A Sustainable Model for Partnership between Scholars and Digital Librarians."
Liz Milewicz, Emory University.

The Voyages project (http://www.metascholar.org/TASTD-Voyages) is an NEH-funded and scholar-digital librarian collaborative effort based at Emory University, which will create an expanded, online version of the Trans-Atlantic Slave Trade Database (Eltis, Behrendt, Richardson, & Klein, 1999) — a numerical humanities database currently in CD-ROM format, created by historians and used by scholars in multiple disciplines.

This presentation will highlight two key issues that emerged in the early stages of this project and will remain critical through the life of the database: 1) connections between scholarly practices and data structures, and the implications for both when creating a sustainable digital resource; and 2) collaborative practices that encourage engagement from project partners while acknowledging their distinct contributions. The Trans-Atlantic Slave Trade Database represents decades of accumulated scholarly research on one of the largest forced migrations in world history, and currently incorporates data on over 27,000 separate voyages. It bears the marks of its digital evolution, from variable codes constructed in DOS files to date ranges formulated in SPSS tables. Challenges facing this project are numerous and varied, from contextualizing the data for a broader audience to making the database a sustainable and expandable resource.

In particular, migrating this static resource into an online, publicly and freely accessible, and sustainable database impacts not simply the structure of data storage but established scholarly practice as well. Two of the great strengths of this project – its initiation by scholars and their committed engagement with its development, and the collaboration between scholars and digital librarians – help ensure the scholarly integrity and long-term viability of this unique resource.

"Collaborating with International Faculty to Develop Video Resources: A Case Study."
Danielle Mericle and Melissa Kuo, Cornell University.

Audio and video resources pose new challenges and fresh opportunities for digital library development. At the most basic level, faculty members request these assets be made available for research and teaching; however, the great potential of new online technologies begs the question of what else can be done?

Cornell University Library, in collaboration with faculty members from the Cornell University German Department and the University of Bremen in Germany, are completing development of an ambitious project to deliver 22 films by German filmmaker Alexander Kluge on the preeminent German playwright Heiner Mueller. What started as a relatively simple goal to make the material available quickly evolved into an extensive research project to give further context to the films. Using Flash technology, the films now have annotations, citations, and subtitles (in German and English). Extensive research & development on a wide array of software was done to produce the site, and a host of graduate students at both Cornell and Bremen worked with faculty to transcribe, translate, and caption the films. Cornell University Library had only three staff members assigned to the project (all with multiple projects). During this presentation, we will discuss the challenges of working with new technology on a limited budget; the intricacies of coordinating a large, international group of contributors; and the rich rewards of faculty/library collaborations.

"Partnering with Scholars: Exposing a City's Hidden Collections."
Charles Blair and Elisabeth Long, University of Chicago.

The University of Chicago Library is partnering with university faculty to create an innovative program for exposing primary archival sources in the Chicago area. The program includes both a technical component, the construction of an extensible, customizable infrastructure to enable searching either across institutions and collections or within individual collections, as well as a collaborative component in which the Library works with faculty to train graduate students in primary source research and archival processing techniques. This initiative will provide a model for actively engaging scholars in guiding archival processing decisions, exposing collections in a geographical region or subject area, and creating a technical infrastructure that can address the requirements of diverse institutions while enabling a cooperative endeavor. The presentation will discuss the strategic thinking that underlies this initiative, the process of collaborating with faculty and other institutions to effect such an ambitious project, and the development of the technical infrastructure.

12:30PM–2:30PM   *Break for Lunch* [Individual Choice]

2:30PM–4:00PM   *Session 7:* **Collections & Access (Grand Ballroom, Main Lobby Level)**

"Virtual Collections: Challenges in Harvesting and Transforming Metadata from Harvard Catalogs for Topical Collections."
Randy Stern and Michael McElroy, Harvard University.

The Virtual Collections system is a new centrally-supported system for Harvard librarians, archivists and curators to create new, topic-based collections from metadata existing in Harvard catalogs. A subset of OAI-PMH is utilized to request records from Harvard's OPAC (HOLLIS), visual materials catalog (VIA) and geospatial library (HGL). Using XSL, these records are transformed from their native XML form (MARC, VIA, FGDC) into a common metadata format, MODS, and loaded into a native XML database. A Web-based user interface provides browsing and searching confined to topically-defined collection rather than as part of a larger, general catalog. The Virtual Collection system uses XML transformed by XSL to deliver HTML, which allows collection curators flexibility in how content is presented. The collection can exist in a simple "out of the box" form using default XSL (and CSS stylesheets), or the collection content can be pulled into a more complex site and customized by editing stylesheet templates. This presentation will highlight some of the challenges in harvesting and transforming metadata and the use of a native XML database for storage. We will also discuss the use of XML and XSL to deliver customizable content.

"Is the World Flat? Sharing Hierarchical Image Metadata with Flat Database Partners."
Robin Wendler, Michael Vandermillen, and Gary McGath, Harvard University; and Emerson Morgan, ARTstor.

Harvard's VIA catalog of visual images has been in place for nearly eight years. From the beginning, VIA metadata records were designed to support hierarchical description, with a three-tier model of groups of works, individual works, and multiple surrogates. Harvard recently undertook a project with ARTstor to provide an alternate method of access to records for two Harvard libraries: the Harvard Fine Arts Library and the Loeb Library of the Graduate School of Design. Harvard makes the VIA records available for harvesting in MODS format. ARTstor, like the overwhelming majority of image databases, uses an essentially flat record structure where one record equates to one image.

In disaggregating Harvard's compound records into single-image records, ARTstor and Harvard staff wrestled with:
- mapping descriptive fields for separate conceptual levels into a single tier of elements, retaining vocabulary for retrieval but losing, in some cases, a level of meaning and specificity
- identifying methods for maintaining ARTstor's separate records accurately as a single hierarchical parent record changes over time.

Emerging descriptive metadata standards for visual resources, namely Cataloging Cultural Objects and VRA Core Categories 4.0, are designed to support a hierarchical approach to image description. Harvard and ARTstor's experience moving hierarchical records into a flat record environment may be helpful as other institutions begin to develop systems that take advantage of the new standards. Different approaches will be appropriate in different contexts., but however an institution structures its records will have implications for metadata sharing and aggregation.

"Contextualizing Access to Subject Headings across Digital Collections: The "See Also" Problem."
Joe Dalton, New York Public Library.

NYPL Digital Gallery, which launched with 275,000 images in 2005, has grown to more than 500,000 searchable images. With this increasing scale, it has been a challenge to provide effective ways to browse digital content. To answer the question, "what have you got," one option has been the "Subjects A-Z" index; but with over 58,000 headings listed, it has not been a particularly effective discovery tool. The New York Public Library's Digital Library Program has recently developed a new approach to subject indexing, which involves creating a separate Lucene index of all subject terms and mapping each subject heading's object-level relationships to other subjects. The results returned by queries to this index are somewhat similar to topic maps or the term-vectors in "find more like this" links. This approach has also broadened some of our previously-held ideas about "related subjects." We have found that searches using this method can dramatically open up avenues for exploration which are not possible with either a simple term search across subjects or a more traditional, semantically-derived ("see also") model.

A subject search for "animals" using this new framework returns, in addition to subject headings like "Aquatic animals" that contain the exact term, links for "Bears," "Tigers," and broader headings such as "Allegories" or "Dance." Results can be linked, for example, to all records whose subjects contain both "Animals" and "Allegories" or can be used to provide serendipitous, related avenues for further exploration. This presentation discusses some challenges and opportunities in using this new approach.

"SUSHI as a Model for Library/Vendor Collaboration."
Adam Chandler, Cornell University; and Tim Jewell, University of Washington.

SUSHI (the Standardized Usage Statistics Harvesting Initiative) is one of 3 areas of focus for "ERMI 2" -- the second phase of the DLF-supported Electronic Resource Management Initiative. Its goal is to help automate the otherwise labor-intensive process of gathering vendor-based usage statistics by developing a light-weight SOAP/Web service protocol that can be adopted by data suppliers and consumers -- including libraries, ILS vendors and other service providers. Focusing first on COUNTER "JR1" reports, the effort has moved ahead very quickly -- with development tools for both the .NET and Java environments made available last spring and successful tests within the same time-frame, some organizations moving SUSHI-based services into production this summer, and a "Draft Standard for Trial Use" scheduled for release under NISO auspices in late September 2006.
This presentation will provide background on libraries' needs for and use of vendor-supplied data, a detailed description of the SUSHI protocol and technology, "lessons learned" from the development process that may be of value to future collaborative projects, and discussion about the possible utility of SUSHI as a vehicle for gathering digital collection usage statistics offered by DLF member libraries.

2:30PM–4:00PM   *Session 8:* **Preservation (Ballroom Foyer, Main Lobby Level)**

"Expanding the CDL Digital Preservation Repository for New Projects"
Stuart Sugarman, Shifra Pride Raffel, Mark Reyes, and David Loy, California Digital Library.

This paper will describe the integration of two new services, the Open Content Alliance services and the NDIIPP Web-at-Risk Web Archiving Service, with the California Digital Library's existing Digital Preservation Repository. Emphasis will be on technical decisions, technical details of implementation, and the use made of both our own and others' software. For both projects, the process of integration is ongoing; both will have had at least limited release and use by the time of paper submission. For OCA, the decision was made to develop two new services, tracker and feeder, that would allow the exposure of work flow from book to preservation. The tracker service provides up-to-the-moment status for the manual processes of scanning, QA, and submission for preservation. The feeder service identifies digital objects for preservation, dynamically creates and submits METS records for ingest, and monitors the ingest process. Both services will be discussed.

For the web archiving project, a somewhat novel data model has been constructed that postulates an object which is composed of the archival and other files associated with an entire crawl. Metadata, preservation and other decisions that stem from this data model will be discussed. The use of IA's Heritrix crawler will be briefly covered.

"Global Digital Format Registry (GDFR): An Interim Status Report."
Stephen Abrams, Harvard University; Andreas Stanescu, OCLC.

The concept of "format" encapsulates the syntactic and semantic rules used to encode abstract content into a digital bit stream. Without knowledge of these rules, the information content of formatted digital assets cannot be recovered, interpreted, or rendered. The Andrew W. Mellon Foundation has funded the Global Digital Format Registry (GDFR) project at the Harvard University Library (HUL) to provide sustainable services to capture, manage, preserve, and distribute important representation information about digital formats. This information will be used by international preservation practitioners and memory institutions as part of their ongoing digital curation and stewardship activities. HUL and OCLC have recently reached an agreement to collaborate on the development and deployment of the GDFR. This presentation will provide background information on the project, review its progress to date, and preview its future activities. This summary will cover functional requirements and technical specifications, including the GDFR's proposed distributed peer-to-peer architecture, data and service models, network protocols, and submission policies. A forum for an extended discussion of these topics will be provided by the companion Birds-of-a-Feather session.

"Life Cycle Management Meets Digital Preservation: Role of Collection Maintenance in Digital Collections Sustainability."
Oya Yildirim Rieger, Cornell University.

This presentation illustrates the day-to-day digital collection sustainability challenges for heterogeneous digital content. As our investment in digital content creation grows, digital preservation has become a widespread and highly publicized concern with several supporting initiatives and programs in place. The maintenance of digital collections for access provision is a somewhat neglected stage of life cycle management. This matter is especially important due to the escalating digital content discovery requirements of end users and the rapidly evolving digital content delivery systems. The goal of this presentation is to describe Cornell University Library's digital collections maintenance program and to outline the process of identifying operating principles to promote strategies for sustainability. The presentation will include a description of the stewardship concept, financial analysis of maintenance costs, and examples of collection repurposing processes (such as print-on-demand services). The Library's implementation of the Ockham registry for the dual purposes of digital asset and web services management will also be described.

4:15PM–5:15PM *Birds of a Feather (BOF) Session 1:*

1.   **"PREMIS with METS."** (Ballroom Foyer, Main Lobby Level)
     Rebecca S. Guenther, Library of Congress.

        The PREMIS Working Group released the Data Dictionary for Preservation Metadata (PREMIS) and its supporting 5 XML schema in May 2005, which defines and describes an implementable set of core preservation metadata with broad applicability to digital preservation repositories. A Maintenance Activity was established in early 2006 to oversee future development and maintenance and coordinate implementation. A number of institutions have begun planning for implementations of preservation metadata in their digital repositories using PREMIS. Because of the flexibility of the METS schema and the PREMIS schemas, there is a need for the PREMIS community to develop best practices for using PREMIS within METS documents. This BOF will explore some of the approaches that implementers are taking in regard to using PREMIS with METS. These include a number of issues that are detailed below; it is suggested that attendees consider these issues in terms of the way their institutions are approaching them.

        The broader question of the types of events that institutions want to track and how event outcomes should be recorded will also be considered. It is hoped that the results of this session will lead to proposals for best practices.

Using PREMIS and METS together: issues

1.   Which METS sections are you using for which PREMIS entities?
2.   Are you repeating the main METS sections (e.g. amdSec, digiProv) and what guides the repetition?
3.   Should elements that are in both PREMIS and METS be recorded redundantly or only in one or the other (e.g. size, checksum)?
4.   How do you record elements that are in PREMIS as well as a format specific metadata schema (e.g. MIX)? Redundantly or in one or the other?
5.   How do you record structural relationships? The METS structMap covers this to some extent, but there are also PREMIS relationship elements that do the same.
6.   How do you deal with controlled vocabularies? PREMIS suggests using them in many places, but they are not enumerated in the schema and thus cannot be controlled/validated. What further work needs to be done?
7.   Are you using the PREMIS container schema or the other 4 schema separately without the PREMIS wrapper (i.e. object, event, rights, agent)?

Event issues

1.   What types of events are you tracking?
2.   How are you controlling event type values?
3.   What are you recording in eventOutcome and/or eventOutcomeDetail?

2.   ***"A Framework for the DLF Aquifer Distributed Digital Library."***
     (Back Bay Room, Lower Lobby Level)
     James Bullen, New York University.

Aquifer Technology/Architecture Working Group: James Bullen (chair), New York University; Eric Celeste, University of Minnesota; Tim Cole, University of Illinois at Urbana-Champaign; Jody DeRidder, University of Tennessee; Jon Dunn, Indiana University; Todd Grappone, University of Southern California; Jerry Persons, Stanford University; Cory Snavely, University of Michigan; Thorny Staples, University of Virginia; Associate members - Rob Chavez, Tufts University; Bill Parod, Northwestern University.

The Technology/Architecture Working Group of the DLF Aquifer Initiative has been building on the asset actions experiments reported on at the DLF Spring forum. The focus has been on extending the model to more formats, such as text and video, and formalizing the procedures and protocols for creating and exchanging asset action data. The working group has also been developing a model for the Aquifer distributed digital library that brings asset actions together with the many other strands of Aquifer and looks ahead to future Aquifer activities. This session will be an opportunity to discuss the proposed Aquifer model and asset actions and for the working group to get feedback on the direction this work is taking.

3. ***"JHOVE2: A Next-Generation Architecture for Format-Aware Preservation Processing."*** (State Suite B, Lower Lobby Level)
   Stephen Abrams, Harvard University; Evan Owens, Portico; Tom Cramer, Stanford University.

The open source JHOVE format identification, validation, and characterization tool has proven to be a successful component of many repository and preservation work flows. However, in the course of its widespread use a number of limitations imposed by its current design and implementation have been identified. To remedy this, Harvard University, Portico, and Stanford University are planning a collaborative project to develop a next-generation JHOVE2 architecture. Among the enhancements of JHOVE2 are a more sophisticated data model that can support digital objects manifest in more than one file, a more generic plug-in mechanism to permit JHOVE2 to be used for arbitrary stateful preservation work flows, and additional module support for audio, container, document, GIS, and web harvesting formats. (A project proposal is under review with a funding agency; the proposal is available at <http://hul.harvard.edu/jhove/JHOVE2-proposal.doc>.) This session will summarize the goals of the JHOVE2 project and provide an overview of its proposed functional requirements and technical specifications. The project partners are actively soliciting the advice of the JHOVE user community so that the new tool will better meet the needs of repository and preservation practitioners.

4. ***"Developers' Forum BOF: Networked Storage."*** (State Suite A, Lower Lobby Level)
   John Kunze, California Digital Library; Keith Johnson, Stanford University; Shigeo Sugimoto, University of Tsukub 1-2 (Japan).

The amount of online storage required by digital libraries is growing at a rate that is straining traditional IT disk and tape configurations. Systems that make it possible to leverage the potentially vast collective storage resources of groups of providers would supply welcome relief to the pressure of accommodating the surge of information that our institutions are called upon to save, to replicate, and to make available in a variety of forms.

At the same time, myriad policy, service, business, and technical choices introduce challenges that may take some time to understand. This session will surface a range of approaches to networked storage.

5.   **"Provision of Electronic Resources to Library Users in Transitional and Developing Countries."** (Forum Room, Lower Lobby Level)
Denise Troll Covey, Carnegie Mellon University

Carnegie Mellon faculty participating in the University Libraries' study of their rights and scholarly communication practices frequently mentioned either heavy use of their out-of-print textbooks that they had made available open access on the web or their intention to make their out-of-print books available open access on the web, but their intentions were being thwarted by non-responsive or reluctant publishers who would not return copyright to them despite the terms of the copyright transfer agreement.
       The Scholarly Publishing and Academic Resources Coalition (SPARC) recently announced an alliance with Electronic Information Resources for Libraries (eIFL), an independent foundation funded by the Open Society Institute (OSI). eIFL works to provide electronic resources for library users in transitional and developing countries. The Open Society Institute (OSI) has expressed interest in funding an initiative that would provide transitional and developing countries with online access to textbooks.

Carnegie Mellon University Libraries, SPARC, and eIFL have agreed to work together to craft a proposal or set of strategies for:

- Identifying and collecting textbooks that are currently available open access.
- Helping faculty who have authored textbooks that are currently out of print to get their copyright back from the publisher so that they can make the books available open access.
- Helping faculty negotiate copyright transfer agreements for books that would automatically (or more easily) revert copyright to them when the books go out of print.

Heather Joseph, the Executive Director of SPARC, Melissa Hagemann, Program Manager for OSI/eIFL, and I would appreciate a preliminary, exploratory discussion with interested DLF institutions to brainstorm ideas and identify potential problems.

5:25PM–6:25PM   *Birds of a Feather (BOF) Session 2:*

6.   ***"DLF Implementation Guidelines for Shareable MODS. DLF Aquifer Metadata Working Group."*** (Back Bay Room, Lower Lobby Level)
- Sarah L. Shreeves, University of Illinois at Urbana-Champaign (Chair)
- Laura Akerman, Emory University
- John Chapman, University of Minnesota
- Melanie Feltner-Reichert, University of Tennesee
- David Reynolds, Johns Hopkins University
- Jenn Riley, Indiana University
- Gary Shawver, New York University

The Aquifer Metadata Working Group (MWG) will be releasing the final version of the DLF Implementation Guidelines for Shareable MODS by mid-September and will be focused on moving forward to other work including assessing levels of compliance with the Implementation Guidelines. This session will be an opportunity for those interested in the Guidelines and the work of the MWG to discuss the final version of the Guidelines, what levels of compliance with the guidelines might be, and what other work would be useful in the context of DLF's Aquifer Initiative.

7. **"*Global Identifier Resolution*."** (State Suite B, Lower Lobby Level)
   John Kunze, California Digital Library.

The N2T resolver is a simple redirecting web server that, initially, uses the same model as URN, Handle, and DOI resolvers for "forwarding" a persistent identifier to the most current provider location. N2T is the only resolver that doesn't require web browser modifications and that offers a solution to the inevitable namespace splitting problem.

8. **"*Global Digital Format Registry (GDFR): A Review of Functional Requirements and Technical Specifications*."** (State Suite A, Lower Lobby Level)
   Stephen Abrams, Harvard University; Evan Owens, Portico; Tom Cramer,
   Stanford University

The open source JHOVE format identification, validation, and characterization tool has proven to be a successful component of many repository and preservation work flows. However, in the course of its widespread use a number of limitations imposed by its current design and implementation have been identified. To remedy this, Harvard University, Portico, and Stanford University are planning a collaborative project to develop a next-generation JHOVE2 architecture. Among the enhancements of JHOVE2 are a more sophisticated data model that can support digital objects manifest in more than one file, a more generic plug-in mechanism to permit JHOVE2 to be used for arbitrary stateful preservation work flows, and additional module support for audio, container, document, GIS, and web harvesting formats. (A project proposal is under review with a funding agency; the proposal is available at <http://hul.harvard.edu/jhove/JHOVE2-proposal.doc>.) This session will summarize the goals of the JHOVE2 project and provide an overview of its proposed functional requirements and technical specifications. The project partners are actively soliciting the advice of the JHOVE user community so that the new tool will better meet the needs of repository and preservation practitioners.

9. **"*OCLC Programs and Research: A Discussion of Work Agenda with Inclusion of RLG*."** (Forum Room, Lower Lobby Level)
   Constance Malpas, OCLC-RLG Programs

On July 1, 2006, RLG and OCLC, two of the world's largest membership-based library organizations, combined. The combination has two important aspects; the first is the integration of RLG and OCLC services, including core bibliographic utilities representing the holdings of thousands of libraries and cultural heritage institutions worldwide.

The second, more transformative aspect is the incorporation of RLG Programs and the OCLC Research into a new Programs and Research unit. The combined assets of this new unit, which brings together leading research scientists and a team of specialist program officers, create new capacities for community-building, applied research, and the development of new prototypes that will better enable research institutions respond to the challenges of a rapidly changing information services environment.

More than a hundred Partner institutions representing libraries, museums and archives worldwide actively support and participate in the work of this new unit and contribute to shaping its agenda. Attend this session to learn about the emerging work agenda of this new partnership and how you can be involved in shaping its future. The discussion will be facilitated by staff from OCLC Programs and Research.

DAY THREE: FRIDAY, NOVEMBER 10, 2006

8:00AM–9:00AM   *Breakfast* (State Suites A & B, Lower Lobby Level)

9:00AM–10:30AM   *Session 9:* PANEL "*DLF/IMLS OAI Project Update*." (Grand Ballroom, Main Lobby Level)

- David Seaman, Digital Library Federation
- Kat Hagedorn, University of Michigan
- Tom Habing, University of Illinois at Urbana-Champaign
- Martin Halbert, Emory University
- Katherine Kott, DLF Aquifer

The Open Archives Initiative Protocol for Metadata Harvesting (OAI) has been successful as a protocol to enable the sharing of metadata with which to create digital library services. It is easy to use and can transmit both simple and complex metadata. As of September 2006 there are over 1,100 active data providers (see the University of Illinois at Urbana-Champaign data provider registry for a current number: http://gita.grainger.uiuc.edu/registry/) from a wide variety of domains and institution types.

DLF's IMLS-funded project focuses what we have learned from creating and using OAI-based services and provides training, an environmental scan, best practices, and several prototype portals that are informed by scholars' needs to deliver:

- a set of best practices for creating OAI records for library use will be completed this fall;
- a major report on and environmental scan of digital library aggregation services by Martha Brogan (fall 2006);
- a training curriculum for OAI data providers (2 courses taught to date);
- a prototype OAI portal for resource discovery containing all OAI records from all DLF institutions;

- a portal based on the subset of records that have the richer Metadata Object Description Schema (MODS) metadata;
- a collections registry for many DLF collections
- and a registry of data providers

DLF's work is lowering the barrier to creating harvestable metadata and raising our understanding of how to do it well. We expect to see a steady increase in sharable metadata for digital content created in DLF libraries in the near future, and look to the advisory panels to ensure that the services we produce and promote are technically competent and useful to the scholar. A summary of outputs includes:

- DLF Portal: http://www.hti.umich.edu/i/imls/
- DLF MODS Portal: http://www.hti.umich.edu/m/mods
- DLF Collections Registry: http://gita.grainger.uiuc.edu/dlfcollectionsregistry/browse/
- OAI Repository Cataloging Procedures and Guidelines: http://gita.grainger.uiuc.edu/registry/CatalogingOAIRepositories.pdf
- Current versions of OAI Training documents: http://www.diglib.org/architectures/oai/imls2004/training/
- OAI Best Practices, co-developed with NSDL: http://oai-best.comm.nsdl.org/cgibin/wiki.pl?OAI_Best_Practices

Katherine Kott will provide a general DLF Aquifer update and focus on the methods DLF Aquifer is developing for integrating aggregated collections into a variety of local environments. The scenarios are:
- Through a commercial search service
- Through a course management system (e.g. Sakai™)
- Through tools designed for citation management (e.g. RefWorks or EndNote®)
- Through a federated search tool in a library environment (e.g. SFX®)

Technical details on architectural models under consideration and Current asset action development will be discussed at a BOF held by the DLF Aquifer Technology/Architecture Working Group. The Metadata Working Group will also hold a BOF to discuss levels of compliance with The DLF Implementation Guidelines for Shareable MODS in a service context.

9:00AM–10:30AM *Session 10:* **PANEL (with paper) "Mass Digitization" (Ballroom Foyer, Main Lobby Level)**

"Mass Digitization and the Collective Collection."

- Constance Malpas, OCLC-RLG Programs (Moderator)
- Robin Chandler, California Digital Library
- Barbara Taranto, New York Public Library
- Carole Moore, University of Toronto

The purpose of this session is to stimulate meaningful reflection on the current status of the mass digitization enterprise and thoughtful discussion of where we (as a community) want it to head in the future. A moderated Q and A session format will enable us to surface community concerns about how mass digitization is transforming the library service environment and identify shared interest in specific collaborative solutions.

Panelists have been selected from institutions that are actively participating in large-scale digitization efforts (including Google Book Search, the Open Content Alliance and AlouetteCanada projects) whose collective experience can help to inform decision-making at other institutions. A core set of questions designed to prompt reflection and debate will be formulated by members of a recently formed working group that is exploring the opportunities and challenges associated with the build-out of a "collective" digital library collection. These questions will be circulated to panelists in advance of the Forum.

Audience members will be encouraged to pose, and respond to, additional questions during the course of the discussion. The panel will be moderated by a staff member from the recently integrated Programs & Research division of OCLC. Questions to be addressed:

1. Has the (increasing) availability of a system-wide digital collection enabled your institution to implement meaningful change in local acquisitions and/or weeding policies? Is there a threshold at which such change will become possible? How will you know when the threshold has been met?

2. Has participation in a mass digitization effort reduced expenses in any area of local library operations? Examples: efficiencies in conversion/capture or post-processing; savings in personnel costs; increased use of remote storage; efficiencies in document delivery services

3. What one thing do you wish you had known (or understood) before you "got in the game" of large-scale digitization?

4. The most widely publicized mass digitization efforts are focused on conversion of monographic works, including widely held titles. How do you justify the community investment in improving access to works that are already so widely distributed?

5. What do you need to know about how your local users (or other constituencies) are using the output of your mass digitization efforts?

6. Most large-scale digitization efforts in the US have been massively subsidized by commercial interests. If no external funding had been available to support your participation, would you have made different decisions about (e.g.) what materials to convert, or the specifications for capture or handling of materials?

7. What is the most significant compromise your institution has made in order to make mass digitization possible? Are you comfortable with the consequences of your initial decisions?

8. In deciding to enter into a mass digitization arrangement, how did your institution weigh community or public interests and local needs?

9. Have you made your existing digital content available for re-aggregation or redistribution?

10. Do you expect (or need) your current partners to ensure the persistence of aggregate digital collections to which you've contributed?

"Mass Digitization: Building a Digital Library of Alexandria or a White Elephant."
Stuart Dempster, Joint Information Systems Committee (JISC)

Like any construction project, mass digitisation should be a means to deliver a well designed, durable structure that meets the needs of its users and is fit for purpose. And just as some construction projects run late, are poorly planned, use poor quality materials and do no meet the needs of either of their backers and users, so too can mass digitisation fail to meet expectations. The Joint Information Systems Committee (JISC) has invested £16 million since 2003 on mass digitisation. It builds upon work of the Distributed National Electronic Resource including HEDS and TASI .In the UK context a multitude of public bodies have a role or take a view on mass digitisation in the UK with none fully able to take a UK-wide overview. The challenges raised by the not-for-profit and for-profit mass digitisation prompted the JISC and the Consortium of Research Libraries (CURL) to commission a Study and Report into the state of digitisation across the UK research libraries and archives.

The Loughborough Study as it became known discovered deep fragmentation in all areas of the digitisation infrastructure. These shortcomings beg the question is mass digitisation building a digital Library of Alexandria or a white elephant? In order to mitigate the enormous challenges of mass digitisation the JISC has allocated funding to address one of the primary recommendations of the Loughborough Study through the establishment of a UK e-content framework.

10:30AM–11:00AM   *Break* (Rostrum, Main Lobby Level)

11:00AM–12:30PM   *Session 11:* **PANEL "***MBooks: Google Books Online at the University of Michigan Library***." (Grand Ballroom, Main Lobby Level)**

Phil Farber, Chris Powell, and Cory Snavely, University of Michigan.

The digitization partnership between the University of Michigan Library and Google has recently taken on a new public face with the launch of MBooks, the online delivery system that was developed specifically for the Michigan materials digitized by Google.

MBooks uses the online catalog, Mirlyn, as the discovery system, and links to a page-turner accessing digital objects in a new repository. This completely automated system has provided new opportunities for collaboration between Core Services, Digital Library Production Service, and Systems Office staff. This presentation will describe the various units and processes involved in making these books available online at Michigan.

Panelists will provide an overview of MBooks; describe the workflow for retrieving the books, validating the incoming files, and assembling them in a METS wrapper for use in the online system; explain the process of creating links from Mirlyn to the pageturner written by DLPS staff, and the interaction of these systems with the rights management database created for this material; and discuss the current usage trends and possible future directions.

11:00AM–12:30PM   *Session 12:* **Preservation Repositories and OAIS**
                                 (Ballroom Foyer, Main Lobby Level)

"Co-operating Preservation Archives: Sharing OAIS Collections Among Dissimilar OAIS Repositories."
Marcy Rosenkrantz and Adam Smith, Cornell University; Markus Enders and Olaf Brandt, SUB Göttingen.

The MathArc project has created a protocol and software that enable multiple institutions to share and store digital objects in each other's OAIS repositories, regardless of the nature of each system's underlying repository. In the pilot version, the Göttingen State and University Library (SUB) and the Cornell University Library (CUL) are sharing, storing, and managing collections preserved in Göttingen's KOPAL system (based on DIAS) and Cornell's CUL-OAIS (based on aDORe). The digital objects include component TIFF, PDF, Postscript, XML, and LaTex files. The authors present a high-level view of the protocol, the software, and the inter-institutional co-operation that makes this system work.

"Implementing OAIS Information Packages and Producer-Archive Agreements."
Louis Reich, CSC; Donald Sawyer, GSFC/NASA

In January 2002, Consultative Committee for Space Data Systems (CCSDS) officially published the OAIS reference model (RM) as CCSDS 650.0-B-1 and later ISO published it as ISO 14721:2003. Subsequently, CCSDS has been working on a new generation of Information Packaging standards to meet the new requirements including use of the internet as the primary data transfer mechanism, leveraging the better understanding of long-term preservation from the OAIS RM, and incorporating XML as an emerging universal Data Description Language. A stable CCSDS Draft Recommendation, "XML Formatted Data Unit (XFDU) Structure and Construction Rules" and the XFDU Toolkit Library, a reference implementation consisting of a set of JAVA Libraries and a partial GUI, have been developed. CCSDS has also produced an ISO standard, the Producer-Archive Interface Methodology Abstract Standard (4). It provides a model for negotiation between the Producer and the Archive.

Currently CCSDS is to developing an implementable mechanism for the formal model that describes the organization of data to be delivered to an archive, and it must work with a standard delivery package structure, the XFDU standard, to act as a SIP for delivery of the data.

NASA is performing research into advanced information encapsulation, information models and procedures, and highly scalable ingest mechanisms based on the Open Archival Information System Reference Model (ISO 14721:2003) and the emerging XML Formatted Data Unit (XDFU) technologies. This research is in support of NASA requirements in the packaging of large digital datasets and ancillary data and NARA's requirements to provide the American public with access to federal, presidential, and congressional electronic records collections. This research is being conducted in coordination with standardization activities under the Consultative Committee for Space Data Systems (CCSDS It benefits from the efforts of other agencies participating in the standardization work addressing the XML based packaging of data and the development of formal mechanisms for the submission of data to archives. It also applies the emerging standards to NASA and NARA specific data and ingest requirements to determine the utility of the draft standards and to illuminate both technical and operational issues.

In this presentation we will describe the results of the early phases of this research and the status of current ongoing efforts including:

- The impact of XML schema versioning and extensibility mechanisms
- Performance and scalability of the XFDU Toolkit library both in packaging and validation
- The usability of the XFDU data model for a range of disciplines and datatypes
- The prototyping of the Producer Archive Interface Standard (PAIS) Submission Information Package (SIP) using the XFDU Toolkit Libraries

"A DSpace-based Preservation Repository Design."
Joseph G. Pawletko and Ekaterina Pechekhonova, New York University.

At NYU's Digital Library we are building a Digital Preservation Repository (PR) that uses DSpace as a core component. During the system design phase we were faced with the question "Should we build a monolithic application that does everything, or distribute the preservation functionality over a collection of components?" We decided upon the latter approach.

In this talk we will discuss why we chose the component approach; the DSpace features and add-ons that enabled us to use DSpace as a component; the role DSpace plays in the overall PR architecture, other components and implementation technologies used in the PR (Java, Ruby, SRU/W, xmlrpc, Shibboleth, the Handle system, METS, MARC/XML, LC-AV, and others); the current system development status; and future plans.

12:30PM *Adjourn*

BIOGRAPHIES

A

Stephen Abrams is the Digital Library Program Manager at the Harvard University Library (HUL), where he provides technical leadership for strategic planning, design, and coordination of the Library's digital systems, projects, and assets. Much of his recent activity has been focused on strategies, systems and workflows for long-term digital preservation. Mr. Abrams was the project manager for JHOVE, an extensible Java framework for format-specific object identification, validation, and characterization; and the ISO project leader and document editor for ISO/TC171/SC2/WG5, the joint working group that developed the PDF/A standard. Currently, he is leading efforts to establish a Global Digital Format Registry (GDFR) and coordinating the design of HUL's next generation preservation and access repository. He is a member of ACM, ALA/LITA, ASIS&T, and IEEE Computer Society.

B

Charles Blair is Co-Director, Digital Library Development Center, the University of Chicago Library. He has been active in digital library development for over a decade, and has participated in the Digital Library Federation since its inception. A member of the OCLC/RLG PREMIS (Preservation Metadata: Implementation Strategies) Working Group, his current interests include archiving, creating searchable collections of non-MARC metadata, and collaborating with like-minded individuals and groups.

James Bullen is the head of the Digital Library Program at New York University and the chair of the DLF Aquifer Technology/Architecture Working Group. James has been involved in digital library development since joining the National Library of Australia in the late nineties. At the NLA, James led or participated in the development of many systems and services, most recently Libraries Australia. James also spent time at Columbia University where he was involved in digital library, online learning and electronic publishing development.

C

Kris Carpenter, Director, Web Group, The Internet Archive. Kris Carpenter joined the Internet Archive in September 2006 and works closely with national libraries, archives and universities to provide technical expertise and services in web archiving and search.
Prior to joining the Internet Archive, Kris divided her time between the on line consumer and business-to-business on line services and software sectors. She is a recognized expert in web search, ecommerce marketplaces and transactional services. For the majority of the last fifteen years Kris has served in product and general management roles for venture-backed Silicon Valley start-ups. Kris has a Bachelor of Arts and a Masters in Organizational Behavior from Stanford University.

Adam Chandler is Information Technology Librarian within the Central Technical Services department of the Cornell University Library, where his responsibilities include creation of new automated technical services processes, participation in library-wide technology initiatives and management of the department's computers. His year 2000 assignment, to explore how to build a database to help manage the library's administrative metadata for electronic journals, led to his meeting Tim Jewell and creating the "Web Hub for Developing Administrative Metadata for Electronic Resource Management." That path led to his becoming a member of the ERMI steering group. Currently, Adam is technical lead for Cornell's implementation of III's ERM stand alone module. His ERMI standards involvement continues with work on the mapping of license terms to ERM systems; also, he has a growing curiosity about the potential relationship between electronic resource usage statistics and ERM systems.

Robin Chandler is the Director of the Built Content Program for the California Digital Library which includes administering the Online Archive of California and the American West Project as well as coordinating frameworks to surface digital collections across the University of California Chandler has experience providing online access to digital content including tobacco industry documents at the UCSF Library and high-energy physics preprints at the Stanford Linear Accelerator Center (SLAC). Chandler holds masters degrees in Library Science (UC Berkeely) and American History (San Francisco State University).

John Chapman is Metadata Librarian in the Technical Services department of the University of Minnesota Libraries. He works closely with staff from Archives and Special Collections, the Digital Library Development Lab, and subject experts from across campus to create and enhance access to library resources. Previously, he worked at the Minnesota Historical Society as an archivist and as a researcher for web projects and services. He holds a M.L.I.S. from Dominican University and a B.A. in religion from Macalester College.

Suzanne Chapman is the Interface and User Testing Specialist for the University of Michigan's Digital Library Production Service (DLPS). She is responsible for the design, deployment, and user testing evaluation of Digital Library eXtension Service (DLXS) interfaces, including interface development for the Michigan Digitization Project "MBooks." Suzanne's undergraduate degree is in Fine Arts and she recently completed her Master of Science in Information at the University of Michigan's School of Information.

Tiffani Conner is currently the Project Manager for an IMLS-funded grant project called "The Growth of Democracy in Tennessee: a Grass-Roots Approach to Volunteer Voices" (Volunteer Voices). Her role as Project Manager includes administering all the elements of the state-wide grant project including budget, production, training, metadata, standards and selection, as well as planning for sustainability, development of collaborative relationships, securing legislative support, and developing a useful and usable educational Web site.

Tom Cramer is Associate Director, Digital Library Systems and Services, for the Stanford University Libraries and Academic Information Resources.

D

Joe Dalton is Senior Web Developer for the New York Public Library Digital Library Program.

Stuart Dempster is the Digitisation Programmes Manager for the Joint Information Systems Committee (JISC) in the UK, where he manages the scoping, oversight and delivery of mass digitisation programmes for the benefit of life-long-learning, teaching and research. To date, two programmes, totaling £16 million have been instigated in collaboration with UK and US institutions. He was instrumental in the development of the "Digitisation in the UK – The case for a UK Framework" report and "Study on Digitised Content in the UK Research Libraries and Archives Sector" commissioned by JISC and CURL. Prior to JISC, Stuart worked on mass digitisation initiatives at the Wellcome Trust, United News and Business and The Press Association which encompassed information life-cycle management, business modeling, legal and technical digital library development. He lives with his partner in the less than picturesque Clapham, South West London with no views, but great entertainment and transport links.

Carolyn Dunford received her Master of Library and Information Science from the University of Washington in August 2006. She also holds a Master of Urban Planning from the University of Washington and a Bachelor of Fine Arts from the University of Massachusetts. Her areas of interest include user interface design, digital libraries, information architecture, and social networking software.

E

Markus Enders Markus Enders is working as the technical head for the Digitization Centre at State and University Library Göttingen co-developing document management systems and capturing tools for the digitization process. Additionaly he has been involved in some preservations projects and is currently working in a common project with Cornell University Libraries (MathARC) to build a federated archive for mathematical journals.

F

Phil Farber is a Programmer and Information Retrieval Specialist with University of Michigan Digital Library Production Services (DLPS). His current work includes design, programming and maintenance of the UM Digital library Extension Service (DLXS) software. DLXS software provides web access to full-text material (monographs, journals, structured and page-image-based), EAD2000-encoded finding aids and image and bibliographic databases. DLXS is in use at UM Digital Library and UM Scholarly Publishing Office and around 30 other institutions in the US and abroad.

Hannah Frost preserves media collections at Stanford University Libraries and contributes to the planning and development of the Stanford Digital Repository's preservation services. She earned her MLIS from the Preservation and Conservation Studies program at the University of Texas at Austin School of Information in 2001.

G

Anne Graham is a Senior Computer Specialist in the Digital Initiatives unit of the University of Washington Libraries. Anne has managed several digitization grants and projects from a variety of federal, community, and university sources. With a background in IT and databases, she also maintains the University's installation of CONTENTdm, the digital collection management software, which holds over 160,000 images and digital objects (http://content.lib.washington.edu).

Todd Grappone is Associate Executive Director for Information Development and Management for the University of Southern California Libraries where he leads efforts in implementing and supporting next generation digital library initiatives. Todd came to USC from Stanford University where he was Associate Director for Wireless Computing Development for the School of Medicine as well as Head of Computing and Network Systems for Lane Medical Library. Todd received his MLIS from the University of Pittsburgh in 1997.

Rebecca Guenther is Senior Networking and Standards Specialist in the Network Development and MARC Standards Office of the Library of Congress. She has worked at LC since 1980 in various positions and in her current position since 1989. Her current responsibilities include work on national and international information standards, primarily in the area of metadata. She has been instrumental in the development of MODS and PREMIS, and served as co-chair of the PREMIS Working Group. Other activities include maintaining a number of crosswalks between various metadata schemes, participating in the DLF Digital Registry Working Group, and serving as rotating chair of the ISO 639 Joint Advisory Committee on Language Codes.

H

Thomas G. Habing is a Research Programmer at the Grainger Engineering Library Information Center at the University of Illinois at Urbana-Champaign where for the past eight years he has worked on various digital library projects. In addition to his technical support for various ongoing OAI-PMH related projects at UIUC, including being the developer of the UIUC OAI Registry, Tom is a technical lead for the Library's NDIIPP ECHO DEPository grant project. Before the OAI-era, Tom was a lead developer on the Library's NSF funded Digital Library Initiative (DLI I) project, and the CNRI funded DLib Test Suite projects. Prior to returning to the Midwestern, U.S. in 1997, Tom was a Senior Computing Methods and Technology Engineer for The Boeing Company in Seattle, Washington, where he had been employed since 1986 doing systems analysis, programming, and graphical user interface design.

Kat Hagedorn is Metadata Harvesting Librarian at the University of Michigan Libraries. She is responsible for the OAIster project, a search gateway for OAI harvested records leading to digital objects, initially Mellon-funded in 2001-2002. Currently, she is working collaboratively on an Institute of Museum and Library Services (IMLS) project grant to research second generation OAI work. She is also responsible for Digital Library eXtension Service (DLXS) Bibliographic Class and its corresponding bibliographic collections. She was named a Library Journal Mover & Shaker in 2005. Ms. Hadedorn's previous experience is in information

architecture (with the Argus Associates firm) and ontology and taxonomy consulting (with the Food and Agriculture Organization in Rome).

Kristine Hanna is the Director for Web Archiving Services, working with partners to develop web archiving services and solutions. Kristine has been working on the internet since 1997 when she co-founded GirlGeeks, a career site for women in technology, which was flipped to a non profit in 2002. For the last four years she has held senior level and management positions in online content and business development in media and educational internet companies. Before founding GirlGeeks, Kristine worked extensively in film and television at Lucasfilm, (Colossal) Pictures, and Lorimar/Warner Brothers; and attended USC's School of Cinema and Television. She has earned two team Emmy Awards, as well as two individual Emmy nominations as the Visual Effects Producer on "The Young Indiana Jones Chronicles".

Erik Hatcher programs for the Applied Research in Patacriticism (ARP - www.patacriticism.org) group at the University of Virginia. At ARP, he primarily works on Collex, a faceted browser and social networking system. In his copious free time, Hatcher also consults on interesting Lucene-based projects and co-authored "Java Development with Ant" and "Lucene in Action" (Manning Publications). Erik has spoken extensively at technical conferences worldwide.

Nancy J. Hoebelheinrich, Stanford University Libraries is Metadata Coordinator for the Digital Library Systems and Services department at the Stanford University Libraries / Academic Information Resources. In that capacity, Nancy coordinates metadata services for Stanford Libraries' digital production activities, digital repository development and implementation, and educational technology services. She has been a member of the METS Editorial Board since 2002 and is currently serving as co-chair. Nancy has been active in a number of information and educational technology specification efforts including that of PREMIS (for preservation metadata), and several of IMS Global specifications related to packaging, repository and resource list interoperability. She is currently involved with the IEEE Learning Technology Standards Committee's RAMLET project, and continues to monitor various groups working on practices related to the use of digital rights expression languages.

Barrie Howard is the program associate of the Digital Library Federation and has been with the organization for two-and-a-half years. Mr. Howard holds an M.S.L.S. degree from The Catholic University of America School of Library and Information Science. Mr. Howard is the project management for the DLF Distributed Library: OAI for Digital Library Aggregation project, a 2004 Institute of Museum and Library Services National Leadership Grant for Libraries. Other responsibilities include oversight of DLF communication, contracts and grants, finances, planning for the semi-annual Forums and other meetings, and Web content creation and maintenance.

J

Tim Jewell is head of collection management services at the University of Washington Libraries.

Keith Johnson is the Product Manager for the Stanford Digital Repository (SDR). In this role he is responsible for continually defining the digital preservation services being built and offered by the SDR via discovering, monitoring, and reconciling user needs, emerging best practices in the digital preservation field, and the institutional priorities of Stanford University. Keith brings deep experience in the commercial content creation process having spent not only the majority of his career in pre-press and publishing, but also significant parts in television, advertising, and classical music performance. Keith recently worked for Scholastic Inc., where he was responsible for developing collaborative electronic print and media publishing workflow systems and corporate digital archiving services.

Kathy Jordan holds a MA in History from Lehigh University, and an M.L.S. from Rutgers University. She came to The Library of Virginia in 2000 as a Research Archivist for 3 years. In 2003, she became the library's first Electronic Records Archivist. Kathy assumed the new position of Electronic Resources Manager in the IT Division in June 2005. Her current responsibilities include oversight and leadership in the management of electronic resources and the Library's digital environment, balancing the needs of the library to maintain and increase its digital web presence while ensuring that electronic records and archival mandates are met.

K

Bill Kehoe has been working in the Cornell University Library (CUL) system in the area of digital preservation for the past decade. During those years he has been fortunate to work with and learn from many of the persons presenting at this conference, through research projects in file format migration and in web archiving, and through involvement with CUL's Digital Preservation Management Workshop. For the past three years he has been working as the lead systems analyst and programmer for CUL's own OAIS and for CUL's portion of the MathArc Project, collaborating with colleagues at both Cornell and the Goettingen State and University Library.

Katherine Kott is the director of the DLF Aquifer Digital Library initiative. Her professional career has included experience in academic library systems, and in technical and public services. Prior to beginning her work with the Digital Library Federation in 2005, Kott was the head of cataloging and metadata services at Stanford University, where she is based. Before coming to Stanford, she led the implementation services department at Innovative Interfaces, Inc., coordinating the installation of systems at a wide range of libraries, including consortia. Katherine has pursued a theme of leveraging resources through collaboration in most of her work.

John Kunze is a preservation technologist for the California Digital Library and has a background in computer science and mathematics. His current work focuses on archiving Web sites, creating long-term durable digital references (ARKs) to information objects, and specifying lightweight (kernel) metadata. Prior work includes major contributions to the standardization of URLs, Dublin Core metadata, and the Z39.50 search and retrieval protocol. In an earlier life Mr. Kunze designed, wrote, and ran UC Berkeley's first campus-wide information system, which was an early rival and client of the World Wide Web. Before that he was a BSD Unix hacker whose work survives in today's Linux and Apple systems.

Melissa Kuo is a Web Designer for Digital Media Group, in the Digital Library and Information Technologies (DLIT) division at Cornell University Library. Before joining Cornell's digital library team, Melissa designed online information literacy tutorials at Hunter College Library and Stony Brook University Library, and was a Project Manager for print production and web development at Digital Pond, a graphics production company in San Francisco. Melissa has a B.A. in Art History from SUNY-Albany and an M.S. in Information and Library Science from Pratt Institute.

L

Ann Lally is Head, Digital Initiatives Program, University of Washington Libraries.

Elisabeth Long is Co-director of the Digital Library Development Center at the University of Chicago. In that capacity she coordinates digital initiatives, manages the Library's web sites, is responsible for interface development for a wide variety of digital collections and databases, and collaborates with faculty to develop scholarly digital resources. She is also Director of the eCUIP project which provides a digital library for the Chicago Public School system. She holds an MLS from the University of Maryland HiLS and has recently received an MFA in book and paper arts from Columbia College Chicago. She serves on the editorial board of JAB: The Journal of Artists' Books.

David Loy is a programmer for the California Digital Library.

M

Constance Malpas is a Program Officer in the newly established OCLC Programs and Research Division, working with staff in the RLG Programs office in Mountain View, California. Her current responsibilities include leading a Programs and Research working group on mass digitization and shared print storage, and managing relationships with US and European academic research institutions in the RLG Programs partnership. Prior to joining RLG, she managed special collections digitization and projects in public health informatics at the New York Academy of Medicine and participated in an international project in multi-lingual natural language database design. Malpas pursued doctoral studies in the history of science at Princeton University, focusing on the conceptual and social organization of pathological anatomy in early nineteenth-century Paris. She maintains a special interest in knowledge organization and research practices in the sciences.

David McElroy works for the Office of the Harvard University CIO's iCommons unit, responsible for developing, running, and improving learning management systems and portal software using software developed at Harvard.

Gary McGath is Digital Library Software Engineer, Harvard University Libraries.

David Mcknight is the founding Director of the Digital Collections Program, McGill University Library. Mr. McKnight has worked in the field of rare books and special collections and brings this expertise to his professional interest in producing and publishing scholarly digital collections. After a ten year career as Director of the Digital Collections Program where he produced over thirty digital collections, he accepted the position of Curator, Schoenberg Center for Electronic Text and Image, University of Pennsylvania in April 2006.

Sian Meikle has been the Digital Services Librarian at the University of Toronto Libraries since 1999. She coordinates data exchange and local provision of the materials scanned by the Toronto Open Content Alliance mass digitization centre. She is also a member of the technical committee for Alouette Canada, the Canadian national open digitization initiative. Other roles include planning, design, and implementation of local digitization projects, and the development of online resources and services, with a focus on scholarly humanities initiatives. Past roles have included library instruction and reference service, and she still enjoys a good stint on the reference desk.

Liz Milewicz (Woodruff Library Digital Programs Team - Emory University) has developed documentation for new metadata tools and curricular materials for OAI-implementation training sessions and, as part of her work for the DLF Aquifer project, has surveyed Digital Library Federation institutions to determine how they assess the use of digital collections and services. Currently she manages a NEH-funded project to create an open access, web version of the Trans-Atlantic Slave Trade Database and provide for its future expansion and preservation. She holds an MLIS and an MA in English from The University of Alabama and is pursuing her doctorate degree in the Institute of Liberal Arts at Emory University, where she is studying the culture of academic libraries.

Danielle Mericle is the Digitization Lab Coordinator for the Digital Consulting and Production Services Unit at Cornell Universitys Olin Library. In addition to overseeing the creation of digital content for Olin Library, she serves as project manager for many of Universitys grant projects. Previously, she worked as the primary photographer for New York Public Librarys Digital Unit, working on such diverse projects as Making of America II, Utopia, and Performing Arts in America, 1875-1923. Danielle Mericle holds an MFA from Syracuse University, and has taught photography at a number of institutions, including Alfred University, Syracuse University, and Ithaca College.

Gordon Mohr leads software development for the Internet Archive's public and open source web archiving projects, including the Heritrix web crawler, NutchWAX archive search engine, and Wayback Machine archive browser.Before joining the Internet Archive, Gordon founded and led Bitzi, a collaborative digital media encyclopedia built by volunteers over the web. Previously, Gordon led the design and implementation of "Ding", an extensible all-Java peer-to-peer instant-messaging platform, for Activerse, an Austin-based startup acquired by CMGI in 1999. In 1995, Gordon helped create VisualWave, an early object-oriented web application server and development environment, for Sunnyvale-based ParcPlace Systems.Gordon has a BA from the University of California, Berkeley with a double-major in Computer Science and Economics.

Carole Moore is Chief Librarian, University of Toronto and Chair of the AlouetteCanada Steering Committee. AlouetteCanada is a national digitization effort with a mandate to build a thematically-focused aggregate collection.

Emerson Morgan is the Metadata Analyst for ARTstor. Emerson receives, analyzes and documents various metadata formats for use in the ARTstor Digital Library, which contains about 500,000 images of art, architecture and archaeology. He works with the ARTstor metadata team to improve discovery through browsing categories and vocabulary enhancements. Emerson has spoken on sharing descriptive image metadata at annual meetings of the Visual Resources Association and Museum Computer Network. He served as a guest contributor to the Union Catalog of Art Images (UCAI) project and has contributed to development of XML schemata for the VRA Core Categories and CDWA-Lite.

Emerson came to ARTstor in 2001. Between 1999-2001 he researched, cataloged, and archived images in visual arts, architecture, and material culture in the Arts Library Visual Resources Collection at Yale University. He received his A.B. from Vassar College and studied composition at the Oberlin Conservatory of Music.

O

Evan Owens is Portico Chief Technology Officer, and serves as a member of the PREMIS working group.

P

Joseph Pawletko joined the Digital Library Program in NYU's Division of Libraries in June 2005 as the Programmer/Analyst for the Hemispheric Institute Digital Video Library (HIDVL). His role in the Digital Library Program evolved and he is currently serving as the technical lead for the Digital Preservation Repository project. Mr. Pawletko holds a M.S. in Computer Science from New York University and a B.S. in Electrical Engineering from Duke University.

Chris Powell works for the University of Michigan Humanities Text Initiative (HTI), and is part of the Digital Library Federation TEI in Libraries Task Force.

R

Shifra Pride Raffelis Web Archiving Programmer for the California Digital Library's Web Archiving Service, an NDIIPP project of the CDL's Digital Preservation Group. She does primarily Java programming at CDL and was one of the coders for the CDL's Digital Preservation Repository. As part of her work on the Web Archiving Service, she has made code and documentation contributions to the Internet Archive's Heritrix crawler. Past experience includes working at UC Berkeley, various dot-coms, and Lucent/Avaya.

Zahid Rafique is Information Architect, University of Southern California working on building a digital archive system with EMC Documentation 5.

Louis Reich is a Lead Principal Systems Engineer at Computer Sciences Corporation (CSC). He has a B.S Degree in Computer Science from Massachusetts Institute of Technology in 1971 and 35 years of Information Technology experience. Mr. Reich is a leader in emerging digital information preservation technologies and co-authored the Open Archive Information System Reference Model (OAIS RM) that became an ISO Standard in 2002. He is currently the chairman of the Information Packaging and Registries Working Group in the Consultative Committee for Space Data Systems and Co-investigator in the NASA/NARA research project on advanced information encapsulation, information models and procedures, and highly scalable ingest mechanisms. Recently, he was the co-chair of the GML and Cataloging Working Groups of the OpenGIS Consortium. Mr. Reich has participated in the development of reference models and standards in many disciplines including, heterogeneous distributed database management systems, data dictionaries, object information models, geographic information systems query languages and registries He has also acted as an architect and designer of several registries and data and service cataloging and discovery protocols in the Earth Observation and Geospatial Information Systems domains.

Oya Reiger is Associate Director, Digital Library and Information Technologies, Cornell University Library.

Mema Roussopoulos is a faculty member at Harvard University in the Division of Engineering and Applied Sciences. She completed her Ph.D. in Computer Science and was a Postdoctoral Fellow in the MosquitoNet Group at Stanford University.

Chris Ruotolo is Digital Services Manager for Humanities and Social Sciences and co-bibliographer for English at the University of Virginia Library. Before taking on her current role, she was Associate Director of the Electronic Text Center at Virginia. She is heavily involved with the Text Encoding Initiative and currently serves on its Board of Directors. She also teaches XML and XSLT workshops for the Association of Research Libraries. Chris holds a BA in literature from Yale and an MA in English from Virginia.

S

Donald Sawyer is a computer scientist at, and former interim Head of, the National Space Science Data Center at the Goddard Space Flight Center. He has a BS degree in Physics from the University of Rochester in 1963 and a Certificate of Candidate in Philosophy, Space Science, in 1967 from the University of Minnesota. He is the author of the AP-8 Trapped Proton Radiation Belt Model in use for the last 30 years. He is the designer and primary developer of a sophisticated, multi-parameter, science data extraction and algorithmic manipulation capability used to support coordinated analysis of data by teams of research scientists. Mr. Sawyer also established the NASA/Science Office of Standards and Technology (NOST) for standards information and standards development within the NASA related space science community in 1990. Mr. Sawyer is the chair of the Archive Ingest Working Group within the Consultative Committee for Space Data Systems, a working body for ISO TC20, SC13. He was co-editor of the "Reference Model for an Open Archival Information System (OAIS)."

Mr. Sawyer is an advisory board member at the University of North Carolina School of Information and Library Science on a project addressing the development of an international digital curation curriculum and is an active member of the Archive Certification Task Force under the leadership of RLG/OCLC and NARA.

Dawn Schmitz is the CLIR Post-Doctoral Fellow in the History of American Popular Performance at the University of Illinois at Urbana-Champaign Library. She is currently managing digital projects that will increase the accessibility of the library's visual, textual, and ephemeral resources related to the history of theatre. She also collaborates with archivists, librarians and teaching faculty in creating digital learning environments to help undergraduate students understand how to find and use primary sources. She has written on the history of visual advertising and on digital information literacy instruction. Her Ph.D. is in Media and Cultural Studies and her MLIS is in Archival Studies, both completed at the University of Pittsburgh in 2004.

Lauren Scott works as a Digital Collections Project Manager for Stanford University Libraries. Previously she worked in the technology industry for ten years, specializing in software product design and management.

David Seaman is Executive Director of the Digital Library Federation. Prior to that he was the founding director of the Electronic Text Center at the University of Virginia Library (1992-2002), a humanities digital library of texts and images. David Seaman holds a B.A. in English Studies from the University of East Anglia, Norwich (1984), an M.A. in Medieval Studies from the University of Connecticut (1986), and has an incomplete Ph.D. in Medieval English at the University of Virginia. For the past ten years he has taught etext and internet courses in the annual Rare Book School at the University of Virginia. His published work includes studies of Chaucer, and he speaks and writes frequently on various aspects of humanities computing. David will become Associate Librarian for Information Management at Dartmouth College Library in December 2006.

Tracy Seneca is the Web Archiving Coordinator for the Web-at-Risk NDIIPP grant at the California Digital Library. She earned an MLIS at UC Berkeley in 1995, and a Master of Arts in Applied Technology at DePaul University, Chicago in 2004. She has designed systems for tracking copyright clearance for electronic reserves and for delivering online research instruction for libraries. Within the last three years she has been a graduate student, faculty member, bibliographer and web developer, and so brings a rich range of perspectives to design work.

Clay Shirky divides his time between consulting, teaching, and writing on the social and economic effects of Internet technologies. His consulting practice is focused on the rise of decentralized technologies such as peer-to-peer, web services, and wireless networks that provide alternatives to the wired client/server infrastructure that characterizes the Web. Current clients include Nokia, GBN, the Library of Congress, the Highlands Forum, the Markle Foundation, and the BBC. In addition to his consulting work, Mr. Shirky is an adjunct professor in NYU's graduate Interactive Telecommunications Program (ITP), where he teaches courses on the interrelated effects of social and technological network topology -- how our networks shape culture and vice-versa.

Mr. Shirky's current course, Social Weather, examines the cues we use to understand group dynamics in online spaces and the possible ways of improving user interaction by redesigning our social software to better reflect the emergent properties of groups.

Sarah Shreeves is Coordinator for the Illinois Digital Environment for Access to Learning and Scholarship (IDEALS), the institutional repository at the University of Illinois at Urbana-Champaign (UIUC). Her previous positions at UIUC were the Coordinator for the IMLS Digital Collections and Content project and the Mellon-funded OAI Metadata Harvesting Project (2001-2002) at UIUC. Prior to coming to UIUC, Sarah worked for nine years in the MIT Libraries in Boston. She has a BA in Medieval Studies from Bryn Mawr College, an M.A. in Children's Literature from Simmons College, and an M.S. in Library and Information Science from UIUC.

Adam Smith is a systems librarian at Cornell University Library. Currently, he is a co-developer on the MathArc project to implement a distributed, interoperable system for the long-term preservation and dissemination of digital serial literature in mathematics and statistics.

MacKenzie Smith is the Associate Director for Technology at the MIT Libraries, where she oversees the Libraries' use of technology and its digital library research program. She is currently acting as the project director at MIT for DSpace, MIT's collaboration with Hewlett-Packard Labs to develop an open source digital repository for scholarly research material in digital formats. She was formerly the Digital Library Program Manager in the Harvard University Library's Office for Information Systems where she managed the design and implementation of the Library Digital Initiative there, and she has also held positions in the library IT departments at Harvard and the University of Chicago. She holds a BA from the University of Washington, and an MA in Library Science from the University of Chicago. Her research interests are in applied technology for libraries and academia, and digital libraries and archives in particular.

Cory Snavely heads the Core Services unit within the University of Michigan's Library IT division. This unit works closely with others in Library IT to provide the server infrastructure, systems integration, and technological strategy that make up the technology foundation for the varied services of the library. Cory joined the University of Michigan Library in 1999 with a background in electronic publishing technology and Unix systems administration. He was involved with the implementation of Aleph in 2004, the launch of UM's institutional repository Deep Blue, and is involved in ongoing work with Google, but also still enjoys the light show as a RAID array rebuilds and occasionally uses duct tape in his daily work.

Andreas Stanescu is Software Architect, OCLC Online Computer Library Center, Inc.

Randy Stern has been Manager of Systems Development at the Harvard University Library Office for Information Systems since 2004, where he is responsible for developing and maintaining digital library software and systems that support the academic and research mission of the University, including the Harvard Digital Repository Service and associated data ingest, cataloging and public access applications and web services.

Before joining Harvard, Mr. Stern spent many years as a software developer, and was Vice President for Software Development at Captiva Software, Symbus Technology, and Kurzweil Computer Products - companies involved in document scanning, optical character recognition, and reading machines for the blind. He has a masters degree in EE/CS from MIT.

Timothy Stinson earned his Ph.D. in English from the University of Virginia in July of 2006. His dissertation, entitled "The Siege of Jerusalem: An Electronic Archive and Hypertext Edition," was an electronic archive of the nine surviving manuscripts witnesses of an anonymous fourteenth-century alliterative poem; it comprises editions of each of them linked to images of all extant manuscript leaves. He is currently a postdoctoral fellow at Johns Hopkins University, where he works on the Roman de la Rose Digital Surrogates Project and as a digital collections specialist in the Digital Knowledge Center of the Milton S. Eisenhower Library.

Shigeo Sugimoto Professor, Graduate School of Library, Information and Media Studies (GSLIMS), Director, Research Center for Knowledge Communities, University of Tsukuba, Tsukuba, Japan. Dr. Sugimoto earned the Ph.D. in Information Science from Kyoto University in 1985. In 1983, he joined University of Library and Information Science, which became GSLIMS in 2002. He has been involved in digital library research at his school and in international communities since mid 1990's. His current main research interests are metadata and digital preservation. Mr. Sugimoto is a member of Board of Trustees and Advisory Board of the Dublin Core Metadata Initiative. He is serving as a program co-chair of 9th International Conference on Asian Digital Libraries (ICADL 2006, November 2006, Kyoto, Japan) and Joint Conference on Digital Libraries 2007 (JCDL'07, June 2007, Vancouver, BC, Canada).

Taylor Surface is Digital Archives Manger, OCLC Online Computer Library Center, Inc.

T

Barbara Taranto is the Director of the Digital Library Program at The New York Public Library. She is responsible for overseeing all activities related to digital collections which includes the Digital Imaging Lab, the development of HADES, the Library's Digital Asset Management System, the establishment of DDR, the Library's Digital Data Repository, the creation of the web content application interface (WAP) and several large scale publicly accessible research resources including NYPL DigitalGallery (430,000 pictorial/graphic items) and the African American Migration Experience electronic monograph (30,000 items). In addition, Ms. Taranto is lead program officer for the Library's National Digital Newspaper Project (NDNP) funded and supported by a partnership with the Library of Congress and the National Endowment for the Humanities. She is an active member of the Digital Library Federation, the Coalition for Networked Information and the Metropolitan Library Association and is currently working on a book titled The Digital Tithe.

Brian Tingle has worked for the University of California Libraries developing web based applications since 1996. He has been a user of Melvyl, the on-line catalog of the UC Libraries, since 1987, when he would often spend Saturdays or Sundays in the UC Riverside Libraries preparing for high school public speaking competitions, exploring new features of the catalog, and providing rouge computer support to patrons and staff. Since 2001 he has worked at the California Digital Library, where he is involved with technology and resource planning and systems development. His development work has been focused on ingest, access, and discovery systems for digital artifacts described by Metadata Encoding and Transmission Standard (METS) Documents. He has been a member of the METS Editorial Board since 2002 and is currently serving as co-chair.

Denise Troll Covey, Principal Librarian for Special Projects, is responsible for conducting research to inform library administration and strategic planning. She keeps abreast of technological developments, their social implications, and the laws, policies, practices, and standards relevant to digital libraries. Ms. Troll Covey's current projects are analyzing the Copyright Office's recommendations regarding orphan works, participating in the discussion of possible amendments to section 108 of the copyright law, and conducting a study of scholarly communication practices among Carnegie Mellon faculty. Her previous research, designed to increase the success and lower the cost of acquiring copyright permission to digitize and provide open access to books, was published by the Council on Library Information Resources in 2005. Ms. Covey serves on the National Information Standards Organization (NISO) Standards Development Committee where she is leading the initiative to develop rights expression and management for scholarly information. She was a Distinguished Fellow in the Digital Library Federation in 2000-2001.

John Tuck is Head of British Collections at the British Library since October 2002. Previously worked in various roles at the John Rylands University Library, University of Manchester (1977-1997) and was then Deputy to the Director of University Library Services and to Bodley's Librarian in the University of Oxford (1998-2002).

V

Michael Vandermillen is a Digital Library Software Engineer at Harvard University Library, Office for Information Systems. His primary responsibility is developing XML-based public access catalogs such as Harvard's Virtual Collections system and OASIS (Online Archival Search Information System). Previously, he worked as a software developer in private industry, and received an M.L.S from Simmons College in 1995.

W

Robin Wendler, Metadata Analyst in the Harvard University Library Office for Information Systems, has been active in metadata standards development for over a decade. She participates in the design of library systems and services at Harvard and collaborative projects such as the NEH Sound Directions project with Indiana.

Ms. Wendler is a member of the METS Editorial Board, the RLG Union Catalog Advisory Group, the Digital Library Federation/OCLC Registry of Digital Masters Working Group, and has served on MARBI, the PREMIS Working Group and many other metadata initiatives. She has published on automated authority control, preservation metadata, visual resource description and electronic resource description. She is far removed from her undergraduate degree in Classical Greek from the College of William and Mary, less far from her MLS from Syracuse University.

Michael Winkler is the Director of Information Technologies & Digital Development (iTadd) at the University of Pennsylvania. During his two years in this position he has brought tight coordination between the development of Digital Library efforts and the operation of Library systems. This collaboration has enhanced the Penn Library's ability to rapidly develop, deploy and operate technology solutions to meet the needs of learners, faculty, researchers and librarians at Penn. Before this, Winkler was the Library's Web manager and developer for five years and worked on implementing critical technologies for the delivery of web-based services and resources to the Penn community. Before coming to Penn, Winkler worked at North Carolina State University as Head of Systems and as Special Projects Librarian and oversaw the significant expansion of computing resources and infrastructure in the Library. Winkler received his MLS from the University of Pittsburgh in 1994. He is certified as a Data Communications Technician by Northeastern University, and has a BA in Economics from the University of Massachusetts in Boston.

Y

Jeffery Young graduated Beta Phi Mu with an M.L.S. from Kent State University. He has been at OCLC since 1987 and works as a software architect in the Office of Research. His focus is on registries, web services, and support and integration of protocol standards such as OAI and OpenURL. His work on WikiD was recently integrated into OCLC's Open WorldCat and DeweyBrowser services to support user-contributed content. The potential of WikiD as a general-purpose collaborative registry platform is currently being explored.

APPENDIX A: WHAT IS DLF?

What is DLF? The Digital Library Federation (DLF) is a leadership organization that pioneers the use of electronic-information technologies to extend library collections and services. Through its strategic partners and allies, DLF provides leadership to libraries broadly by

- identifying standards and "best practices" for digital collections and network access
- coordinating leading-edge research, development, and delivery
- incubating projects and services that libraries need but cannot develop individually

How does DLF operate? DLF consists of an Executive Director, a small staff, an Executive Committee, and a Board of Trustees on which each partner institution is represented. The bulk of its work on many initiatives is performed by working groups of its partners and others in the scholarly, library, and computing communities. DLF brings together experts from across disciplines and industries. The Council on Library and Information Resources (CLIR) is the administrative home to DLF.

DLF Strategic Partners contribute annually to DLF's operating budget and pledge funds over five years to its Capital Fund. Each member institution has a seat on the Board of Trustees and the responsibility to help direct the organization. The current Strategic Partners are as follows:

Bibliotheca Alexandrina
British Library
California Digital Library
Carnegie Mellon University
Columbia University
Cornell University
Council on Library and Information Resources
Dartmouth College
Emory University
Harvard University
Indiana University
Johns Hopkins University
Library of Congress
Massachusetts Institute of Technology
National Archives and Records Administration
New York Public Library
New York University
North Carolina State University
Oxford University

APPENDIX A (continued)

Pennsylvania State University
Princeton University
Rice University
Stanford University
University of California, Berkeley
University of Chicago
University of Illinois at Urbana-Champaign
University of Michigan
University of Minnesota
University of Pennsylvania
University of Southern California
University of Tennessee
University of Texas at Austin
University of Virginia
University of Washington
Yale University

DLF Allied Partners are organizations working in proximate areas. A senior officer from each allied organization sits on the DLF Board of Trustees "with voice but without vote." The Allied Partners are:

Coalition for Networked Information (CNI)
Joint Information Systems Committee (JISC)
Los Alamos National Laboratory Research Library (LANL}
OCLC Online Computer Library Center, Inc. (OCLC)
RLG

DLF Staff maintain the Executive Director's office and are responsible for setting program goals and priorities, facilitating and supporting DLF initiatives, managing communications, and administering finances and the work of the governing Board. The central office staff includes:

Executive Director: David Seaman (dseaman@clir.org)
Program Associate: Barrie Howard (bhoward@clir.org)
Communications and Administrative Associate: Christie Hartmann (chartmann@clir.org)

What does DLF provide?

Leadership and support for new research, standards development, and project start ups. Notable successes include OAI, METS, the Registry of Digital Masters, and the Electronic Resources Management Initiative (ERMI).

APPENDIX A (continued)

A semi-annual Forum to report on developments, standards, and projects, to plan new areas of collaborative endeavor, and to allow members to share experiences and find new colleagues.

E-mail discussion lists to exchange information, announce initiatives, identify resources, and stimulate discussion.

A Web site (http://www.diglib.org/) to provide public access to information about activities, resources, developments, and DLF itself.

Periodic newsletters and a pair of online databases to provide access to digital collections available from DLF members, and digital library documentation (policies, strategies, working papers, standards, and technical documentation).

Publications for reporting on research and conferences, the progress of initiatives, and on members' digital-library services, collections, projects, and challenges.

Multiple partnership opportunities, a sense of community and shared vision, and an opportunity to collaborate with a rich array of digital library practitioners and theorists.

For more information, contact:

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APPENDIX B: RECENT DLF PUBLICATIONS

Contexts and Contributions: Building the Distributed Digital Library. Washington, D.C.: Digital Library Federation, 2006. http://purl.oclc.org/dlf/dlf106/.

This publication had its starting point in a 2003 survey of digital library aggregation services compiled by Martha Brogan for DLF: *A Survey of Digital Library Aggregation Services*. This environmental scan was influential in the understanding of our early attempts to craft aggregated digital library services that served students and scholars well, and it had a very positive impact on the development of the services that followed.

The current work is more difficult because the environment is maturing, and changing rapidly. Its value and timeliness is increased because of that, and I am proud that DLF can sponsor such a detailed evaluation of a shifting, but critically important landscape. Martha Brogan's current study draws our attention to "major developments affecting the ecosystem of scholarly communications and digital libraries" and gives us all a rich comparative analysis of digital library aggregation services, including a clear-sighted view of—in Martha's words— "the obstacles requiring further attention to realize … an open, distributed digital library."

Acquiring Copyright Permission to Digitize and Provide Open Access to Books. Denise Troll Covey. Washington, D.C.: Digital Library Federation, Council on Library and Information Resources, 2005. http://purl.oclc.org/dlf/dlf105/.

What are the stumbling blocks to digitization? Is copyright law a major barrier? Is it easier to negotiate with some types of publishers than with others? To what extent does the age of the material influence permission decisions? This report, by Denise Troll Covey, principal librarian for special projects at Carnegie Mellon University, responds to many of these questions. It begins with a brief, cogent overview of U.S. copyright laws, licensing practices, and technological developments in publishing that serve as the backdrop for the current environment. It then recounts in detail three efforts undertaken at Carnegie-Mellon University to secure copyright permission to digitize and provide open access to books with scholarly content.

A Kaleidoscope of Digital American Scholarship. Martha L. Brogan, with assistance from Daphnée Rentfrow. Washington, D.C.: Digital Library Federation, Council on Library and Information Resources, 2005. http://purl.oclc.org/dlf/dlf104/.

This report will be useful to anyone interested in the current state of online American literature resources. Its purpose is twofold: to offer a sampling of the types of digital resources currently available or under development in support of American literature; and to identify the prevailing concerns of specialists in the field as expressed during interviews conducted between July 2004 and May 2005. Part two of the report consolidates the results of these interviews with an exploration of resources currently available.

Part three examines six categories of digital work in progress: (1) quality-controlled subject gateways, (2) author studies, (3) public domain e-book collections and alternative publishing models, (4) proprietary reference resources and full-text primary source collections, (5) collections by design, and (6) teaching applications. This survey is informed by a selective review of the recent literature.

Electronic Resource Management: A Report of the DLF Initiative. Timothy D. Jewell, Ivy Anderson, Adam Chandler, Sharon E. Farb, Kimberly Parker, Angela Riggio, and Nathan D. M. Robertson. Washington, D.C.: Digital Library Federation, 2004. http://purl.oclc.org/dlf/dlf102/.

As libraries have worked to incorporate electronic resources into their collections, services, and operations, most have found their existing Integrated Library Systems to lack important functionality to support these new resources. An earlier study (Jewell 2001) determined that a number of libraries had begun developing local systems to overcome these shortcomings, and the DLF Electronic Resource Management Initiative (ERMI) was organized to aid the rapid development of such systems by providing a series of interrelated documents to define needs and to help establish data standards.

Digital Library Content and Course Management Systems: Issues of Interoperation. A Report of a study group funded by the Andrew W. Mellon Foundation, and co-chaired by Dale Flecker, Associate Director for Planning & Systems, Harvard University Library, and Neil McLean, Director, IMS Australia. Washington, D.C.: Digital Library Federation, 2004. http://purl.oclc.org/dlf/dlf099/.

An ad hoc group of digital librarians, course management system developers, and publishers met under the aegis of the Digital Library Federation to discuss the issues related to the use of digital library content in course management systems. The size, heterogeneity, and complexity of the current information landscape create enormous challenges for the interoperation of information repositories and systems that support course instruction. The group has created a checklist of things that operators of digital content repositories can do to help ameliorate the complexities of such interoperation. It also explored through the means of use cases the utility of tools which help instructors gather information resources from various distributed information repositories for teaching purposes, and created a model of how the group envisions the interaction of users, tools, and information repositories in the future.

A Survey of Digital Library Aggregation Services. Martha L. Brogan. Washington, D.C.: Digital Library Federation, 2003. http://purl.oclc.org/dlf/dlf101/

This report, commissioned by the DLF, provides an overview of a diverse set of more than thirty digital library aggregation services, organizes them into functional clusters, and then evaluates them more fully from the perspective of an informed user. Most of the services under review rely wholly or partially on the Protocol for Metadata Harvesting of the Open Archives Initiative (OAI-PMH).

APPENDIX B (continued)

Each service is annotated with its organizational affiliation, subject coverage, function, audience, status, and size. Critical issues surrounding each of these elements are presented in order to provide the reader with an appreciation of the nuances inherent in seemingly straightforward factual information, such as *audience* or *size*.

Archiving Electronic Journals: Research Funded by the Andrew W. Mellon Foundation. Edited, with an Introduction, by Linda Cantara. Washington, D.C.: Digital Library Federation 2003. http://www.diglib.org/preserve/ejp.htm.

Increasingly, scholarly journals are published electronically. What does it take to keep them accessible electronically in perpetuity? Can the property rights of publishers, the access responsibilities of libraries, and the reliability assurances that scholars need be reconciled in agreements to create archives of electronic journals? These series of studies from seven major libraries examine various aspects of the challenges of archiving electronic journal content.

An Introduction to *Dimensions and Use of the Scholarly Information Environment*. Amy Friedlander. Washington, D.C.: Digital Library Federation, Council on Library and Information Resources, 2003. http://purl.oclc.org/dlf/dlf098/.

659 Data Tables for *Dimensions and Use of the Scholarly Information Environment.* Washington, D.C.: Digital Library Federation, Council on Library and Information Resources, 2003. http://www.diglib.org /pubs/scholinfo/.

We know from anecdotal evidence that users' expectations of libraries are changing as they find more information directly from the Web, but anecdotes are an insufficient basis for developing new library services. DLF and CLIR commissioned Outsell, Inc. to conduct a large-scale study to give us a much more reliable picture of user behaviors. Published here are the 659 data tables that record the responses to 35 groups of questions asked of 3,200 undergraduates, graduate students, and faculty members from academic institutions ranging from small liberal arts colleges to the largest public and private research universities. Accompanying them is a summary of the findings and 158 selected data tables; it should be viewed as an entry to the much larger data set of 659 data tables provided above.

The Digital Library: A Biography. Daniel Greenstein & Suzanne E. Thorin**.** Washington, D.C.: Digital Library Federation, Council on Library and Information Resources, 2002. http://purl.oclc.org/dlf/dlf097/.

Digital libraries, once project-based and largely autonomous efforts, are maturing. As individual programs have grown, each has developed its own personality, reflecting the circumstances of its creation and environment, and its leadership. This report from CLIR and the DLF draws on the results of a survey and case studies of DLF members to reveal how these influences have molded a range of organizational forms that we call the digital library.

APPENDIX B (continued)

The report is written by Daniel Greenstein and Suzanne Thorin. Greenstein, formerly the director of the DLF, is now university librarian and director of the California Digital Library. Thorin is the dean of university libraries at Indiana University. *Section One* of the report examines three stages of digital library growth: the young digital library, the maturing digital library, and the adult digital library. *Section Two* of the report presents case studies of digital library development at six institutions.

For full lists of DLF and CLIR publications are available from http://www.diglib.org/pubs/dlfpubs.htm, and http://www.clir.org/pubs/pubs.html.

APPENDIX C: DLF-ANNOUNCE LISTSERV

The Digital Library Federation (http://www.diglib.org/) is a consortium of forty libraries and related agencies that are pioneering the use of information technologies to extend, share, and manage their collections and services. Through its members, DLF provides leadership for libraries broadly by:

- identifying standards and best practices for digital collections and networked access

- coordinating research and development in the use of information technology

- incubating projects and services that libraries need but cannot develop individually

The best way to keep up with DLF's initiatives, Forums, calls for collaboration, and news is to subscribe to the DLF-ANNOUNCE discussion list, available to all members and selected guests.

To subscribe:

1. Address an e-mail to the following: listserv@lists.diglib.org
2. Leave the Subject line blank and remove your signature block from the body (if applicable)
3. Type: subscribe dlf-announce [your first name] [your last name]
4. Send the message

The DLF listserv should send a welcome message to you after the process is complete. In the event that you have difficulty, please contact the list owner Barrie Howard, bhoward@clir.org. You may leave the list at any time.

To unsubscribe:

1. Address an e-mail message to: listserv@lists.diglib.org
2. Leave the Subject line blank and remove your signature block from the body (if applicable)
3. Type: unsubscribe dlf-announce [your first name] [your last name]
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