

# MetaSearch

*Present  
&  
Future*

Dr Peter Noerr,  
MuseGlobal, Inc.

ASEE Conference 2004  
Salt Lake City

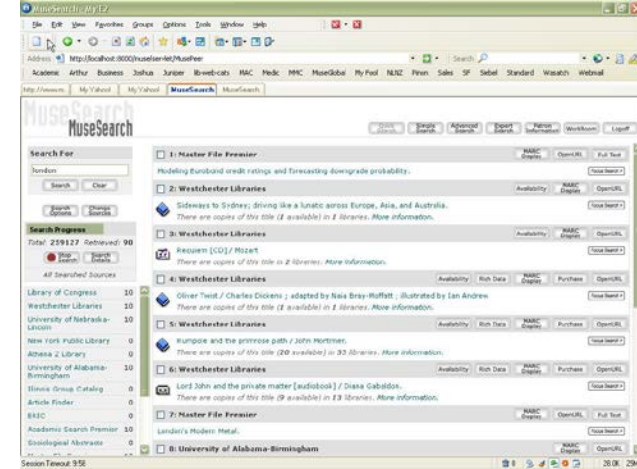
# Overview

- Current
  - Technology
    - Benefits
    - Problems
  - User expectations
  - Vendor view
- Future
  - Near term
  - Medium term
  - Way out



# Current Technology

- Early stages (oldest 6/7 years)
- Empirical, pragmatic systems
- 80/20 solutions
- ASP vs. Installed
- Portals/portlets/components/stand alone
- Service vs. Software



# Current Technology, Benefits

- About half the time vs. without it
- User Single Signon (authentication)
- One search syntax
- Simple Source selection
- Consistent results display
- Consistent refinement tools (sort, dedupe ...)
- One click to get full text (or doc delivery)



# Current Technology, Problems

- Connection protocols
  - Multiple standards
    - » Poor implementation
    - » Patchy implementation
    - » Local variations
  - Proprietary protocols
- Rapid Source (target) changes (http/html mostly)
- Source Semantics
- Record formats
- Inconsistent Source functionality
- Authentication
- Source selection



# Current User Expectations

- Simple to use (what else?)
- Covers everything (why not?)
- “Only librarians want to search, users want to find” – Roy Tennant
- “I want answers not documents”
- “Information wants to be free”
- “I need it now”
- “I have to manage and administer it?” - librarian



# Current Vendor view

- The Market

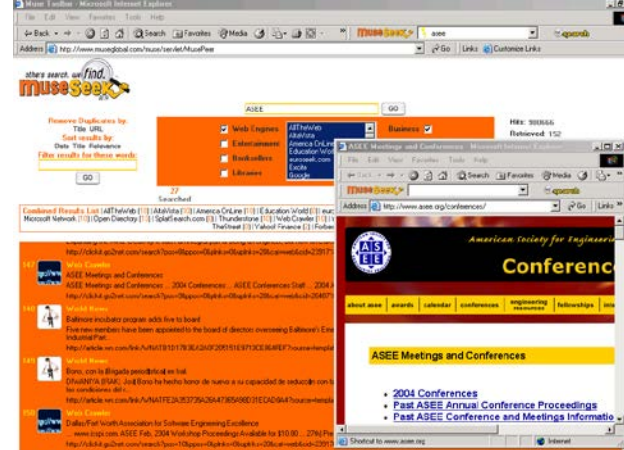
- » All libraries – academic, special, public, school
- » Content providers – primary, aggregators, delivery
- » Institutional units outside library – task groups, e-learning eventually all come down to individual users

- The Players

- » 5/6 major independent system developers in information
- » All ILS vendors – nearly all through OEM partnerships
- » 5/6 major developers in corporate world
- » 25-30 Web metasearch suppliers – much less sophisticated

- Location

- » Supply side or Consumer side or Both?



# Future Short term

- Protocols

Standards – Z39.50/SRW/SRU, Xquery,  
CQL, XML, [MetaSearch access](#)

- Semantics of search matched to repository

- Functionality matched to search engines

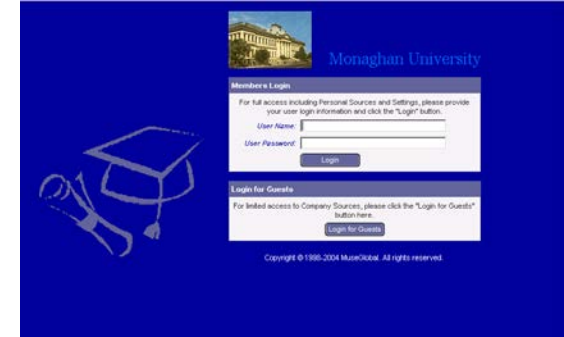
- Data

[Metadata standards \(semantics of data\)](#)

- Source Description

Standards – Explain, RDF, UDDI, WSDL  
[Functionality, access, syntax, semantics, formats](#)

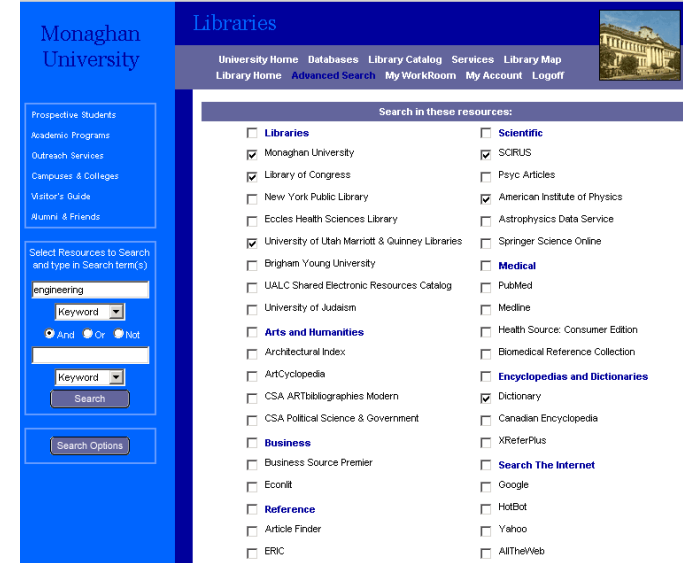
[These items](#) are being worked on by the NISO ([www.niso.org](http://www.niso.org)) Metasearch Initiative working Groups. Participation is welcomed from all, from anywhere.





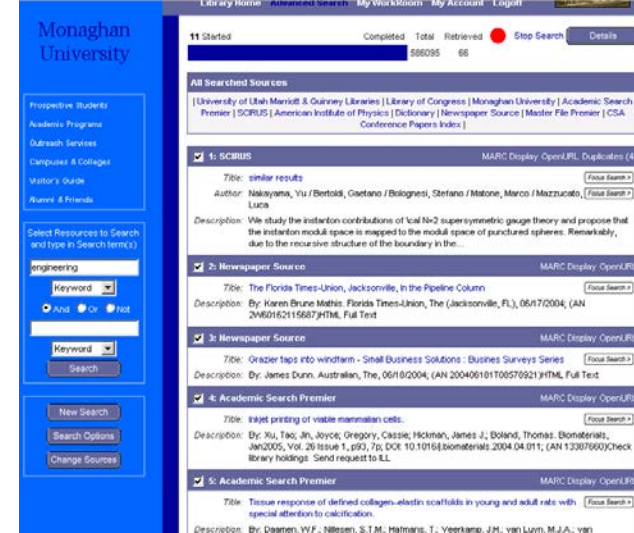
# Future Medium term

- Source Description
- Improved search semantics
- Maintenance management
  - » Possibly 20,000 “public” Sources worldwide
  - » Proliferating protocols
- Integration with ...
- Improved relevance (clustering, etc.)
- “Security”
  - » Authentication, authorization, single sign on
  - » Encryption, firewalls, networking
  - » Rights management, commercial considerations
- Statistics
- New user demands



# Future Way out

- Automatic Source selection
- Automatic Source exploration
- User semantic context
- User interfaces
  - » Natural language
  - » Augmented reality
- Commodity functionality
  - » Supplier or consumer function
  - » Business models
- Pervasively available



# Questions, Comments?

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+1 (801) 208 1880



Put in your terms, click your categories, click GO.



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**Business**



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**News**



**Booksellers**



**Sports**



**Libraries**



**Reference**

MuseSearch - MyIE2

File Edit View Favorites Groups Options Tools Window Help

Address <http://localhost:8000/muse/servlet/MusePeer> Search

Academic Arthur Business Joshua Juniper lib-web-cats MAC Medic MMC MuseGlobal My Fool NLNZ Pinon Sales SF Siebel Standard Wasatch Webmail

<http://www.m...> My Yahoo! My Yahoo! **MuseSearch** MuseSearch

# MuseSearch

Quick Search Simple Search Advanced Search Expert Search Patron Information WorkRoom Logoff

**Search For**

london

Search Clear

Search Options Change Sources

**Search Progress**

Total: **259127** Retrieved: **90**

Stop Search Search Details

All Searched Sources

Library of Congress	10
Westchester Libraries	10
University of Nebraska-Lincoln	10
New York Public Library	0
Athena Z Library	0
University of Alabama-Birmingham	10
Illinois Group Catalog	0
Article Finder	0
ERIC	0
Academic Search Premier	10
Sociological Abstracts	0

**1: Master File Premier** MARC Display OpenURL Full Text

Modeling Eurobond credit ratings and forecasting downgrade probability. Focus Search >

**2: Westchester Libraries** Availability MARC Display OpenURL

Sideways to Sydney; driving like a lunatic across Europe, Asia, and Australia. Focus Search >  
*There are copies of this title (1 available) in 1 libraries. More information.*

**3: Westchester Libraries** Availability MARC Display OpenURL

Requiem [CD] / Mozart Focus Search >  
*There are copies of this title in 2 libraries. More information.*

**4: Westchester Libraries** Availability Rich Data MARC Display Purchase OpenURL

Oliver Twist / Charles Dickens ; adapted by Naia Bray-Moffatt ; illustrated by Ian Andrew Focus Search >  
*There are copies of this title (1 available) in 1 libraries. More information.*

**5: Westchester Libraries** Availability Rich Data MARC Display Purchase OpenURL

Rumpole and the primrose path / John Mortimer. Focus Search >  
*There are copies of this title (20 available) in 33 libraries. More information.*

**6: Westchester Libraries** Availability Rich Data MARC Display Purchase OpenURL

Lord John and the private matter [audiobook] / Diana Gabaldon. Focus Search >  
*There are copies of this title (9 available) in 13 libraries. More information.*

**7: Master File Premier** MARC Display OpenURL Full Text

London's Modern Metal. Focus Search >

**8: University of Alabama-Birmingham** MARC Display OpenURL

Session Timeout: 9:58 0 28.0K 25M



### What's new? Check it out:

- This list can contain
- items of interest
- exciting upcoming events

The panel expands vertically as the text increases.

To search, type your search words in the box, check the boxes below where you want to search, and click Search.



To visit a website, click on its logo or name below.



### For parents and teachers:

Click [here](#) to see a list of links we've collected specifically for parents and teachers. If you have a link you would like to add to our list, please contact us.

### Events for Kids

Some upcoming events just for kids:



The Asian Children's Festival will (supply some brief descriptive text about the festival here.)



### For your family

Here are some fun family links:



[Alfy](#)







ASEE

GO

Remove Duplicates by:  
Title URL

Sort results by:  
Date Title Relevance

Filter results for these words:

GO

- ☒ Web Engines  
☐ Entertainment  
☐ Booksellers  
☐ Libraries

AllTheWeb  
AltaVista  
America OnLine  
Education World  
euroseek.com  
Excite  
Google

Business ☒

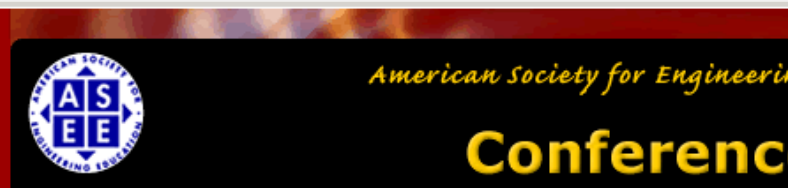
Hits: 980666

Retrieved: 152

27  
Searched

Combined Results List | AllTheWeb (10) | AltaVista (10) | America OnLine (10) | Education World (0) | euroseek.com (0) | Thunderstone (10) | Web Crawler (10) | Yahoo! Finance (2) | Forbes

- 147 **Web Crawler**  
ASEE Meetings and Conferences  
ASEE Meetings and Conferences ... 2004 Conferences ... ASEE Conferences Staff ... 2004 ASEE Meetings and Conferences ...  
http://clickit.go2net.com/search?pos=8&ppos=0&plinks=0&uplinks=20&cat=web&cid=239171
- 148 **World News**  
Baltimore incubator program adds five to board  
Five new members have been appointed to the board of directors overseeing Baltimore's Emerging Industrial Park...  
http://article.wn.com/link/WNATB1D17B3EA2A0F205151E9713CE864FEF?source=template
- 149 **World News**  
Bono, con la Brigada periodística en Irak  
DIWANIYA (IRAK). José Bono ha hecho honor de nuevo a su capacidad de seducción con las condiciones del r...  
http://article.wn.com/link/WNATFE2A353735A26A47365A98D31ECAD0A4?source=template
- 150 **Web Crawler**  
Dallas/Fort Worth Association for Software Engineering Excellence  
... www.icspi.com. ASEE Feb, 2004 Workshop Proceedings Available for \$10.00 ... 27th Pre...  
http://clickit.go2net.com/search?pos=10&ppos=0&plinks=0&uplinks=20&cat=web&cid=239171



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## ASEE Meetings and Conferences

- [2004 Conferences](#)
- [Past ASEE Annual Conference Proceedings](#)
- [Past ASEE Conference and Meetings Information](#)

Shortcut to www.asee.org

Internet



## Monaghan University

### Members Login

For full access including Personal Sources and Settings, please provide your user login information and click the "Login" button.

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*User Password:*

Login

### Login for Guests

For limited access to Company Sources, please click the "Login for Guests" button here.


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and type in Search term(s)

 ☒ And ☐ Or ☐ Not 

[University Home](#) [Databases](#) [Library Catalog](#) [Services](#) [Library Map](#)  
[Library Home](#) [Advanced Search](#) [My WorkRoom](#) [My Account](#) [Logout](#)



### Search in these resources:

#### ☐ Libraries

- ☒ Monaghan University
- ☒ Library of Congress
- ☐ New York Public Library
- ☐ Eccles Health Sciences Library
- ☒ University of Utah Marriott & Quinney Libraries
- ☐ Brigham Young University
- ☐ UALC Shared Electronic Resources Catalog
- ☐ University of Judaism

#### ☐ Arts and Humanities

- ☐ Architectural Index
- ☐ ArtCyclopedia
- ☐ CSA ARTbibliographies Modern
- ☐ CSA Political Science & Government

#### ☐ Business

- ☐ Business Source Premier
- ☐ Econlit

#### ☐ Reference

- ☐ Article Finder
- ☐ ERIC

#### ☐ Scientific

- ☒ SCIRUS
- ☐ Psyc Articles
- ☒ American Institute of Physics
- ☐ Astrophysics Data Service
- ☐ Springer Science Online

#### ☐ Medical

- ☐ PubMed
- ☐ Medline
- ☐ Health Source: Consumer Edition
- ☐ Biomedical Reference Collection

#### ☐ Encyclopedias and Dictionaries

- ☒ Dictionary
- ☐ Canadian Encyclopedia
- ☐ XReferPlus

#### ☐ Search The Internet

- ☐ Google
- ☐ HotBot
- ☐ Yahoo
- ☐ AllTheWeb

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Select Resources to Search  
and type in Search term(s)

engineering

Keyword

☒ And ☐ Or ☐ Not

Keyword

Search

New Search

Search Options

Change Sources

11 Started

Completed

Total

Retrieved



Stop Search

Details

586095 66

## All Searched Sources

| [University of Utah Marriott & Quinney Libraries](#) | [Library of Congress](#) | [Monaghan University](#) | [Academic Search Premier](#) | [SCIRUS](#) | [American Institute of Physics](#) | [Dictionary](#) | [Newspaper Source](#) | [Master File Premier](#) | [CSA Conference Papers Index](#) |

### 1: SCIRUS

MARC Display OpenURL Duplicates (4)

Title: [similar results](#)

[Focus Search >](#)

Author: Nakayama, Yu / Bertoldi, Gaetano / Bolognesi, Stefano / Matone, Marco / Mazzucato, Luca

[Focus Search >](#)

Description: We study the instanton contributions of local N=2 supersymmetric gauge theory and propose that the instanton moduli space is mapped to the moduli space of punctured spheres. Remarkably, due to the recursive structure of the boundary in the...

### 2: Newspaper Source

MARC Display OpenURL

Title: [The Florida Times-Union, Jacksonville, In the Pipeline Column](#)

[Focus Search >](#)

Description: By: Karen Brune Mathis. Florida Times-Union, The (Jacksonville, FL), 06/17/2004; (AN 2W60162115687)HTML Full Text

### 3: Newspaper Source

MARC Display OpenURL

Title: [Grazier taps into windfarm - Small Business Solutions : Business Surveys Series](#)

[Focus Search >](#)

Description: By: James Dunn. Australian, The, 06/18/2004; (AN 200406181T08578921)HTML Full Text

### 4: Academic Search Premier

MARC Display OpenURL

Title: [Inkjet printing of viable mammalian cells.](#)

[Focus Search >](#)

Description: By: Xu, Tao; Jin, Joyce; Gregory, Cassie; Hickman, James J.; Boland, Thomas. Biomaterials, Jan2005, Vol. 26 Issue 1, p93, 7p; DOI: 10.1016/j.biomaterials.2004.04.011; (AN 13387660)Check library holdings Send request to ILL

### 5: Academic Search Premier

MARC Display OpenURL

Title: [Tissue response of defined collagen-elastin scaffolds in young and adult rats with special attention to calcification.](#)

[Focus Search >](#)

Description: By: Daamen, W.F.; Nillesen, S.T.M.; Hafmans, T.; Veerkamp, J.H.; van Luyn, M.J.A.; van



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	<input type="checkbox"/>	<i>Results Set Name</i>	<i>Records</i>	<i>Query Statement</i>	<i>Time Stamp</i>	<i>Description</i>
1	<input type="checkbox"/>	Engineering - 2004/06/18	19		Sat Jun 19 13:01:50 MDT 2004	
<div> <input type="button" value="Browse"/> <input type="button" value="Delete"/> </div> <div> <input type="button" value="Modify"/> <input type="button" value="Combine"/> <input type="button" value="Export"/> <input type="button" value="Alerts"/> </div>						
<div> <input type="button" value="First"/> <input type="button" value="Previous"/> <input type="button" value="Next"/> <input type="button" value="Last"/> </div>						

Monaghan University - Microsoft Internet Explorer

## My Account

### Search Options

*Enrich Library Results:*

☐ No ☒ Yes

*Remove Duplicate Records By:*

☒ None ☐ Title ☐ Title 3111 ☐ URL ☐ Host

*Results Per Source:*

☒ 10 ☐ 25 ☐ 50 ☐ 100

*Results Per Page:*

☒ 10 ☐ 25 ☐ 50 ☐ 100

*Sorting By:*

☒ None

☐ Relevance

☐ Title

☐ Author

☐ Author, Title

☐ Date

☐ Retrieved Order

☐ Source

*Sorting Type:*

☒ Ascending ☐ Descending

*Limit Results To:*

Any Language

Any Material

*Results Display Level:*

☐ Full Record Detail

☐ Brief Record Detail

☒ One Line Record

*Show Search Progress:*

☐ No ☒ Yes



## The MuseSearch Standard Library

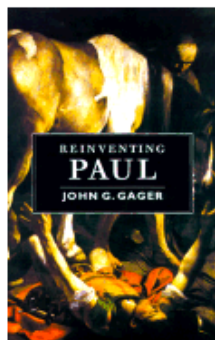
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[Community Resources](#)  
[Library News](#)  
[History](#)  
[Arts](#)  
[Fun](#)

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Summary

Excerpt

Book Review from  
Library Journal

Book Review from  
Publisher Weekly

[Focus Search >](#)

*Muse Enrichment  
Service has brought  
this to you from  
Syndetic Solutions.*

Enter a City or US Zip:  [go!](#)



**Salt Lake City, UT**

Reported by Salt Lake City, UT

**Partly Cloudy**

Sat Jun 19 12:55 PM MT

Temperature: 81°F/27°C

Humidity: 26%

Barometer: 30.07in/1019mb

Winds: VAR at 6mph/10kph

Click for  
Forecast



### News

- Free Trial Issue: Stocks & Commodities Magazine...  
Ad - <http://www.traders.com> Sat Jun 19 13:51:00 MDT 2004
- Saudis: Hostage's corpse not found ...  
CNN Sat Jun 19 12:52:00 MDT 2004
- Newspaper: Enron's Lay to be indicted ...  
CNN Sat Jun 19 11:37:00 MDT 2004
- 18 Iraqis killed in Fallujah airstrike ...  
CNN Sat Jun 19 11:22:00 MDT 2004
- A U.S. Airstrike Kills at Least 22 in Falluja ...  
New York Times Sat Jun 19 11:08:00 MDT 2004
- 18 Iraqis killed in airstrike ...  
CNN Sat Jun 19 10:38:00 MDT 2004
- At Least 20 Iraqis Reported Killed in Airstrike in Falluja ...  
New York Times Sat Jun 19 09:52:00 MDT 2004
- At Least 20 Said Killed in Falluja Airstrike ...  
New York Times Sat Jun 19 08:52:00 MDT 2004
- Saudis: Militant behind hostage beheading killed ...  
CNN Sat Jun 19 07:22:00 MDT 2004
- Saudis show slain al-Qaeda chief ...  
BBC Sat Jun 19 04:37:00 MDT 2004

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