MARS

Mason Archival Repository Service

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Over many years, research libraries have developed and optimized a series of “best-practices” for managing information.
For most of that time, there has been a rough balance between content creation (publishing) and the capacity of libraries to manage the information flow.
But the pace and the nature of content creation is changing...
We’re moving from a world where everything existed in physical form to...
“...if it’s not online it might as well not exist.”
Scholars poring over medieval manuscripts or ancient stone tablets can still read what scribes set down a thousand years ago.

Today, we're generating billions of bits of digital data that could become indecipherable in just a few years.
A Library is a Memory Organization

Our core mission is to **archive**, **preserve** and provide **access** to information.
In the digital realm, this mission does not change.

An important measure of a research library today is its ability to archive, preserve, and provide access to information in digital formats in perpetuity.
As the environment changes, we must anticipate new demands and re-engineer our services to meet them.
Scholarly Journals

An important transition is underway
Between 1986 and 2000

The consumer price index rose 57%
The unit cost for books increased 66%
Faculty salaries increased 68%
Health care costs increased 107%
The unit cost for journals increased 226%

Why? Corporate mergers and consolidations reduced competition; pressure to publish on faculty fed submission-publication-subscription pressure on libraries; prices rise as libraries drop subscriptions; etc.
In 1997, the Association of Research Libraries (ARL) founded SPARC* to begin addressing the growing dysfunction in the economics of scholarly publishing.

* Scholarly Publishing and Academic Resources Coalition

Mason is a member of SPARC
Open access journals use a funding model that does not charge readers or their institutions for access.

"By 'open access', we mean its free availability on the public internet, permitting any users to read, download, copy, print, search, or link to the full texts of these articles, ... without financial, legal, or technical barriers other than those inseparable from gaining access to the internet. The only constraint on reproduction and distribution, and the only role for copyright in this domain, should be to give authors control over the integrity of their work and the right to be properly acknowledged and cited."

--- from Budapest Open Access Initiative, 2001
Steve Lawrence, a scientist at NEC Research Institute, analyzed nearly 120,000 computer science articles cited in a standard disciplinary bibliography. When he looked at articles with successively higher levels of impact or citations, he found successively higher percentages of open-access articles, and vice versa. He found the strength of this correlation steadily increased over a decade.

Open Access publications are transforming scholarly communication in fields like computer science, biology, mathematics and chemistry.
May 2005, NIH “requests and strongly encourages” peer-reviewed final manuscripts be placed in PubMed Central.
Technology and library users, an ongoing discussion

Technology experts who are members of the Library and Information Technology Association (LITA), a division of the American Library Association, met for a managed discussion in Orlando, FL on June 27th, 2004 to discuss what they feel are the top technology issues and trends in today's libraries.

Experts in attendance included: Joan Frye Williams, Clifford Lynch, Walt Crawford, Milton Wolf, Tom Wilson, Roy Tennant, Eric Lease Morgan, and Marshall Breeding.

THE TOP TRENDS

- ISSUE 1: Institutional Repositories
- ISSUE 2: Open Access
- ISSUE 3: Web Services
- ISSUE 4: Personal Search Software
- ISSUE 5: RSS (Really Simple Syndication)
- ISSUE 6: Biometrics
- ISSUE 7: E-Resource Management
- ISSUE 8: JPEG 2000

ISSUE #1: Institutional Repositories

The Case for Institutional Repositories: A SPARC Position Paper
http://www.arl.org/sparc/IR/ir.html

This position paper from the Scholarly Publishing and Academic Resources Coalition states that institutional repositories “provide a critical component in reforming the system of scholarly communication” by reasserting control over scholarship by academics, as well as bring economic relief to the academy.”
An institutional repository is a set of services that a university offers to the members of its community for the management and dissemination of digital materials created by the institution and its community members.

-- Clifford Lynch, CNI
Institutional repositories can provide an immediate and valuable complement to the existing scholarly publishing model, while stimulating innovation in a new disaggregated publishing structure that will evolve and improve over time. Further, they build on a growing grassroots faculty practice of self-posting research online.
But the underlying technology offers additional benefits...
University Libraries also needs a digital archiving solution for our growing collection of photo, video and audio objects as well as other digital resources (digitized or born digital).
And ideally, the solution would be **web-based**, support recognized **metadata standards**, be **interoperable** with other archival systems, **support format migration**, and **expose our collections** to users worldwide via popular search engines...
The Digital Archiving, Preservation & Access Task Force

Wally Grotophorst, Library Systems, Chair
Daniel Cohen, Center for History & New Media
John Creuziger, TSD, ITU
William Fleming, Mercer Library
Polly Khater, Bibliographic Services
Paul Koda, Special Collections & Archives
George Oberle, Media Librarian
Lene Palmer, RCMS
Angela Weaver, Reference
Rosemary Chase, Copyright Office

Academic Year 2003-2004
We are building an Archival Repository System, using DSpace software. It will provide IR services and also serve as a digital archiving system.
Services we’ll provide:

- **Accession and Data Storage** – governed by submission agreements negotiated between the Library and object provider.

- **Digital Object Integrity and Migration** – create policies and procedures to ensure the physical and intellectual integrity of objects in the repository. Work with contributor of object (if possible) to perform transformative migration where required.

- **Discovery and Access** – Support the identification and retrieval of repository objects. Provide OAI-compliant metadata for objects in the repository to “expose” these objects to users worldwide (subject to access and retrieval limitations negotiated with object contributors).

- **Education and Outreach Services** – Promote importance of digital preservation, explain policies of digital repository, and provide expert consultation on digital preservation issues.
Tiers of Service

- **Archived** - Materials of significant and widespread value; complex, normalized metadata; commitment to periodic migration.

- **Preserved** – Materials have enduring value, but not enough to merit significant investment currently; basic metadata, supplied by content submitters; commitment to preserve in current format, but not migrate. The bulk of the repository’s content will merit this level of service.

- **Stored** - Materials not owned or managed by Mason, but which have long term value to Mason scholarship; mirrors of e-journals, other web sites, datasets, working papers, learning objects and so on. No commitment to migrate or preserve.
So what does MARS mean to Mason?

A reliable, professionally managed, persistent archive of scholarly digital objects of enduring value to the university.

A means to share with the broader scholarly community the research work produced by Mason faculty.

Improved visibility in virtual collections built via metadata exchange (e.g., OAIster, Google Scholar, Yahoo, etc.).

Visible support for the open access movement which benefits the library and the university.
# Organizational Structure

## Faculty Advisory Committee
Advisory to Office of the University Librarian

## Digital Repository Service
Based in Library Systems Office, managed by DRS Librarian

## DRS Group
Representatives from: Library and general IT; archives; cataloging (metadata); library liaison program
MARS architecture

- JBOSS
- Tomcat
- Java-based application server
- servlet container
- All software open-source
Apple X-Serve G5
Dual 2 GHz CPUs

Apple X-Serve RAID
MARS currently has a 3.3 TB RAID 5 capacity but could expand to 5.5 by fully populating existing enclosures

X-Serve RAID uses inexpensive ATA drives, 512K cache per channel, battery backup for cache, and dual 2Gb fibre channel link
Welcome to MARS

The Mason Archival Repository Service is up and running. We're still sorting out many of the issues that arise with any new service but our Special Collections and Archives division has already begun adding a few collections...

Welcome!

We're building a archival repository system for Mason--a project of the Library Systems Office of University Libraries.

Platform:
- DSpace 1.2.1 (final)
- OS X Server (10.3.9)
- Apple XServe GS
- Apple XServe RAID

Search

Enter some text in the box below to search MARS.

Communities in MARS

Select a community to browse its collections.

University Libraries