

Unless otherwise noted, the content of this course material is licensed under a Creative Commons Attribution - Non-Commercial - Share Alike 3.0 License..

<http://creativecommons.org/licenses/by-nc-sa/3.0/>

Copyright 2008, Paul Conway.

You assume all responsibility for use and potential liability associated with any use of the material. Material contains copyrighted content, used in accordance with U.S. law. Copyright holders of content included in this material should contact open.michigan@umich.edu with any questions, corrections, or clarifications regarding the use of content. The Regents of the University of Michigan do not license the use of third party content posted to this site unless such a license is specifically granted in connection with particular content objects. Users of content are responsible for their compliance with applicable law. Mention of specific products in this recording solely represents the opinion of the speaker and does not represent an endorsement by the University of Michigan.



SI 615 Digital Libraries Seminar

Week 5 – Research Agendas

Themes of this week

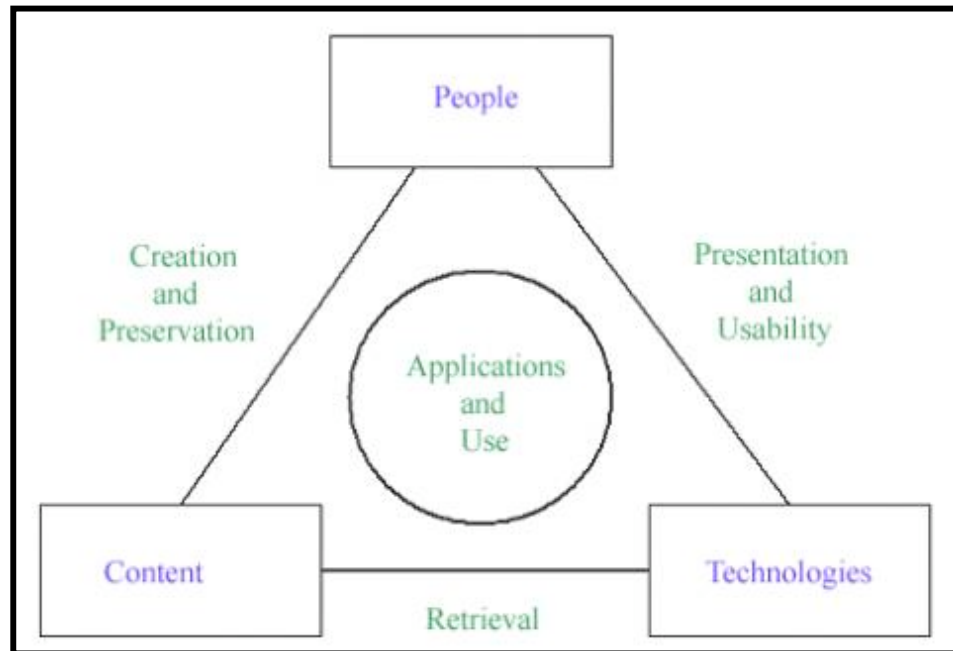
Themes

- Context of research agendas
- Waters/Garrett and Levy
- Digital preservation (Hedstrom)
- Usability and interoperability
- Research and practice

“The challenge ahead is to bring our best technical skills to bear on the problem of digital preservation without losing sight of the ultimate human purposes these efforts serve..”

David Levy, Heroic Measures, p. 160.

Research Model, NSF/DELOS



NSF/DELOS. (2003) Working Group on Digital Imagery for Significant Cultural and Historical Materials.

http://www.dli2.nsf.gov/internationalprojects/working_group_reports/digital_imagery.html

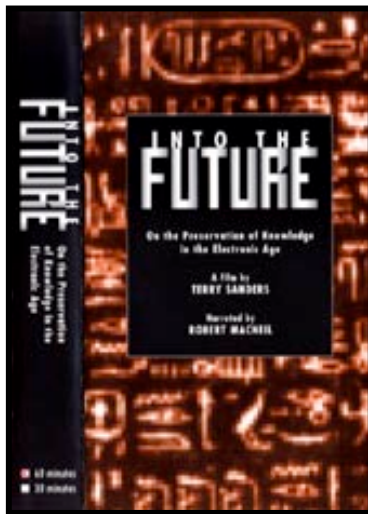
Next Decade of NSF Research

- Expand what can be searched
- Use context for information retrieval
- Integrate information spaces into everyday life
- Reduce data to actionable information
- Improve productivity through information access

NSF Knowledge Lost in Information (2003)
<http://www.sis.pitt.edu/%7Edlwkshop/>

Preserving Digital Information

- Commission on Preservation and Access + Research Libraries Group
- Don Waters and John Garrett + 19
- Five contributions
 - **Deep infrastructure**
 - **Integrity**
 - **Trusted archives**
 - **Certification**
 - **Rescue**
- Preservation of “whole and singular works” – most problematical issue



A decade of development

Introduction

Outline

Definitions

Preserving Digital Information

Large-Scale Digitization

Dilemmas

Recommendations

Conclusion

- **[Deep Infrastructure]** Cyberinfrastructure
- **[Integrity]** OAIS and PREMIS
- **[Trusted Archives]** Repositories
- **[Certification]** TRAC and DRAMBORA
- **[Rescue]** Orphaned works

Good House
Keeping® seal
removed.

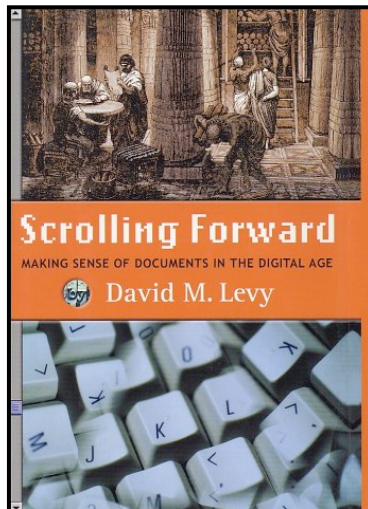
How do we communicate trust?



•David M. Levy, *Scrolling Forward*, 2001.

Levy's Critique

- David M. Levy, Xerox PARC
- First scholar to question the premise
- Question “lure of the technical”
- Fixed and fluid documents
- Preservation through creative re-use



Hedstrom on Digital Preservation, 2003

- Technical architecture
- Attributes of archival collections
- Digital archiving tools and technologies
- Organizational, economic and policy issues

NDIIPP Reports: <http://www.digitalpreservation.gov/library/reports.html>

Usability (Anderson & Choudhury)

These issues and opportunities will be the heart of our research agenda:

- Quantitative methods for digital library usability
- Location of user population and test participants
- Diversity of user population and test participants
- Testing part vs. whole digital library
- Test environment (natural vs. lab settings)
- Balance between user feedback and librarian expertise

Interoperability (Lynch & Garcia-Molina, 1995)

- use of common tools and interfaces

- ' provide a superficial uniformity for navigation and access but rely almost entirely on human intelligence to provide any coherence of content'

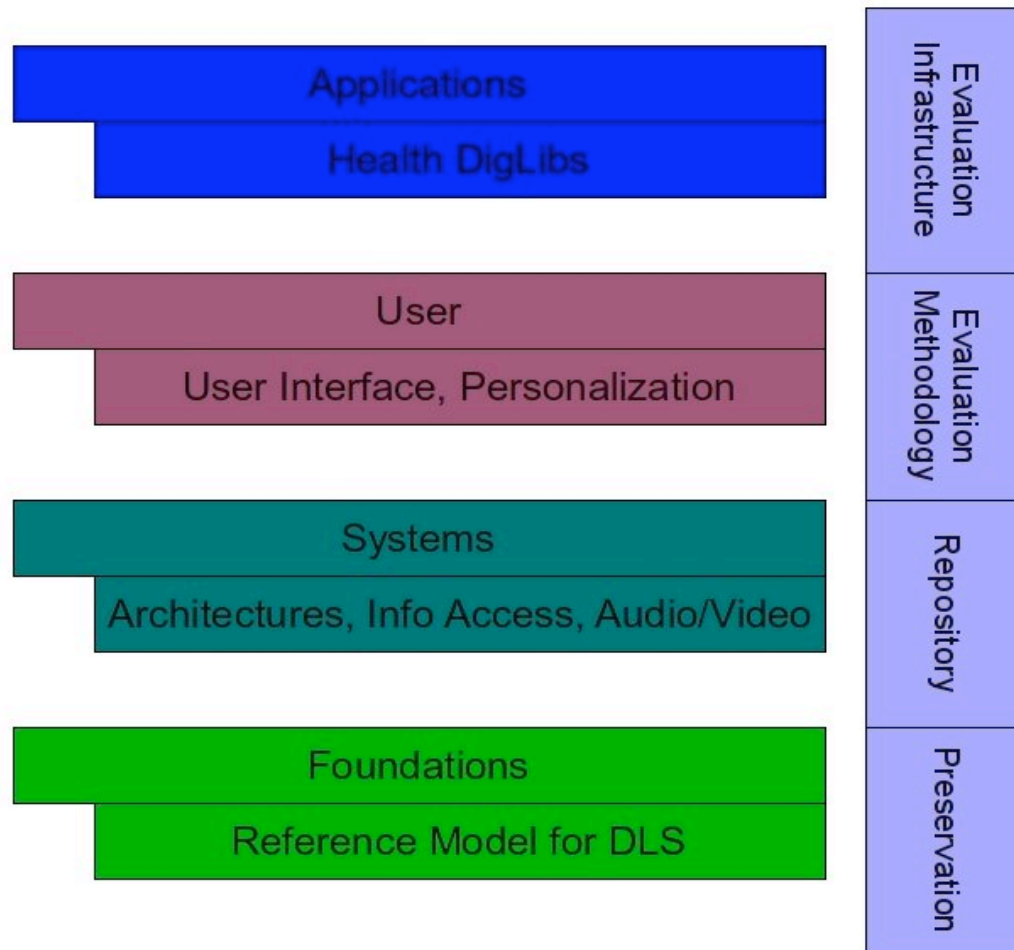
- syntactic interoperability

- ' the interchange of metadata and the use of digital object transmission protocols and formats based on this metadata rather than simply common navigation, query, and viewing interfaces as a means of providing limited coherence of content, supplemented by human interpretation.'

- deep semantic interoperability

- 'to access, consistently and coherently, similar (though autonomously defined and managed) classes of digital objects and services, distributed across heterogeneous repositories, with federating or mediating software compensating for site-by-site variations.'

Research Model, DELOS



DPE Research Roadmap, 2007

“The analysis of the last 16 years of effort in the area of digital preservation and the input from the online delphi survey support our claim that while much work has been done on the periphery, the central problems of digital preservation have yet to be resolved.” (p. 25)

www.digitalpreservationeurope.eu/publications/dpe_research_roadmap_D72.pdf

DPE Research Areas (recommended)

- Restoration
- Conservation
- Management
- Risk
- Significant Properties of Digital Objects
- Interoperability
- Automation
- Context
- Storage
- Experimentation

Hedstrom on Digital Preservation, 2002

Research is inspired by		Considerations of Use?	
		No	Yes
Quest for fundamental understanding?	Yes	Pure basic Research (Bohr)	Use-inspired basic research (Pasteur)
	No		Pure applied research (Edison)

<http://www.clir.org/pubs/reports/pub107/hedstrom.html>

Thank you!

Paul Conway

Associate Professor

School of Information

University of Michigan

www.si.umich.edu