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# SI 640 DIGITAL LIBRARIES AND ARCHIVES

2010 Week 1: Definitions – Evolution and Context

# THEMES FOR THIS WEEK

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- Introductions
- What is a digital library?
- Convergence concepts
- Course requirements and tools
- Resources

*“The term ‘digital library’ is relatively new.”*

*Borgman, 2000.*

# INTRODUCTIONS

## 1. Introductions

### 2. Definitions

### 3. Convergence

### 4. Requirements

### 5. Resources

- Welcome to SI 640 Digital Libraries and Archives
- Roll Call
  - Index cards and name tents
- [Michigan] time and breaks
- CTools site

# WHAT ARE DIGITAL LIBRARIES?

1. Introductions

2. Definitions

3. Convergence

4. Requirements

5. Resources

“... organizations that provide the services, architecture, enabling technologies, users and content resources, collections that are readily and economically available”

*Christine Borgman (1992)*  
“the term ‘digital library’ may even be an oxymoron” *Don Waters (1998)*

“...an environment to bring together collections, services, and the web is a laboratory within the academy, people in support of the full life cycle of creation, yet retains its distinct identity” *Debra Greenberg (1998)*

*Yusef Elie Grigalka (1998)*  
“... provides a community of users with dissemination, use, and preservation of data, information, and knowledge”

“... digitized and organized collection, full-form coherent access to a large, organized repository...” *Paul Duguid (1997)*  
“...online material,” link to audience...” *Cliff Lynch (1995)*

*Michael Lesk (1997)*  
“a national digital library” *Library of Congress*

“...a ‘tenth library’ for the University of California”

# DLF DEFINITION

1. Introductions
2. **Definitions**
3. Convergence
4. Requirements
5. Resources

**Digital libraries are organizations that provide the resources, including the specialized staff, to select, structure, offer intellectual access to, interpret, distribute, preserve the integrity of, and ensure the persistence over time of collections of digital works so that they are readily and economically available for use by a defined community or set of communities.**

<http://www.clir.org/pubs/issues/issues04.html#dlf>

# BORGMAN ON DIGITAL LIBRARIES

1. Introductions
2. **Definitions**
3. Convergence
4. Requirements
5. Resources

## Research and practice: different worlds

- “Digital libraries are a set of electronic resources and associated technical capabilities...
  - Focuses on the technical system
- “Digital libraries are constructed by and for a community of users...”
  - Focuses on process and service





# PRE-HISTORY

1. Introductions
2. Definitions
3. Convergence
4. Requirements
5. Resources

- Network / mainframe - infrastructure
- Moore's law

- Business-government-academic ties

Thomas Hughes, *Networks of power: electrification of western society*, 1880-1930. Johns Hopkins, 1983.

- Collaborative work: Doug Engelbart

- <http://sloan.stanford.edu/mousesite/1968Demo.htm>

SI's own history as an educational program is tied up in the evolution of the pre-history of digital libraries.



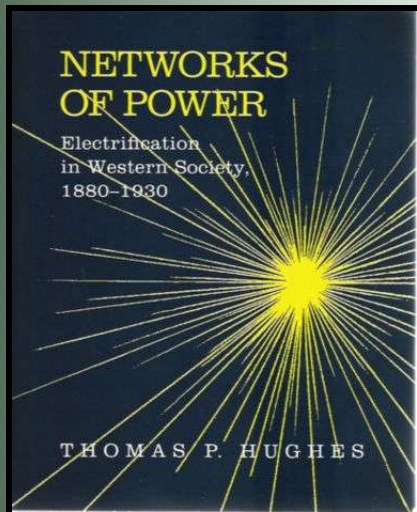
Doug Engelbart, inventor and visionary

# HISTORY – GOVT./BUSINESS EARLY ADOPTION

• USAA. <http://www.usaa.com>

1. Introductions
2. Definitions
3. Convergence
4. Requirements
5. Resources

- Business efficiency – paperless office
- Govt. effectiveness – paperless govt.
- National Archives and Library of Congress – early experimenters
  - ODISS, 1988 (NARA)
  - Federal guidelines, 1994 (NARA)
  - National Digital Library, 1995 (LC)
  - American Memory pilot, 1999 (LC)
- Electronic records (archives)
  - Covered next week in more detail



# HISTORY – SCANNING AND STORAGE

1. Introductions
2. **Definitions**
3. Convergence
4. Requirements
5. Resources

- Xerox PARC 1978 – first scanner
- IBM – storage and workflow
- BellCore (Lesk) – image and text

Building on existing infrastructures, the search for new markets for emerging technologies focused on digital content in “business practices.”



[Original Image](#): Michael Lesk, now at Rutgers U.

# HISTORY – UNIVERSITY LIBRARY EXPERIMENTS

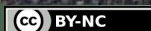
• DLF. <http://www.diglib.org/>

1. Introductions
2. **Definitions**
3. Convergence
4. Requirements
5. Resources

- Michigan and Cornell, 1989
- LaGuardia Eight
- Digital Library Federation (DLF)
- National leadership; little funding

Research libraries have a long and distinguished history of technology experimentation and adoption.  
[CLR, CPA, CLIR]



 [Dr.DeNo](#), Flickr.com,

# HISTORY – UNIVERSITY RESEARCH EFFORTS

1. Introductions
2. **Definitions**
3. Convergence
4. Requirements
5. Resources

- Ed Fox and computer scientists
- NSF DLI1 (1994-98)
- NSF DLI2 (1999-2003)
- Patents and trademarks as an issue



Please see original image of at <http://dli.grainger.uiuc.edu/national.htm>

DLI1: <http://www.dli2.nsf.gov/dlione/> (dead)

DLI2: <http://www.dli2.nsf.gov/> (dead)

“Trace”: [http://www.nsf.gov/discoveries/disc\\_summ.jsp?cntn\\_id=100660](http://www.nsf.gov/discoveries/disc_summ.jsp?cntn_id=100660)

# BACK TO BORGMAN

1. Introductions
- 2. Definitions**
3. Convergence
4. Requirements
5. Resources

## Separate worlds, separate agendas

- Research vs. practice
- Databases vs. services
- Revolutionary vs. evolutionary
- Distributed vs. institutional

Borgman, p. 48. “Digital libraries are an extension, enhancement, and integration of” ... systems and institutions.



# A DECADE OF TRANSITIONS

1. Introductions
- 2. Definitions**
3. Convergence
4. Requirements
5. Resources

- Discovery to delivery
- Create to curate
- Connect, advise, collaborate
- Hybrid library
  - FROM publishing, learning and teaching access to resources
  - TO integration and preservation of...
- ..resources: legacy, transition, new, future

Dempsey, 2006. <http://www.ariadne.ac.uk/issue46/dempsey/>

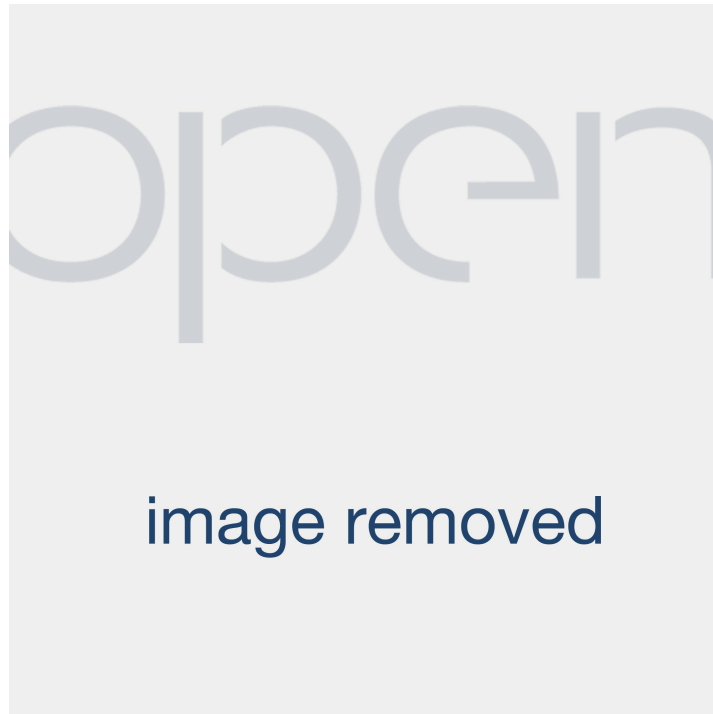
Rusbridge, 1998. <http://www.dlib.org/dlib/july98/rusbridge/07rusbridge.html>

# LIBRARIES: BEYOND SEARCH AND ACCESS

• Lagoze et al, What Is a Digital Library, Anymore? 2005.

1. Introductions
- 2. Definitions**
3. Convergence
4. Requirements
5. Resources

- Context
- Enriched relationships
- Collaboration and accumulation



Please see original image of D-Lib Magazine November 2005 Volume 11 Number 11



# CONVERGENCE CONCEPTS

1. Introductions
2. Definitions
3. **Convergence**
4. Requirements
5. Resources

- Libraries, Archives, Museums – common cause?
  - Learning and lending
  - Underlying technological issues
  - Academic foundation?
- Users don't care about organizational identity (!)
- Collaboration continuum (p. 11)



# CONVERGENCE CONCEPTS

1. Introductions
2. Definitions
3. **Convergence**
4. Requirements
5. Resources

- “... convergence culture represents a shift in the ways we think about our relations to media.” (p. 22)
  - Media convergence (flow of content across platforms; industry cooperation; audience migration)
  - Participatory culture (profound cultural shift in consumer behavior)
  - Collective intelligence (consumption as a collective process)

Digital libraries and archives are born, live, and survive in the new convergence culture. If they do not, they will not persist.

# COURSE OUTLINE

1. Introductions
2. Definitions
3. Convergence
- 4. Requirements**
5. Resources

- Definitions (library and archive)
- Content concepts
  - How much; transforms; repositories
- Metadata schemas
  - METS, OAIS, PREMIS, OAI
- User experience
  - Evaluation, trust, tools
- Sustainability

# COURSE REQUIREMENTS

1. Introductions
2. Definitions
3. Convergence
- 4. Requirements**
5. Resources

- Active participation (25%)
  - Discussion, presentation, augmenting
  - Sign up to lead a week
- Essay and reflection (25%)
  - Interim submission
  - Final revision
- METS and PREMIS (20%)
  - Online Archives of California
  - <http://www.oac.cdlib.org/>
- MediaWiki Directory (30%)
  - Access through CTools

# RESOURCES FOR FURTHER STUDY

- 1. Introductions
- 2. Definitions
- 3. Convergence
- 4. Requirements
- 5. **Resources**

- Journals
  - See list in CTools
- Organizations
  - DLF <http://www.diglib.org/>
  - JISC <http://www.jisc.ac.uk/>
  - DELOS <http://www.delos.info/>
- Portals
  - ACM <http://www.acm.org/>
  - PADI <http://www.nla.gov.au/padi/>
- Conferences
  - JCDL <http://www.jcdl.org/>
  - ECDL <http://www.ecdl2007.org/index.php>
  - ICADL <http://www.icadl.org/>

# Thank you!

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# Additional Source Information

for more information see: <http://open.umich.edu/wiki/CitationPolicy>

Slide 8: Original image, Christine Borgman, UCLA, <http://www.sis.utk.edu/files/chrisborgman.jpg>

Slide 9: Doug Engelbart, Innovation Journalism, Flickr.com, <http://www.flickr.com/photos/innovationjournalism/>

Slide 10: [http://www.textbooks.com/ISBN/9780801846144/Thomas-P-Hughes/Networks-of-Power-Electrification-in-Western-Society-1880-1930\\_-\\_0801846145.php?s=1](http://www.textbooks.com/ISBN/9780801846144/Thomas-P-Hughes/Networks-of-Power-Electrification-in-Western-Society-1880-1930_-_0801846145.php?s=1)

Slide 11: Original Image: Michael Lesk, now at Rutgers U., <http://www.drexel.edu/univrel/digest/archive/051705/lesk.jpg>

Slide 12: Dr.DeNo, Flickr.com, <http://www.flickr.com/photos/denatale/4148441339/>

Slide 13: Please see original image at <http://dli.grainger.uiuc.edu/national.htm>

Slide 16: Please see original image of D-Lib Magazine November 2005 Volume 11 Number 11

Slide 17: Life-Share Project, <http://www.leeds.ac.uk/library/projects/lifeshare/models.html>