



UHSLC Professional Development: Institutional Repositories

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Overview

- Factors leading to the current scholarly communication crisis
- Role of repositories as a possible solution



Nature of the crisis

- Journals transmit knowledge
 - 1665: Philosophical Transactions and Journal de Scavans
 - Source of individual and institutional prestige
 - Impact factors of scholarship measured by “quality” citations
- Journal unit costs are up 215% between 1986 and 2003
 - Consumer Price Index up 68% in the same time period
- Number of scholarly papers published increases by 3.5% per year
- Many institutions are priced out of access
 - Particularly damaging to developing countries



Factors in the crisis

- The amount of scholarly information has increased immensely while library budgets have remained relatively flat
- The economics of information goods (e.g., electronically distributed scholarly information) is unlike the economics of other markets and probably not fully understood
- Scholarly communication has become big business
- Libraries are under considerable pressure to purchase the same content in more than one format


<http://www.lib.berkeley.edu/Collections/crisis.html> and Stuart Sutton, University of Washington



Factor: Major increase in new information

- "In 2002, the world produced five exabytes (or 5 million terabytes) of new information on paper, film, optical and magnetic media. That is equivalent to the amount of information in a half-million new libraries the size of the Library of Congress' print collections."
- Economics Journals
 - In 1980
 - 120 economics journals, half commercial and half non-profit.
 - In 2000
 - 300 economics journals, two-thirds by commercial publishers.
- From 1986 – 2002
 - Scholarly journals published globally increased 58%.
 - Production of monographs doubled
- In 2002, ARL libraries acquired
 - 28% fewer monographs per student than they did in 1986
 - 8% fewer serials per student than they did in 1986
- In 2002, ARL libraries acquired
 - 830 serial subscriptions and 1,540 monographs per 1,000 students and the median number of volumes added was 3.89 per student, compared to the 4.18 volumes added per student in 1986

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Factor: Major increase in new information

"It is a sobering fact that some 90% of papers that have been published in academic journals are never cited. Indeed, as many as 50% of papers are never read by anyone other than their authors, referees and journal editors."

Lokman I. Meho. (2007). The Rise and Rise of Citation Analysis. *Physics World*.
<http://physicsweb.org/articles/world/20/1/7/1>



Factor: Publishing economics

- “To those accustomed to thinking about markets for ordinary commodities like shoes or houses, the economics of information goods, such as journal access or computer software is very curious. If you sell a house to one buyer, you cannot sell the same house to others. To sell to more buyers, you must bear the costs of producing additional houses. The owner of copyrighted information does not suffer from this constraint, but is able to sell the same bit of information to many different buyers with a negligible cost of extending access to each additional buyer.... This marketing device has no direct parallel in markets for ordinary commodities, and the implications of such sales are not widely understood.”

<http://www.lib.berkeley.edu/Collections/crisis.html>



Factor: Scholarly Publishing as Big Business

- Different Ethos
 - “Commercial publishers seek to maximize profits while the academy is primarily interested in maximizing distribution of findings.”
- Science, technology and medical publishing is a \$7 billion industry.
- Scientific journals have been the fastest-growing media sub-sector of the past 15 years.
- Between 1986 and 2002
 - Serial expenditures in research libraries increased by 227% but the number of serials purchased with these resources only increased by 9%
 - Consumer Price Index (CPI) up 64%
 - Monograph expenditures increased 62%, while the number of monographs purchased fell 5%.
- Blackwell's periodical price index 1990-2000 reports a ten-year increase in prices:
 - Humanities and social sciences of 185.9%
 - Science and technology of 178.3%
 - Journals published in the United Kingdom up 204.5%
 - Journals published in the United States and Canada up 155.3%

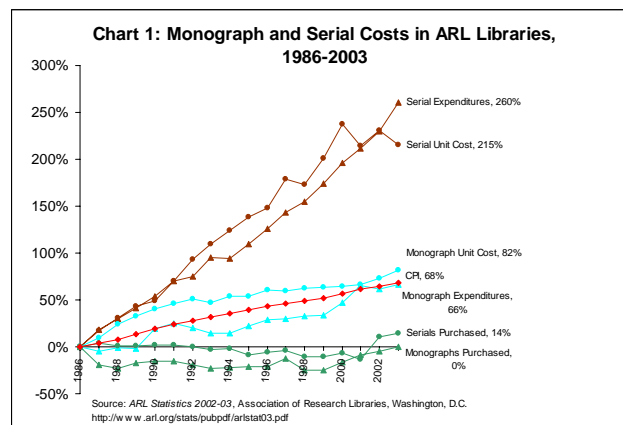
<http://www.lib.berkeley.edu/Collections/crisis.html> and Stuart Sutton, University of Washington

Factor: Electronic and Print Access

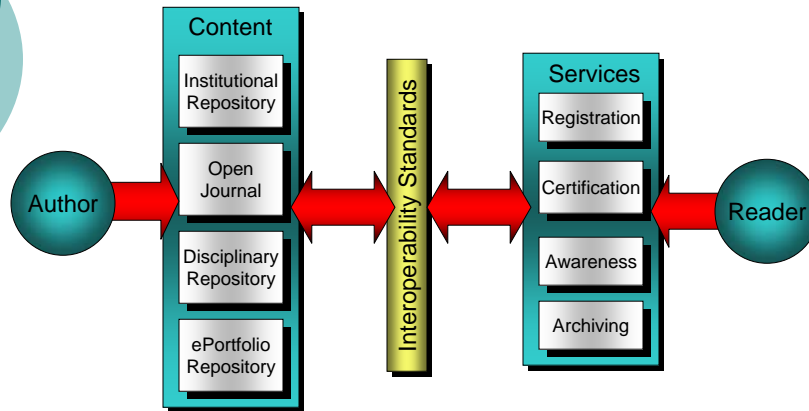
- UC Berkeley faculty, students, and staff survey
 - "... eJournals are generally popular, frequently used, preferred for a variety of tasks and, although there are barriers, they do not outweigh the advantages, particularly of convenience... 68 percent of all respondents had used a digital journal within the last week, while 35 percent of all respondents had used a print journal during the same period."
- It is estimated that between 1996 and 2001 the total number of periodicals published worldwide in all disciplines is approximately 164,000. An increasing proportion of these are now available online—equivalent to 16.5 percent of the total in 2001 compared with 3.3 percent in 1996.

<http://www.lib.berkeley.edu/Collections/crisis.html> and Stuart Sutton, University of Washington

Serial & Monograph Expenditures & Consumer Price Index (CPI)



Conceptual Solution



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Possible Systems

- **Systems that manage content**
 - Institutional repositories
 - Research-group repositories
 - Personal (ePortfolio) repositories
 - Discipline-oriented repositories
 - Publisher repositories
 - Dataset repositories
 - Cultural heritage repositories
 - Learning object repositories
 - Digitized book and manuscript collections
- **Systems that leverage managed content**
 - Other repositories
 - Search engines
 - Authoring tools
 - Citation management
 - Collaborative environments
 - Social network applications
 - Data/Text mining applications
 - Graph analysis tools
 - Preservation services
 - Workflow tools
 - Report generation tools

Carl Lagoze & Herbert Van de Sompel

Repositories

Cornell University Library

arXiv.org

PubMed Central

eSciDoc PROJECT

A free archive of life sciences journals

About PMC Journal List For Publishers Utilities

Open access to 4
Subject search ar
21 Dec 2006: and
6 Dec 2006: 2006
See cumulative %
Robots Beware:

NSDL Home
Home
Search Options
Browse
Resources For

SEARCH THE NATIONAL SCIENCE DIGITAL LIBRARY

The Neuro-Ophthalmology Virtual Education Library

A web accessible collection of images, videos, lectures and other digital media for use by neuro-ophthalmology professionals, educators, students and

INSTITUTIONAL REPOSITORY
THE UNIVERSITY OF UTAH

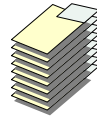
IR Home : Administration : Authors : Titles : Colleges/Departments

Open Archives Initiative

- Open Archives Initiative
 - OAI-PMH (Protocol for Metadata Harvesting)
 - OAI-ORE (Object Reuse and Exchange)

Repositories

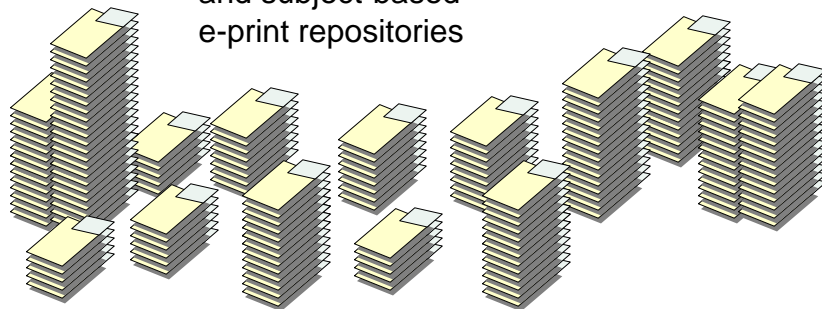
repository



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World-Wide Distribution

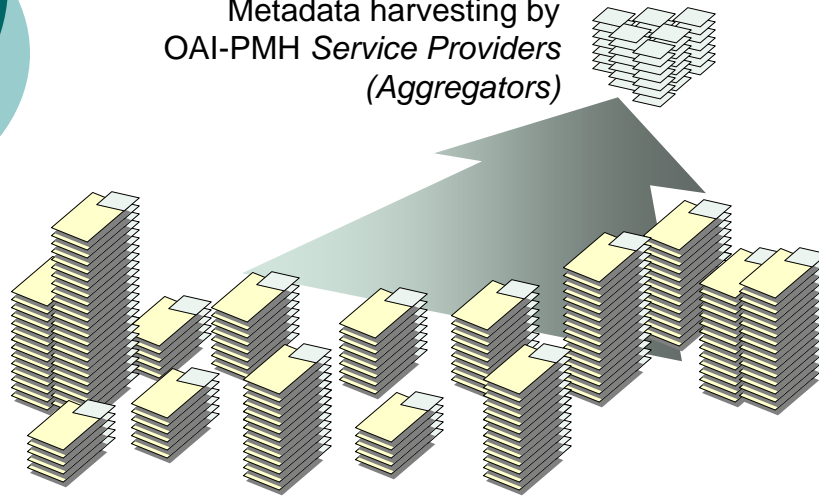
World-wide institutional
and subject-based
e-print repositories



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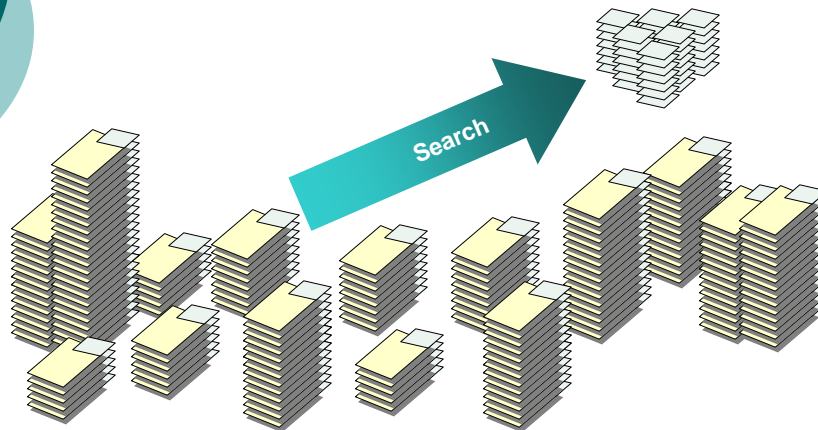
Metadata Harvesting

Metadata harvesting by
OAI-PMH *Service Providers*
(*Aggregators*)



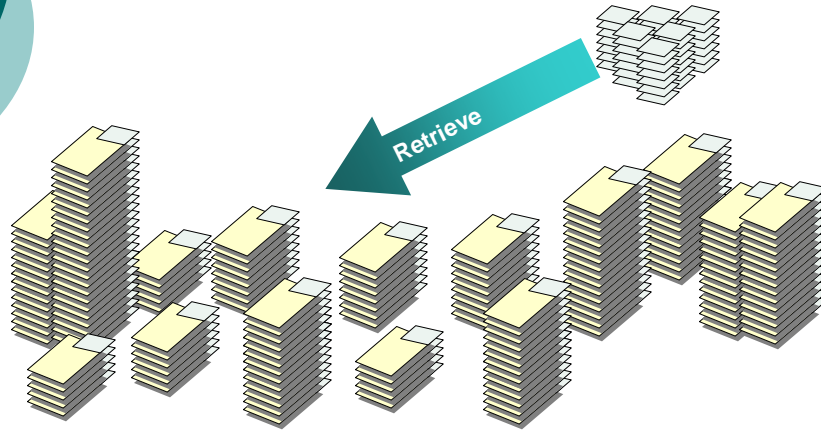
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Search

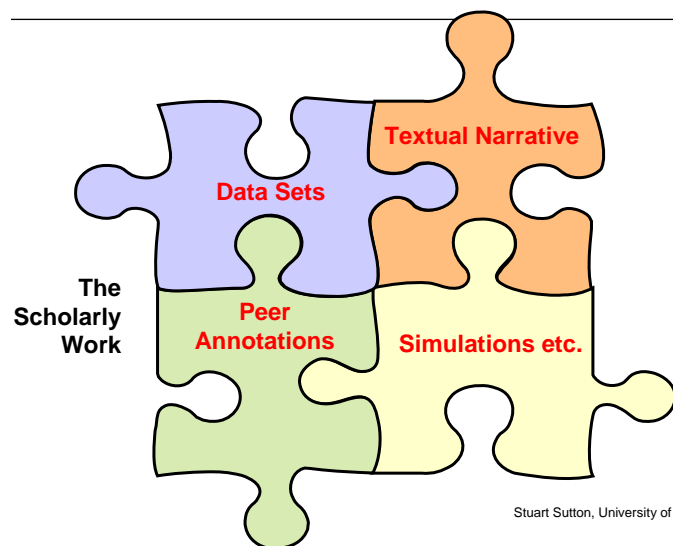


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Retrieval



Rethinking scholarly works



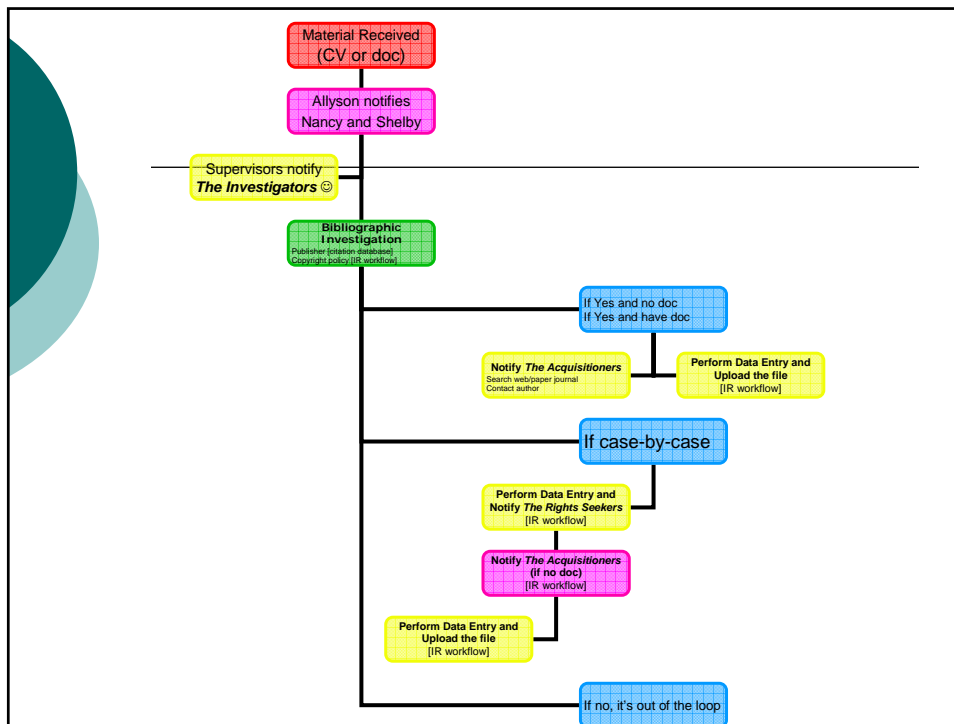
University of Utah Institutional Repository

- Started in 2005 by campus libraries
- Represents shift from libraries purchasing content toward libraries offering their institution's content to the world
- Efforts in development, marketing, metadata, workflows
- Educate faculty on scholarly communication
- Over 1000 items across several collections




IR Infrastructure

- CONTENTdm (image database)
- IR workflow database
 - Item tracking
 - Publisher's archiving policies
 - Communications tracking
- Staff from Public Services, Technical Services, Systems



Copyright

- Addenda
 - SPARC, Science Commons, etc
- Creative Commons
 - Create your license



Other Utah academic repositories in the works...

- BYU
- Westminster
- Weber State
- SLCC
- Creating statewide repository
 - Will harvest and aggregate



Questions/Discussion

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