

DSpace

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1. Why DSpace

2. DSpace 2.0

3. Staffing

4. Consortium models



- ..Actively planning and implementing institutional repositories...entails policy, legal, educational, cultural & technical components, most of which are interrelated and each of which must be satisfactorily addressed for the repository to succeed.
- Guide to Open Source Software



IR features

- Increasing visibility/ OA
- Formats
 - **Variety**
 - Targeted
- **Preservation**
- **Off the shelf**
- **Customizable**
- Open source or not...
- Submissions
 - Ease
 - Variations
- Standards compliant
 - Metadata
 - Interoperable



- As faculty members & other researchers develop research materials and scholarly publications in increasingly complex digital formats, there is a need to collect, preserve, index and distribute them: a time-consuming & expensive chore for individual faculty & their departments, labs and centers to manage themselves. The DSpace system provides a way to manage these research materials and publications in a professional maintained repository to give them greater visibility and accessibility over time.
- Smith, 2003 (www.dlib.org/january03/smith/01smith.html)



Design philosophy

- ... A system that would be as easy as possible to implement
- ...Designed as an open source application that..organizations could run with relatively few resources
- ..Chosen to keep footprint .. as small as possible while still meeting the needs of early adopters(s)



DSpace

- Captures, describes, preserves and distributes digital intellectual products
- Any **format**
- **Preservation** archive
- **Open Source** system
- **Federated** system
- Both a service model and code..



DSpace 1.x

- Breadth-first' implementation
- All required functionality to start capturing digital assets
- Widened awareness and understanding of digital preservation problem



Technical underpinnings

- Based on MIT's DSpace
 - Open Source
 - Java
- Standards Based
 - OAI Compliant
 - Qualified Dublin Core Metadata
 - Persistent Identifier: CNRI Handle





- Sustainable cost model
 - open source
 - active open source community
 - Self or simple submission
 - Bitstream preservation
- Flexible
 - Formats and workflows
 - Customizable
- Reliable
 - Built on widely used OS tools
 - Relatively large installation base
 - Reputation
 - Developers: MIT & HP
 - Adopters: Columbia, Cornell, OCLC, Ohio State...



Digital preservation “philosophy”

- Lots of digital material is already lost
- Most digital materials is at risk
- Better to have it, do a bit of preservation work than lose it completely
- Need to capture as much information as possible to support functional preservation
- Cost benefit ratios

◆ **OISE/UT (Education)**

OISE/UT: Great Research for Great Education

- ◆ [Centre for the Study of Education and Work \(CSEW\)](#)
- ◆ [Curriculum Resources from OISE/UT](#)
- ◆ [Education Policy](#)
- ◆ [OISE/TV \(Educational Multimedia\)](#)
- ◆ [OISE/UT News & Information](#)

◆ **Office of International Surgery**

Office of International Surgery (OIS)

- ◆ [Africa](#)
- ◆ [Bethune Roundtable on International Surgery](#)
- ◆ [Burns](#)
- ◆ [Cambodia](#)
- ◆ [International Surgery](#)
- ◆ [Ptolemy](#)

◆ **University of Toronto at Scarborough (UTSC)**

University of Toronto at Scarborough

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University of Toronto at Scarborough (UTSC)



Community home page

In:

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Opened in 1964, the University of Toronto at Scarborough (UTSC) provides undergraduate and graduate studies and the University of Toronto's only co-op educational programs. UTSC has become the choice destination for thousands of students from across Canada and around the world and continues to experience unprecedented growth.

Collections in this community

- [Bioline International](#)
- [Biology](#)
- [Curriculum Resources](#)
- [EBooks \(CITD 1993-2002\)](#)
- [Humanities](#)

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[Building suburbs in Japan: Continuous unplanned change on the urban fringe](#)

[Land readjustment and metropolitan growth: an examination of suburban land development and urban sprawl in the Tokyo metropolitan area](#)

[Subcentres and Satellite Cities: Tokyo's 20th Century Experience of Planned Polycentrism](#)

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Title: Ask the Experts: Tara Goldstein

Authors: OISE/UT

Keywords: Education
Homophobia
Hatred
Youth

Issue Date: Jan-2004

Publisher: OISE/UT

Series/Report no.: Ask the Experts Video Series;

Abstract: What interventions do we need to make on behalf of young people who are being targeted by homophobic hatred? First we need good policy and then we need to implement it. Toronto has a good policy — in fact it's one of the only school districts in North America to target homophobia — but implementation has been hampered by cutbacks.

Description: Video produced by the Education Commons

URI: <http://www.oise.utoronto.ca/experts/january2004/>
<http://hdl.handle.net/1807/811>

Appears in Collections: [OISE/TV \(Educational Multimedia\)](#)

Files in This Item:

File	Description	Size	Format	
 tgoldstein.jpg		4Kb	JPEG	View/Open
 tgoldstein56.ram		0Kb	RealAudio	View/Open
 tgoldstein300.ram		0Kb	RealAudio	View/Open

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Authors	<input type="text" value="Adams-Webber"/>	<input type="text" value="Tamsin"/>	<input type="text" value="tamsin@sickkids.on.ca"/>	<input type="button" value="Remove This Author"/>
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Enter the main title of the item.

Title

Enter the series and number assigned to this item by your community.

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Series/Report No.	<input type="text"/>	<input type="text"/>	<input type="button" value="Add More"/>

If the item has any identification numbers or codes associated with it, please enter the types and the actual numbers or codes below.

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Select the type(s) of content you are submitting. To select more than one value in the list, you may have to hold down the "CTRL" or "Shift" key.

- Animation
- Article
- Book



Institutional Repository

... a service of the
Ontario Scholars Portal
www.scholarsportal.info

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Search

Enter some text in the box below to search our repository.

Communities

Select a community to browse its collections.

[Information Literacy Cooperative Repository](#)

[//chronicle.com/free/2004/04/2004040901n.htm](http://chronicle.com/free/2004/04/2004040901n.htm)

Google Teams Up With 17 Colleges to Test Searches of Scholarly Materials

[JEFFREY R. YOUNG](#)

Google, the popular search-engine company, has teamed up with the Massachusetts Institute of Technology and 16 other universities around the world to provide a way to search the institutions' collections of scholarly papers, according to university officials.

A pilot test of the project is just getting under way. If all goes as planned, the search feature could appear on Google in a few months, said MacKenzie Smith, associate director of technology for MIT's libraries. She said the search would probably be an option on Google's [advanced-search page](#).

"A lot of times the richest scholarly literature is buried" in search-engine results, said Ms. Smith. "As more and more content is on the Web, it's harder and harder to find the high-quality stuff that you need."

Google has long indexed university Web pages, but the new project will allow users to direct their searches to on-campus repositories of scholarly materials, sometimes known as superarchives. Those archives contain copies of academic papers, technical reports, drafts of articles, and other work by a university's professors. Scholars can choose whether their works will be available to all Internet users or only to others on their own campuses.

The participating universities have tagged all the materials in their superarchives with "metadata tags" -- hidden codes that contain catalog information and summaries that can help a search engine like Google's sort through the material.

Google has developed free software, called [DSpace](#), that colleges and universities can use to set up superarchives. About 125 universities have done so, but no one has yet created a tool that searches across the archives, said Ms. Smith.

On average, each of the 17 participating institutions has, on average, about 1,000 papers in its archive, said Ms. Smith. But she said the collections are growing rapidly. "We're going to scale up pretty fast over the next few years," she said.



Who does what

- “Library”
 - Server management
 - Storage management
 - Technical and user support
- **Communities = Administrative units**
 - Supply content and metadata
 - Set policy
 - Content
 - Who may contribute, approve and access
 - Identity



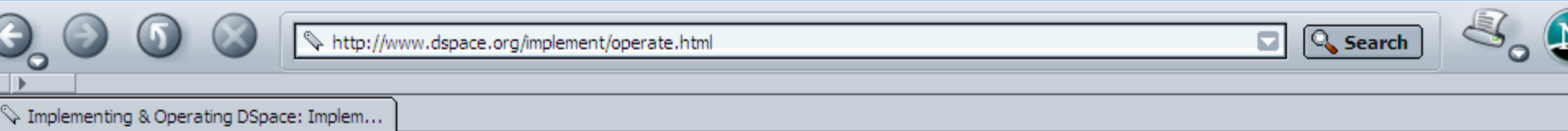
Why U of T chose DSpace

- Increasing accessibility of scholarly digital materials
- Digital Preservation
- Enhanced existing initiatives in faculty outreach
- DSpace Community
- Customizable



Happy Implementation experience

- Up and running in 2 weeks
 - Handle Server
- 2 upgrades
- Several modifications to code
 - Custom submission forms
- Active development and technical community



[DSpace Federation Home](#) > [Implement DSpace](#) > Implementing & Operating DSpace

Implementing & Operating DSpace

The DSpace technology was developed through a collaboration of the MIT Libraries and Hewlett-Packard Labs. It is available through SourceForge.net as an open source system.

DSpace Technical Documentation

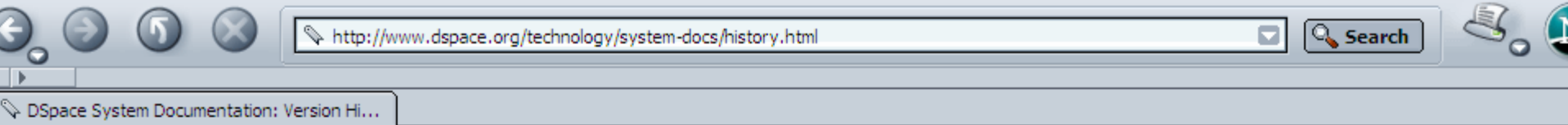
The content in this section helps you develop and build the DSpace technology platform. Use this technical documentation to install, customize and configure the software.

- ◆ [Developing Hardware Specifications](#)
- ◆ [DSpace System Documentation Contents](#)
- ◆ [Installing DSpace](#)
- ◆ [Configuring and Customizing DSpace](#)
 - ◇ [Customization Guide](#)
 - ◇ [Directories and Files](#)
- ◆ [Operations and System Administration](#)

Finding Technical Solutions Online

To learn from other DSpace developers and get online technical support from the DSpace community, [join the DSpace-Tech mailing list](#) at Source Forge.

www.dspace.org/implement/operate.html



Navigation buttons: back, forward, home, stop, refresh, search.

Address bar: <http://www.dspace.org/technology/system-docs/history.html>

Search bar: Search

Tab: DSpace System Documentation: Version Hi...

Changes in DSpace 1.2

General Improvements

- Communities can now contain sub-communities
- Items may be included in more than one collection
- Full text extraction and searching for MS Word, PDF, HTML, text documents
- Thumbnails displayed in item view for items that contain images
- Configurable MediaFilter tool creates both extracted text and thumbnails
- Bitstream IDs are now persistent - generated from item's handle and a sequence number
- Creative Commons licenses can optionally be added to items during web submission process

Administration

- If you are logged in as administrator, you see admin buttons on item, collection, and community pages
- New collection administration wizard
- Can now administer collection's submitters from collection admin tool
- Delegated administration - new 'collection editor' role - edits item metadata, manages submitters list, edits collection metadata, links to items from other collections, and can withdraw items
- Admin UI moved from /admin to /dspace-admin to avoid conflict with Tomcat /admin JSPs
- New EPerson selector popup makes Group editing much easier
- 'News' section is now editable using admin UI (no more mucking with JSPs)

Import/Export/OAI

- New tool that exports DSpace content in AIPs that use METS XML for metadata (incomplete)
- OAI - sets are now collections, identified by Handles ('safe' with /, : converted to _)
- OAI - contributor.author now mapped to oai_dc:creator

Miscellaneous

www.dspace.org/technology/system-docs/history.htm

- Build process streamlined with use of WAR files, symbolic links no longer used, friendlier to later versions of Tomcat
- MIT-specific aspects of UI removed to avoid confusion
- Item metadata now rendered to avoid interpreting as HTML (displays as entered)
- Forms now have no-cache directive to avoid trouble with browser 'back' button
- Bundles now have 'names' for more structure in item's content



Developments..

- DLearn
 - Internet First U. Press
 - Thesis Management
 - SRW
 - Researcher's Page
 - Harvesting/ database
- Arizona
Cornell
Edinburgh
OCLC
Rochester
Cranfield



DSpace 2.0

Enhance modularity	Modules provide own UIs Modules do not share data; communicate via defined APIs 'Plug-in' and dependency mechanism
Scale up	Asset store contains metadata and bitstreams packaged as AIPs
Improve support for digital preservation	AIPs easier to replicate, mirror



Staffing & costs

- ½ programmer
- T-Space plus O-Space
- 15% developing code
- Evenly split between
 - Maintaining system and
 - “User” support (& recruitment...)

DSpace System Manager

To run a DSpace system you need a technologist who can take primary responsibility for the DSpace technology. The following job description is based on the DSpace System Manager's role at MIT.

You may decide to hire/designate one individual to this role, or you may find these skills divided among a few existing staff members. What's important is that these skills are dedicated to the project, not that they are embodied in one staff member.

Job Description: DSpace System Manager

www.dspace.org/implement/sys-man.html

Reporting to the library's Technology Director, the DSpace System Manager has primary responsibility for all aspects of the technical management of DSpace. The position requires a knowledgeable, enthusiastic, and self-motivated individual.

Responsibilities:

- ◆ Primary responsibility for all aspects of the DSpace system's technical management
- ◆ Coordinate related work by the Libraries' Systems Office and IS staff, including training
- ◆ Contribute bug-fixes and other enhancements into the DSpace Federation's open source code process
- ◆ Perform system monitoring, testing and debugging
- ◆ Develop portions of DSpace related to system administration
- ◆ Monitor and upgrade DSpace utility programs and middleware
- ◆ Develop approved system enhancements
- ◆ Manage hardware contracts and system administration tasks for DSpace servers, documenting operational issues
- ◆ Participate in projects and teams working on activities related to DSpace

Qualifications:

- ◆ Master's degree in computer or library science, or equivalent experience
- ◆ Experience programming (especially Java) and managing code written by others
- ◆ Understanding of network (especially web) development issues
- ◆ Experience with Unix systems and basic system administration skills

Additional experience desired:

- ◆ Experience with Open Source development projects and procedures by which source of a project is shared with the community

Open Repository Editions

Standard

Start up 5,000 GBP = \$11,280

2,500.00 GBP = \$ 5,640

STANDARD EDITION

Effortless • Reliable

Open Repository Standard Edition is the simplest way for institutions to quickly set up a repository.

Features

- Complete set-up within 3 months
- Standards-based Open Source technology platform: DSpace
- Hosting and maintenance
- Reliable 24/7 high-availability platform
- Nightly back-up of all data files

SILVER EDITION

Flexible • Customizable

Open Repository Silver Edition offers institutions automatic data conversion plus complex customization.

Features

- Complete set-up within 3 months
- Standards-based Open Source technology platform: DSpace
- Hosting and maintenance
- Reliable 24/7 high-availability platform
- Nightly back-up of all data files

GOLD EDITION

Full-powered Repository

Open Repository Gold Edition offers institutions auto-population of content and XML mark-up. Providing institutions with the ultimate repository solution.

Features

- Complete set-up within 3 months
- Standards-based Open Source technology platform: DSpace
- Hosting and maintenance
- Reliable 24/7 high-availability platform
- Nightly back-up of all data files



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