

Is one stop shopping all we dreamed it
would be?

Usability and the Single Search Interface



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Introduction

- What is single search?
- About usability testing
- The results
- What is next?

Federated Searching at Memorial

- SingleSearch (one interface...many resources)
- Resolver (links to our full-text & holdings)
- RELAIS (document delivery)

One interface...

Memorial Sirsi Single Search - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <http://asin1.its.unb.ca:8000/muse/servlet/MusePeer>

Memorial University Libraries

Feedback go

Quick Search Advanced Search Feedback Help/FAQ Logout

Quick Search

Search for: As: Keyword

Search

Switch to: English

Options

Select by group or scroll down to select by individual resource:

<input type="checkbox"/> Arts and Music	<input type="checkbox"/> Environment and Geography	<input type="checkbox"/> Ocean Sciences and Technology
<input type="checkbox"/> Biology	<input type="checkbox"/> Folklore	<input type="checkbox"/> Physics
<input type="checkbox"/> Business and Economics	<input checked="" type="checkbox"/> Health Sciences	<input type="checkbox"/> Political Science
<input type="checkbox"/> Canada	<input type="checkbox"/> History and Classics	<input type="checkbox"/> Psychology
<input type="checkbox"/> Chemistry and Biochemistry	<input type="checkbox"/> Kinesiology and Recreation	<input type="checkbox"/> Religious Studies and Philosophy
<input type="checkbox"/> Earth Sciences	<input type="checkbox"/> Language and Linguistics	<input type="checkbox"/> Social Work
<input type="checkbox"/> Education	<input type="checkbox"/> Library Catalogues	<input type="checkbox"/> Sociology and Anthropology
<input type="checkbox"/> Engineering and Computer Science	<input type="checkbox"/> Mathematics and Statistics	<input type="checkbox"/> All Subjects
<input type="checkbox"/> English & World Literature	<input type="checkbox"/> My Catalogue	
	<input type="checkbox"/> Newfoundland and Labrador	

Internet

...for many sources...

The screenshot shows a web browser window with the address bar displaying `http://asin1.its.unb.ca:8000/muse/servlet/MusePeer`. The page header features the Memorial University Libraries logo and navigation links for [Home](#), [Feedback](#), [Quick Search](#), [Advanced Search](#), [Feedback](#), [Help/FAQ](#), and [Logout](#).

The search results section is titled "22 Started" and includes a progress bar. A table shows the search status:

22 Started	Completed	Total Retrieved
		36324 454

A "Stop Search" button is located to the right of the table. Below the progress bar, a yellow oval highlights a list of "All Retrieved Sources" with the following links: [Memorial University Libraries Catalogue](#), [PubMed](#), [Social Services Abstracts](#), [Allied and Alternative Medicine \(AMED\)](#), [Health Business Fulltext Elite](#), [Psychology and Behavioral Sciences Collection](#), [Social Work Abstracts Plus](#), [PsycINFO](#), [CINAHL](#), [International Pharmaceutical Abstracts](#), [Biomedical Reference Collection](#), [Nursing and Allied Health Collection](#), [Biological Abstracts](#), [BioMed Central](#), [STAT!Ref](#), [MD Consult](#), [Ovid Books](#), [Ovid Journals](#), [Database of Abstracts of Reviews of Effectiveness](#), [Cochrane Database of Systematic Reviews](#), [Cochrane Controlled Trials Register](#), and [CAB Abstracts](#).

Below the highlighted list, two search results are displayed:

1: PubMed [More Information](#) [Get it @Memorial](#)
Title: How common is celiac disease?
Type: Journal Article
ISSN: 0741-6245 (Print)
Location: United States
Source: Mayo Clin Health Lett. 2006 Apr;24(4):8.

2: PubMed [More Information](#) [Get it @Memorial](#)
Title: Superior Mesenteric Artery Pseudoaneurysm Associated with Celiac Axis Occlusion Treated Using Endovascular Techniques.
Author: Ray B
Author: Kuhan G

The browser's status bar at the bottom shows "Done" and "Internet".

...leading to full text...

The screenshot shows a web browser window with the address bar displaying `http://asin1.its.unb.ca:8000/muse/servlet/MusePeer`. The browser interface includes a menu bar (File, Edit, View, Favorites, Tools, Help) and a toolbar with icons for Back, Forward, Stop, Refresh, Home, Search, Favorites, and other functions. The main content area displays a list of search results, each with a checkbox, a title, author information, type, and source. The first result is highlighted with a yellow circle around the 'Full Text' link.

<input type="checkbox"/>	32: BioMed Central	Full Text
<i>Title:</i> Association study of functional genetic variants of innate immunity related genes in celiac disease		
<i>Author:</i> Rueda B		
<i>Author:</i> Zhernakova A		
<i>Author:</i> López-Nevot MA		
<i>Author:</i> Martín J		
<i>Author:</i> Koeleman BPC		
<i>Type:</i> Research article		
<i>Source:</i> BMC Medical Genetics 2005, 6:29 (3 August 2005)		
<input type="checkbox"/>	33: BioMed Central	Full Text
<i>Title:</i> Human genetics moves from clinic to bench - and back		
<i>Author:</i> Ogorelkova M		
<i>Author:</i> Estivill X		
<i>Type:</i> Meeting report		
<i>Source:</i> Genome Biology 2005, 6:343 (31 August 2005)		
<input type="checkbox"/>	34: BioMed Central	Full Text
<i>Title:</i> Persistence of Natural Killer (NK) cell lymphocytosis with hyposplenism without development of leukaemia		
<i>Author:</i> Khan S		
<i>Author:</i> Myers K		
<i>Type:</i> Case report		
<i>Source:</i> BMC Clinical Pathology 2005, 5:8 (7 September 2005)		
<input type="checkbox"/>	35: BioMed Central	Full Text
<i>Title:</i> Most nuclear systemic autoantigens are extremely disordered proteins: implications for the etiology of		

...or to a check of our holdings...

Memorial Sirsi Single Search - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <http://asin1.its.unb.ca:8000/muse/servlet/MusePeer#1146658303585> Go Links >>

17: Biological Abstracts More Information Get it @Memorial

Title: Intestinal B cell lymphoma associated with chronic hepatitis C and celiac disease
Author: Coban,-Sahin
Author: Palabiyikoglu,-Murat
Author: Ensari,-Arzu
Author: Idilman,-Ramazan
Author: Koklu,-Seyfettin
Author: Yolcu,-Omer-Faruk
Author: Ormeci,-Necati
Source: Digestive-Diseases-and-Sciences. 2005; 50(12): 2359-2361

18: Biological Abstracts More Information Get it @Memorial

Title: Liver dysfunction after a gluten-free diet in a patient with celiac disease: A new link
Author: Selcuk,-Haldun
Author: Kanbay,-Mehmet
Author: Murat,-Korkmaz
Author: Yilmaz,-Ugar
Source: Digestive-Diseases-and-Sciences. 2006; 51(1): 213-214

19: Biological Abstracts More Information Get it @Memorial

Title: Differing clinical manifestations of celiac disease transmitted by bone marrow transplantation
Author: Borgaonkar,-Mark-R
Author: Duggan,-Peter-R
Author: Adams,-Grenfell
Source: Digestive-Diseases-and-Sciences. 2006; 51(1): 210-212


20: Biological Abstracts More Information Get it @Memorial

Title: Intestinal T cell responses to cereal proteins in celiac disease
Author: Kilmartin,-C
Author: Wieser,-H
Author: Abuzakouk,-M
Author: Kelly,-J
Author: Jackson,-I

Error on page. Internet

...Resolver links to online holdings...

http://mun-resolver.asin-risa.ca:8080 - Sirsi Resolver - Microsoft Internet Explorer

 Memorial University Libraries

Feedback [go](#)

Your article:
Author: Selcuk,-Haldun ,
Title: Liver dysfunction after a gluten-free diet in a patient with celiac disease: A new link?
Journal title: Digestive-Diseases-and-Sciences
Volume: 51 Issue: 1 Date: 2006 Pages: 213-214

Digestive Diseases and Sciences

available in [kluwer.kluwerOnline](#) -->Find Table of Contents -->Find Article **Full Text:** 1997 - present


available in *Kluwer Journals* -->Find Title -->Find Table of Contents -->Find Article **Full Text:** 1997 - January 14 2006

Check the complete holdings at Memorial for the journal: *Digestive-Diseases-and-Sciences*
check holdings using the journal title in -->[Memorial University of Newfoundland](#)

Done Internet

...or to Relais (document delivery system)

http://mun-resolver.asin-risa.ca:8080 - Sirsi Resolver - Microsoft Internet Explorer

 Memorial University Libraries

Feedback [go](#)

Your article:
Author: Meoro,-A ,
Title: Celiac disease in Type 1 diabetic children and adults: IgA class transglutaminase autoantibodies as the best screening marker
Journal title: Journal-of-Endocrinological-Investigation
Volume: 28 Issue: 9 Date: 2005 Pages: 864-865


Journal-of-Endocrinological-Investigation

Get it@Memorial was not able to locate availability for this journal (*Journal-of-Endocrinological-Investigation*,

More Information

Try these additional sources for the journal: *Journal-of-Endocrinological-Investigation*
check holdings using the journal title in -->[Memorial University of Newfoundland](#)

Request this article : Meoro,-A , *Celiac disease in Type 1 diabetic children and adults: IgA class transglutaminase autoantibodies screening marker*, *Journal-of-Endocrinological-Investigation*, 28 (9), p 864865 (2005),
request through -->[Document Delivery](#)

Done  Internet

What is usability?

Help users overcome technology and make it easy and efficient and pleasant for them to use.

Jakob Nielsen
Nielsen Norman Group

Advantages of usability

- Save the user time
- Save the organization time & money
- Counter the whims of the designer
- Good PR for the library
- Settles disagreements among design team members

Test Audience

- 12 participants from three MUN Libraries
- 5 males and 7 females
- 7 undergraduates, 3 graduate and 2 faculty
- Ages ranged from under 20 to 49

Survey Tasks

- Select categories & resources
- Find & check holdings for a book
- Find & check holdings for an article
- Navigate the Resolver

Sample Questionnaire

Task IV: Reviewing Results

1. Look through the results and find a book.

A. In the first page of results, is there a book?

Yes No I don't know

B. If you answered YES to A, please note the following:

Title of Book: _____

Author of Book: _____

Name of library/libraries that own this book (write "do not know" if you are unsure of the answer):

(continue to next page)

2. Look through the results and find an article.

A. In the first page of results, is there an article?

Yes No I don't know

B. If you answered YES to A, please note the following information:

Title of Article: _____

Test Materials & Analysis

□ Test Materials

- Pre-test: demographic and library use data
- Survey: completed as participants completed the tasks
- Post-test" participant impressions of single search

□ Analysis

- Quantitative data analyzed by SPSS
- Screen captures analyzed with a variety of tools (click path analysis)

Results!

- The expected...
- The unexpected...
- The bonus material

Overall Performance

Difficulty understanding layout of search

Select by group or scroll down to select by individual resource:

- Arts and Music
- Biology
- Business and Economics
- Canada
- Chemistry and Biochemistry
- Earth Sciences
- Education
- Engineering and Computer Science
- English & World Literature
- Environment and Geography
- Folklore
- Health Sciences
- History and Classics
- Kinesiology and Recreation
- Language and Linguistics
- Library Catalogues
- Mathematics and Statistics
- Memorial University Libraries Catalogue
- Newfoundland and Labrador
- News
- Ocean Sciences and Technology
- Physics
- Political Science
- Psychology
- Religious Studies and Philosophy
- Social Work
- Sociology and Anthropology
- All Subjects

Select individual resources:

- Arts and Music
 - America: History and Life
 - Art Index
 - ArtCyclopedia
 - British Museum
 - Canadian Music Periodicals Index
 - CBCA Current Events
 - CBCA Reference
 - International Index to Music Periodicals
 - Wilson OmniFile Mega Edition
- Biology
- News
 - CBCA Current Events
 - CBCA Reference
 - GoogleNews
 - PAIS International
 - Regional Business News
 - Wilson OmniFile Mega Edition
- Ocean Sciences and Technology
 - Applied Science and Technology
 - ASFA: Aquatic Sciences and Fisheries Abstracts
 - EICompindex

Participants selected many resources/ categories to search

- For the question, "*Find information on the evolution of the human skeleton*" participants selected an average of 2.5 categories and 3.25 resources.

	Categories Selected	Resources Selected
<i>M</i>	2.0	3.25
<i>Mdn</i>	2.0	1
σ	1.348	4.845

- Equals approximately 25 databases being searched

Lots of clicking & Lots of hovering

- Participants were asked to select “Get It@Memorial” and navigate to Library holdings.
 - Took participants an average of 9 clicks to reach an article/holdings or to give up.
 - Participants who were successful took an average of 6 clicks.
- Participants were asked to choose an article citation and determine if it were available online or whether MUN owned it.
 - Took participants a average of 5 min. & 10 sec. to complete

Basic search strategies

- None of the participants used sophisticated search techniques like Boolean and/or truncation. I.e.,
 - “Find information on pollution and asthma”
 - pollution asthma (2)
 - asthma pollution
 - “Find information on elder abuse”
 - information on elder abuse
 - elder abuse (2)

Users identified format with ease

- 100% of participants were correctly able to identify whether there was a book and an article on their search results.
- Majority (75%, $n=12$) selected an article where document type was in the Single Search display

□ 31: Sociological Abstracts

Title: Families Seen Sightseeing: Performativity of Tourist Photography

Author: Larsen, Jonas

Type: Journal Article (aja)

ISSN: 1206-3312

Source: Space and Culture, 2005, 8, 4, Nov, 416-434

Majority of users chose “more Information” as a route to holdings

- 2 options in each citation:
 - More Information: Links to native interface
 - Get it@Memorial: Links to Resolver
- Question asked: “Is the article available online (full text)? If not...does any MUN Library have this article?”

Expected Click Path

Question: Is the article available online?

1: PubMed More Information **Get it @Memorial**

Title: Institutional elder abuse.
Type: Editorial
ISSN: 1474-547X (Electronic)
Location: England
Source: Lancet. 2006 Feb 25;367(9511):624.

Your article:
Title: Institutional elder abuse.
Journal title: Lancet
Volume: 367 Issue: 9511 Date: 2006 Pages: 624-624

Lancet

available from EBSCO Host in EBSCO Academic Search Premier -->Find Title -->Find Article
available from EBSCO Host in EBSCO Biomedical Reference Collection: Comprehensive -->Find Title -->Find Article
available from EBSCO Host in EBSCO Nursing & Allied Health Collection: Comprehensive -->Find Title -->Find Article
available from EBSCO Host in EBSCO Psychology & Behavioral Sciences Collection -->Find Title -->Find Article
available from Elsevier Science

Check the complete holdings at Memorial for the journal: Lancet
check holdings using the journal number in -->Memorial University of Newfoundland
check holdings using the journal title in -->Memorial University of Newfoundland

EBSCO HOST Research Databases

Back Print Email Save
Formats PDF Full Text Citation

Title: Institutional elder abuse.
Subject(s): AGE discrimination; OLDER people -- Long-term care; CA
MEDICAL errors; MEDICATION errors; NURSING home p
Source: Lancet, 2/25/2006, Vol. 367 Issue 9511, p624, 1/2p, 1c

```
graph TD; A[Get it @Memorial] --> B((User Icon)); B --> C[Find Article]; C --> D[PDF Full Text];
```


1: Lancet. 2006 Feb 25;367(9511):624.

ELSEVIER
FULL-TEXT ARTICLE

MEMORIAL U.
E-JOURNAL

MEMORIAL U.
PRINT JOURNAL

NLHKIN
E-Journal

Institutional elder abuse

Actual Click Paths

[No authors listed]

Question: Is the article available online?

Publication Types:

- ♦ [Editorial](#)

PMID: 16503441 [PubMed - indexed for MEDLINE]



1: PubMed
 Title: Institutional elder abuse.
 Type: Editorial
 ISSN: 1474-547X (Electronic)
 Location: England
 Source: Lancet. 2006 Feb 25;367(9511):624.

More Information Get it @Memorial



N = 8 (successful attempts)

N = 10 (unsuccessful attempts)



Your article:
 Title: Institutional elder abuse.
 Journal title: Lancet
 Volume: 367 Issue: 9511 Date: 2006 Pages: 624-624

Back Print E-mail Save
 Formats: PDF Full Text Citation

Lancet
 available from EBSCO Host in EBSCO Academic Search Premier
 available from EBSCO Host in EBSCO Biomedical Reference Collection: Comprehensive
 available from EBSCO Host in EBSCO Nursing & Allied Health Collection: Comprehensive
 available from EBSCO Host in EBSCO Psychology & Behavioral Sciences Collection
 available from Elsevier Science

-->Find Title -->Find Article
 -->Find Title -->Find Article

Search Results ISSN "0140-6736" search found 3 titles.
 Go Back Help Limit Search Previous Next Print / Email Library Ho

# 1	Shelved by title
Details	Lancet (North American ed.)
Keep <input type="checkbox"/>	6 copies available at Health Sciences Library, Internet Resources, and NL Health Libraries 6 items total in the libraries searched.
Internet	
# 2	For Internet access see full display
Details	Lancet (North American ed. : Online)
Keep <input checked="" type="checkbox"/>	1 copy available at Internet Resources in INTERNET 1 items total in the libraries searched.
Internet	

Check the complete holdings at Memorial for the journal: Lancet
 check holdings using the journal number in -->Memorial University of Newfoundland
 check holdings using the journal title in -->Memorial University of Newfoundland



Bonus Material

- Fascinating insight into how people deal with error messages (which abounded) and other browsing behaviours.
- Example

Conclusions...thus far.

1. Selection of resources to search needs to be simplified
2. Need to include format identifiers (icons/document type field) wherever possible
3. Need to clean up display to aid decision making
4. Need to promote “most efficient” path through the SingleSearch to the article

What next?

- Use the data to develop mocks of different layouts for focus group this summer
- Re-do study when Rooms Portal is implemented?

Users get the last word...

“It displayed a wide range of results with very little effort. Usually I would use google for research for an essay, but after seeing how easily and accurately this system finds and displays information I would rather use it.”