

Computer Science Seminar

Engineering Library:
Services and Resources

Judy Siebert Maseles
March 10, 2011

What do Libraries provide today in the way of “collections”

Electronic books

eBrary, Safari

Databases

Citation, Full-text
Articles, Standards

Google Scholar

Electronic journals

Print and online

2/3 of all engineering
journals are electronic
only

Scholarly Journals,
Trade publications

Freely available:

Patents
Government documents
Technical Reports

Strategic Approach to the Research Literature

Background Sources

- Books, Encyclopedias, Dictionaries, Textbooks, Dissertations



Primary Sources

- Journals, Standards, Patents, Conference papers

Background Resources

ebooks

- Bayesian Approach to Image Interpretation
- Kernel Patterns for Key Analysis

Databases

- Academic Search Premier Books
- Ebrary

Encyclopedias

- Encyclopedia of Computer Science
- Encyclopedia of Cognitive Science

Background and Primary Resources



Magazines

- Popular Science
- PC Magazine



Trade Publications

- Dr. Dobbs
- Scientific Computing



Scholarly Articles

- Artificial Intelligence
- Journal of the ACM

What is meant by SCHOLARLY?

Author's Credentials

— Often listed at end of article, tell colleges attended, degrees earned, university affiliations, etc.

Parenthetical references — i.e. (Jones, 1993), and/or footnotes

Bibliography or Works Cited at the end of article

Basic sections of a research paper (abstract, method, discussion, etc.)

Tables, charts, or graphs — Usually show the results of a study or the methods used to calculate results.

Length — While longer does not necessarily imply scholarly or **better**, short one or two page articles are not often scholarly.

What are Peer-reviewed/Refereed Journals?

A publication, usually scholarly, in which articles are reviewed by a panel or two external reviewers, experts in the same field as the writer, before being accepted for publication. Also sometimes called scholarly or peer reviewed.

The Referee process judges whether the paper makes a contribution to the advancement of knowledge.

“Peer review does not guarantee that an article is correct, but it helps to **ensure that data and methodology have met a high standard.**”¹

¹ A Guide to InfoTrac OneFile. Gale Group Training Guide.
<http://www.galegroup.com/onefile/>

Journals' Acceptance Rates

The method of calculating acceptance rates varies among journals.

- ❑ Some journals use all manuscripts received as a base for computing this rate.
- ❑ Many editors do not maintain accurate records on this data and provide only a rough estimate.
- ❑ The number of people associated with a particular area of specialization influences the acceptance rate. If only a few people can write papers in an area, it tends to increase the journals' acceptance rate.

Cabell's Directory of Publishing Opportunities in Educational Psychology and Administration, David W.E. Cabell, Editor, 6th edition, 2002-2003 on page XIV.

What's this all about?

larger and grander churches being built, which would inevitably experience greater wind loads than on earlier, lower structures. Roofing methods evolved to ensure that roofs were not lost in wind storms – and in particular the use of lead on roofs became widespread. However perhaps the major evolution can be seen in spires (Encyclopaedia Britannica 2004). These were originally simply tall pyramids with four faces. However over the centuries they evolved into polygonal and eventually conical structures (such as in figure 2). Such structural form would experience significantly lower wind loads than the sharp edged pyramid structures (because of the narrower wakes at supercritical Reynolds numbers) and it must have been observed fairly quickly by those responsible for the building of such structures that polygonal spires blew down less frequently than pyramid shaped spires. Over the following centuries forms of spire also developed with significant gaps in the structure – which again would have reduced drag (such as the central spire on figure 2).

Another example of the development of fractional forms can be found in the development of windmills. These seem to have been first introduced in Persia around 950, and were very much based on the design of water mills, although these were vertical axis machines with horizontal blades (Hill, 1984) (figure 3). The windmill seems to have been introduced into Europe around 1180, and records of mills exist in Normandy and in England at around that date. The number of mills increased rapidly around this time and in the 13th century there were 120 mills in the vicinity of Ypres alone. Mills are also recorded in Italy at around this time, and the first illustrations begin to appear. These illustrations however show a considerable evolution from the original

Discipline-Based Corrections to the Literature

Newspapers

Correction notices
(last page?)

Law

Legal research, case histories,
statutes

Overruled

Superseded

Criticized

Distinguished

Repealed (for a statute)

Science & Technology

Correction: The journal corrects a mistake by substituting correct information or by asking the reader to disregard.

Retraction: An investigation has shown that an article contains faked data or has been plagiarized. It tells the reader to ignore that article.

Expression of Concern: The editor is concerned that an article contains faked data or has been plagiarized but an investigation has either not begun or has begun but has not reached a conclusion about that article.

Citing Problematic Research

A search of MEDLINE from 1966 through August 1997 found **235 articles that had been retracted**

- error was acknowledged in relation to 91 articles
- results could not be replicated in 38
- misconduct was evident in 86

The 235 retracted articles were **cited 2,034 times** after the retraction notice.

- Examination of 299** of those citations reveals that in only 19 instances was the retraction noted;
- The remaining 280 citations treated the retracted article** either explicitly or implicitly as though it **were valid research.**

Conclusion.-- Retracted articles continue to be cited as valid work in the biomedical literature after publication of the retraction; these citations signal potential problems for biomedical science

John M. Budd; MaryEllen Sievert; Tom R. Schultz

Phenomena of Retraction: Reasons for Retraction and Citations to the Publications

JAMA 1998 280: 296-297

Library Services: What do the Libraries do for you?

MERLIN/ MOBIUS

My Accounts

ILL@MU

Workshops

MERLIN/MOBIUS

All the libraries in
Missouri are at
your fingertips:
MST, SLU, WU

Request a book: 2-3
days and it's in your
hands

Reserve Desk

MERLIN:
My Accounts

Reading
History

My Lists

My Alerts

Interlibrary Loan (ILL@MU)

\$30 average
cost – FREE to
you

Article version of the
e-greeting card

2-3 days and
it's in your
e-mail inbox

ILL @MU - Also borrow
books from across the
country

Workshops

Zotero

EndNote

LibX

LibX
Firefox Plug-in

Context
Search

Toolbar

Amazon.com

LibX: Taking it out for a Test Drive

Install LibX



Adjust Context Settings



Search CiteSeer Database

Dissecting a Database

Teaching Yourself How to
Search

What is in the database?

Scope:

Subject areas?

Years covered?

- 2000
- 2001-2011
- 1980-2011
- Science & Technology
- STEM (Science, Technology, Engineering, and Mathematics)
- All Disciplines

What is in the database?

Scope:

Type of
Materials

- Journals
- Books,
Chapters
- Dissertations,
Theses
- Proceedings
- Patents
- Technical
Reports

What is in the database?

How to select a database?

Compendex

ACM Digital
Library

IEEE Xplore

Scopus

Academic
Search
Premier

MERLIN

Common

Safari

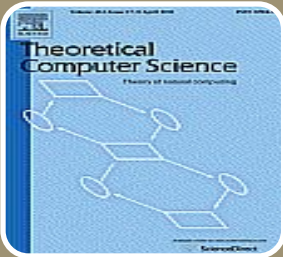
Google

BTW - All of these Resources Cost a Lot of \$\$\$\$



Databases

- Scopus (over \$150,000 a year for 4 campuses)
- ACM Digital Library (\$15,828 for 4 campuses)



Journals

- Theoretical Computer Science (\$7,089 a year)
- Artificial Intelligence (\$2,868 a year)



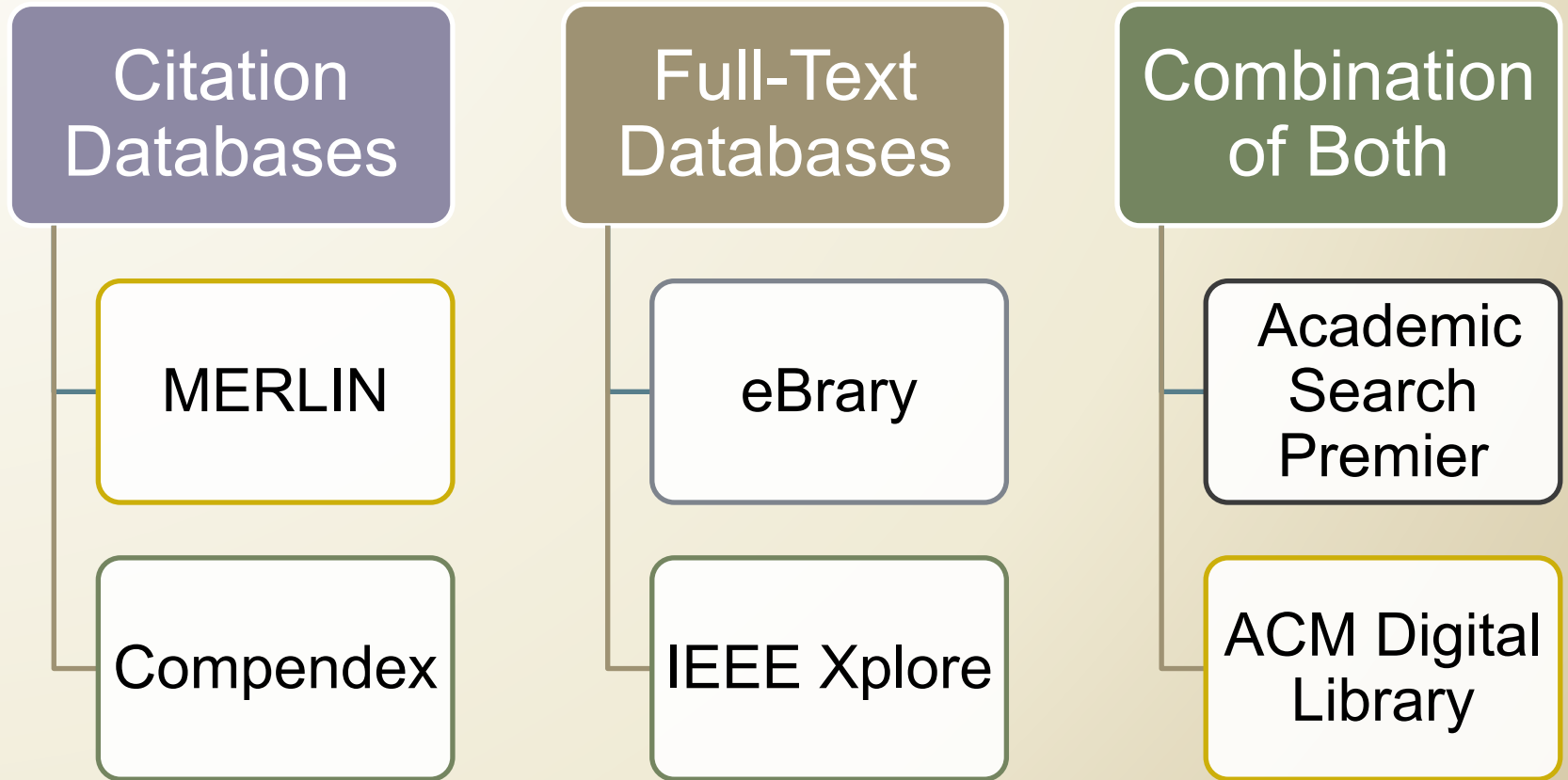
E-books

- ebrary (about \$6,000 a year for 5,000 books)

The Libraries spend about \$6,000,000 per year on books, journals, and databases

What is in the database?

How are these materials represented?



Citation vs Full-Text Databases

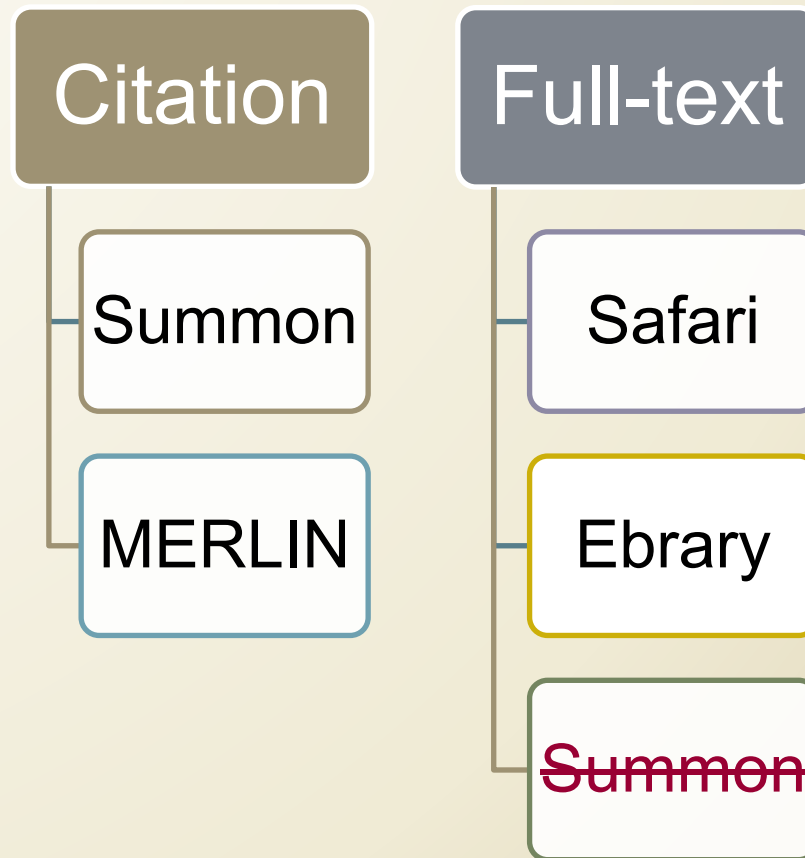
Citation:

- keyword
- subject
- author
- title of article
- title of the journal
- Full Text:
 - all words in the document

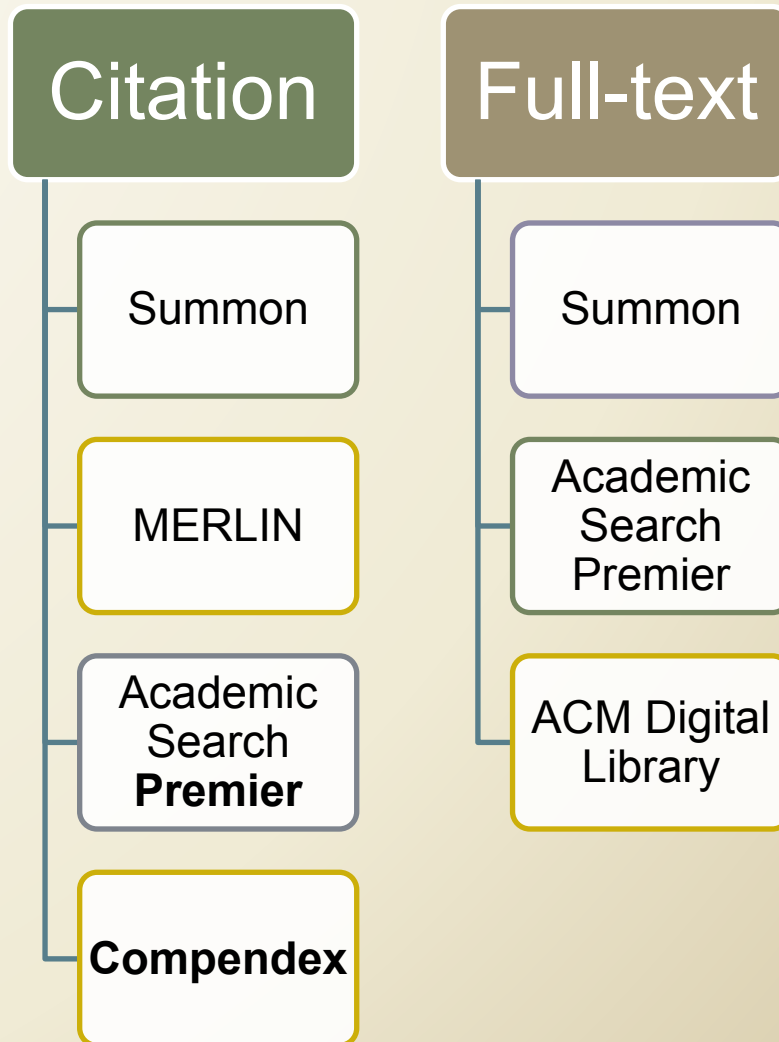
What does it search?

Looking for Books:

What does the database search?



Looking for Articles: What does the database search?



How does it search?
Phrase versus Word searching

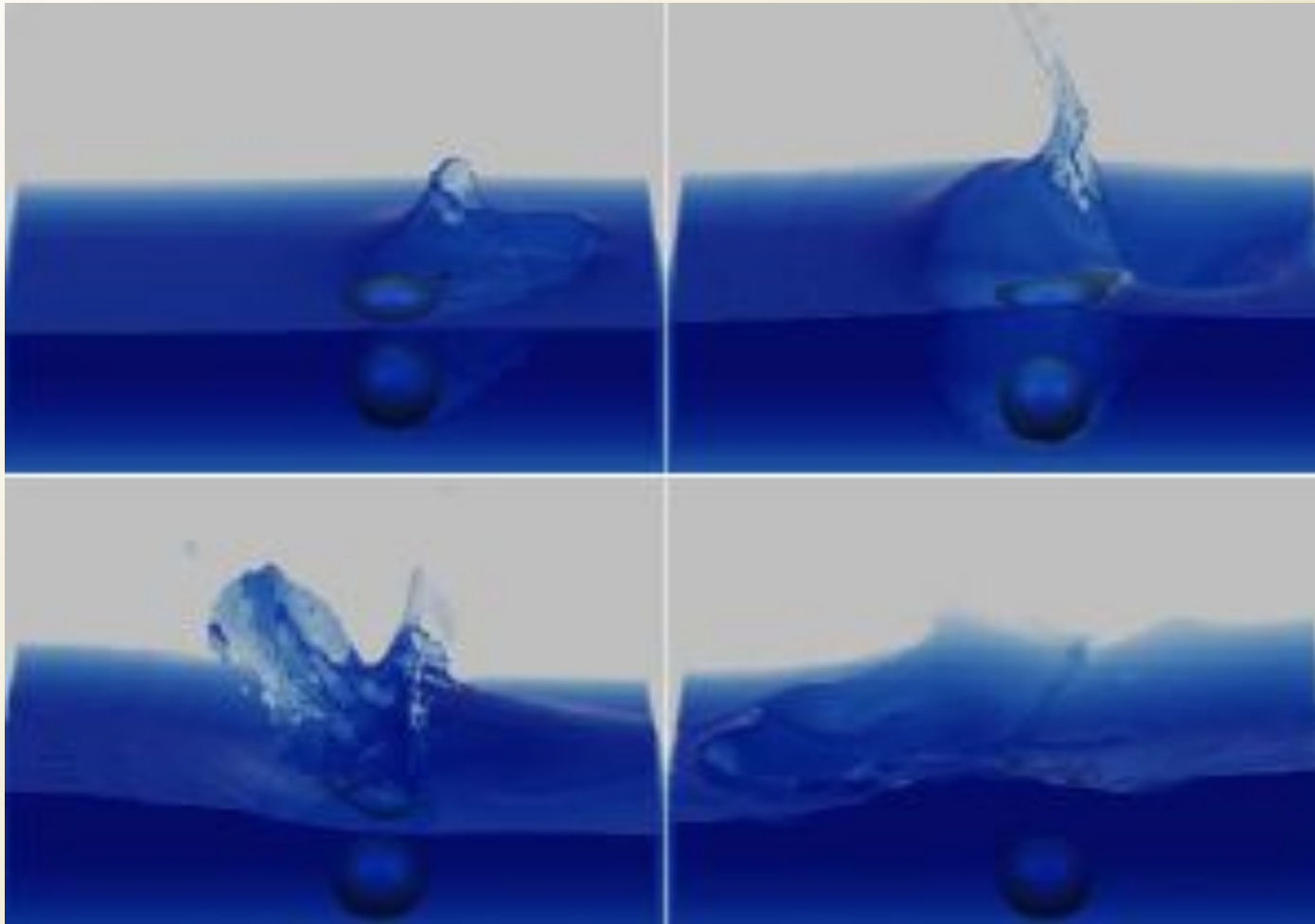
Are multiple words ...

a single phrase?

a combination of words connected by **AND** (all of the words)?

a combination of words connected by **OR** (any of the words)?

Natural Animation and Simulation



How does it search?

Phrase versus Word Search

Are multiple words ... a single phrase?



Advanced Search

[Advanced Search Tips](#) | [About G](#)

"Natural Animation and Simulation"

Find web pages that have...

all these words:

this exact wording or phrase:

one or more of these words:

Natural Animation and Simulation

[tip](#)

You can do this in standard search by "surrounding your phrase with quotes".

OR

OR

[tip](#)



“Natural Language and Simulation”

SELECT DATABASE

All Compendex GEOBASE GeoRef [?](#)

SEARCH FOR

"Natural Animation and Simulat

AND



AND



SEARCH IN

All fields



All fields



All fields



Search Results

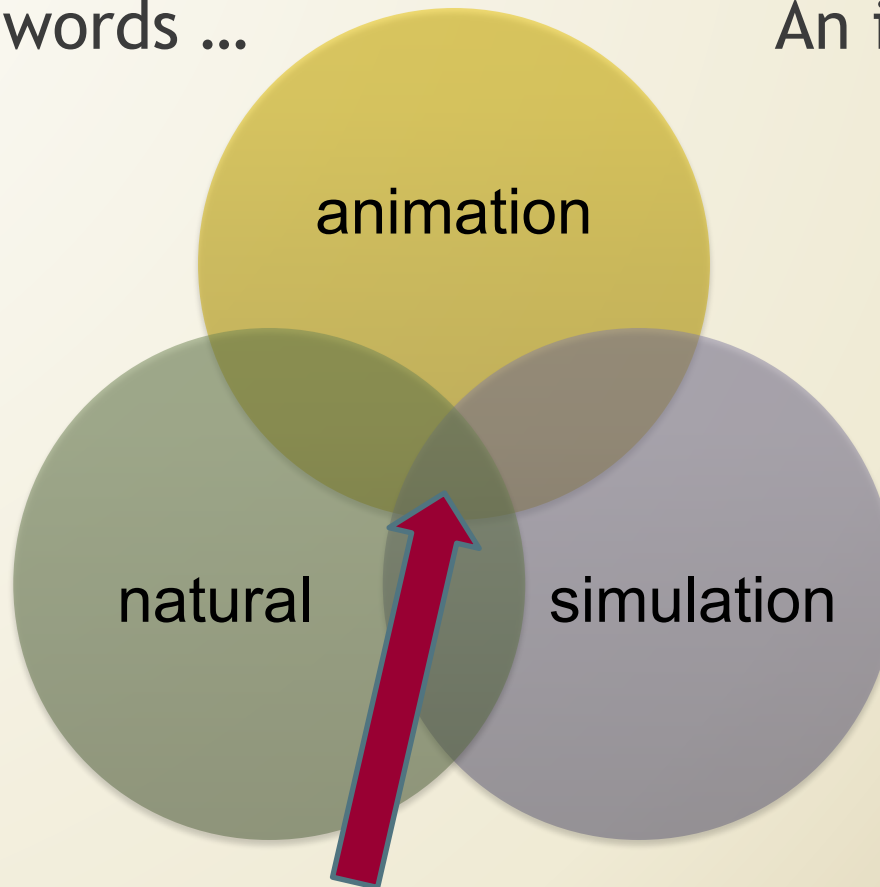
0 records found in Compendex for: (("Natural Animation and Simulation") WN All fields), 1969-2011

How does it search?

Phrase versus Word searching

Are multiple words ...

An intersection?



AND

A combination of words connected by **AND**
-- all of the words must appear in the document.

SELECT DATABASE

All Compendex GEOBASE GeoRef [?](#)

SEARCH FOR

natural animation

AND

simulation

AND

SEARCH IN

All fields [?](#)

All fields

All fields

Search Results

1060 records in Compendex for 1969-2011

[Save Search](#) - [Create Alert](#) -

[RSS](#) [?](#)

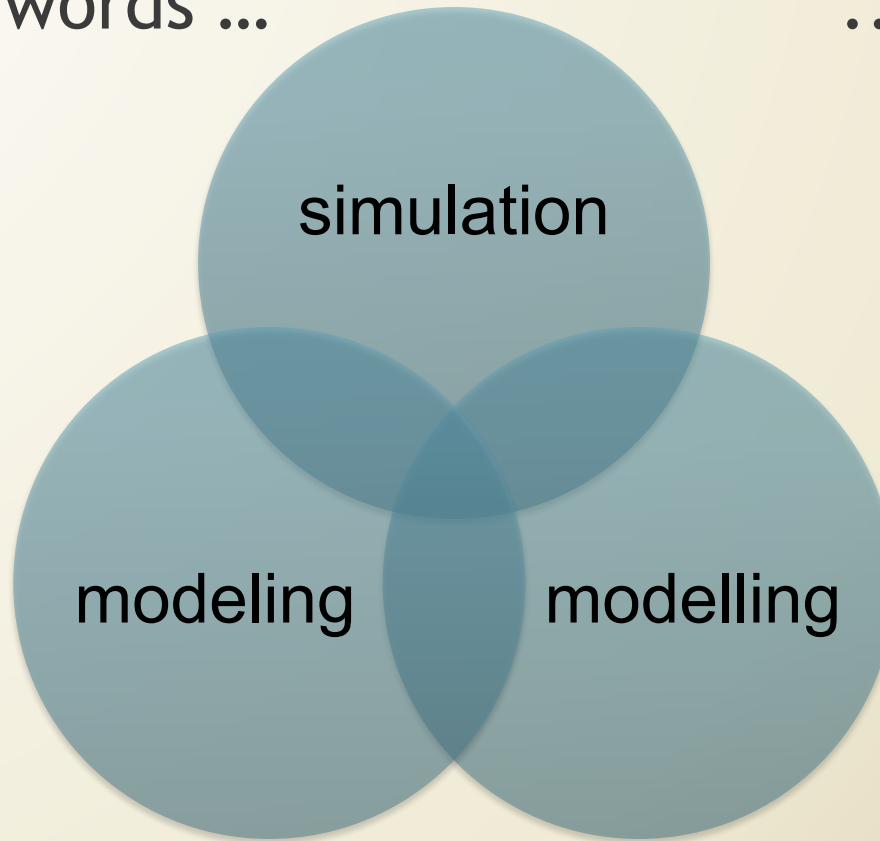
+(Natural Animation and Simulation) WN All fields)

How does it search?

Words combined with OR search

Are multiple words ...

.. A union?



OR

A combination of words connected by **OR** --
at least one of the phrases must appear in the document.

SELECT DATABASE

All Compendex GEOBASE GeoRef [?](#)

SEARCH FOR

AND

AND

SEARCH IN

All fields

All fields

All fields

Search Results

1060 records in Compendex for 1969-2011

[Save Search](#) - [Create Alert](#) -

[RSS](#)



+((Natural Animation and Simulation) WN All fields)

How does it search? Recap

What is the default search?

- Phrase Search?
- AND ?
- OR ?
- Natural Language Algorithm ?

Are other options available?

How does it search?

Controlled vocabulary terms / thesaurus searching

Controlled vocabulary terms?

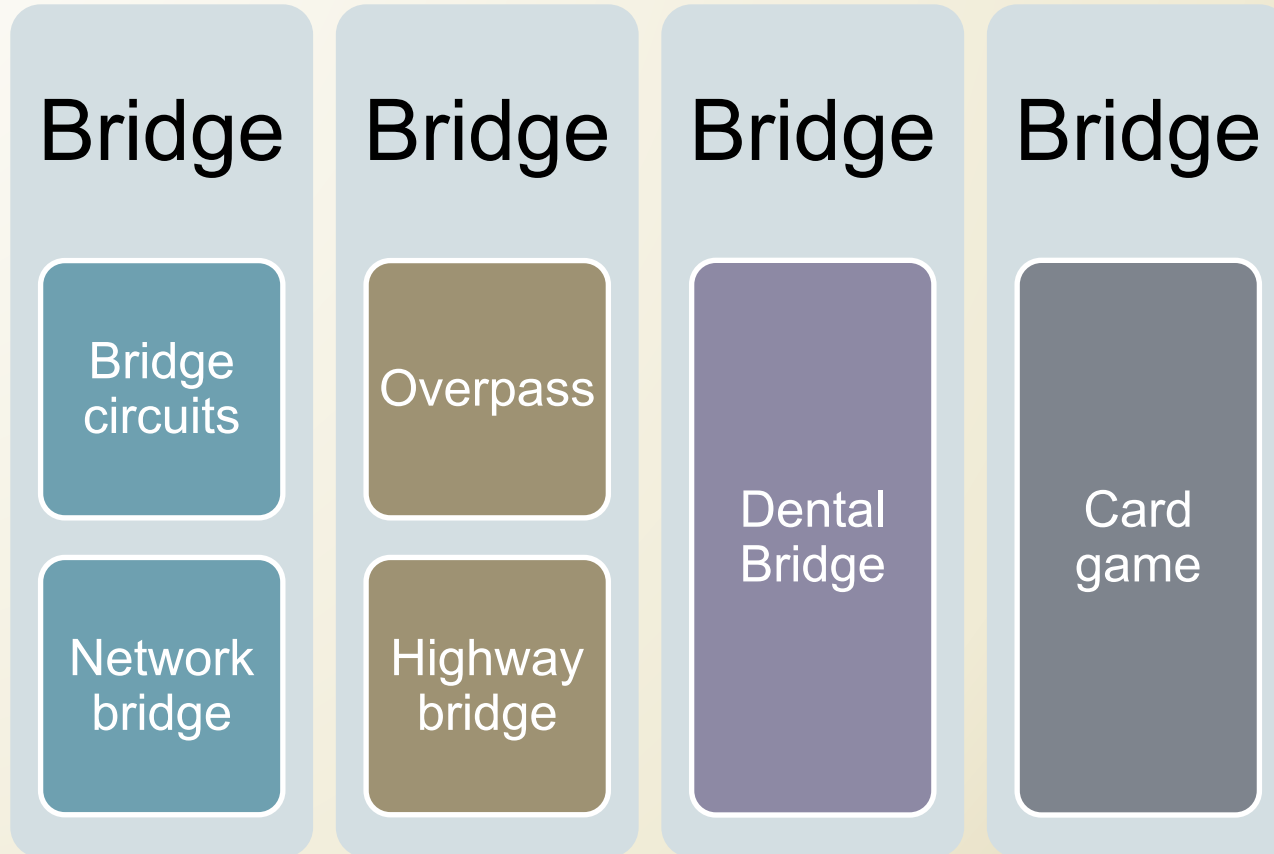
- Authorized terms describe topics in the database
- Are frequently collected in a thesaurus

Why use these terms?

- Ensure that items retrieved are **specifically on the topic of interest**

How does it search?

Controlled vocabulary terms / thesaurus searching



Bridge (disambiguation)

[http://en.wikipedia.org/wiki/Bridge_\(disambiguation\)](http://en.wikipedia.org/wiki/Bridge_(disambiguation))

How does it search?

EI Compendex: Controlled vocabulary terms / Codes

Controlled Vocabulary

Bridge
Circuits

Computer
Graphics

Classification Codes

713: Electronic Circuits

401.1: Bridges
(structures)

723.2: Data Processing
and Image Processing

How does it search?

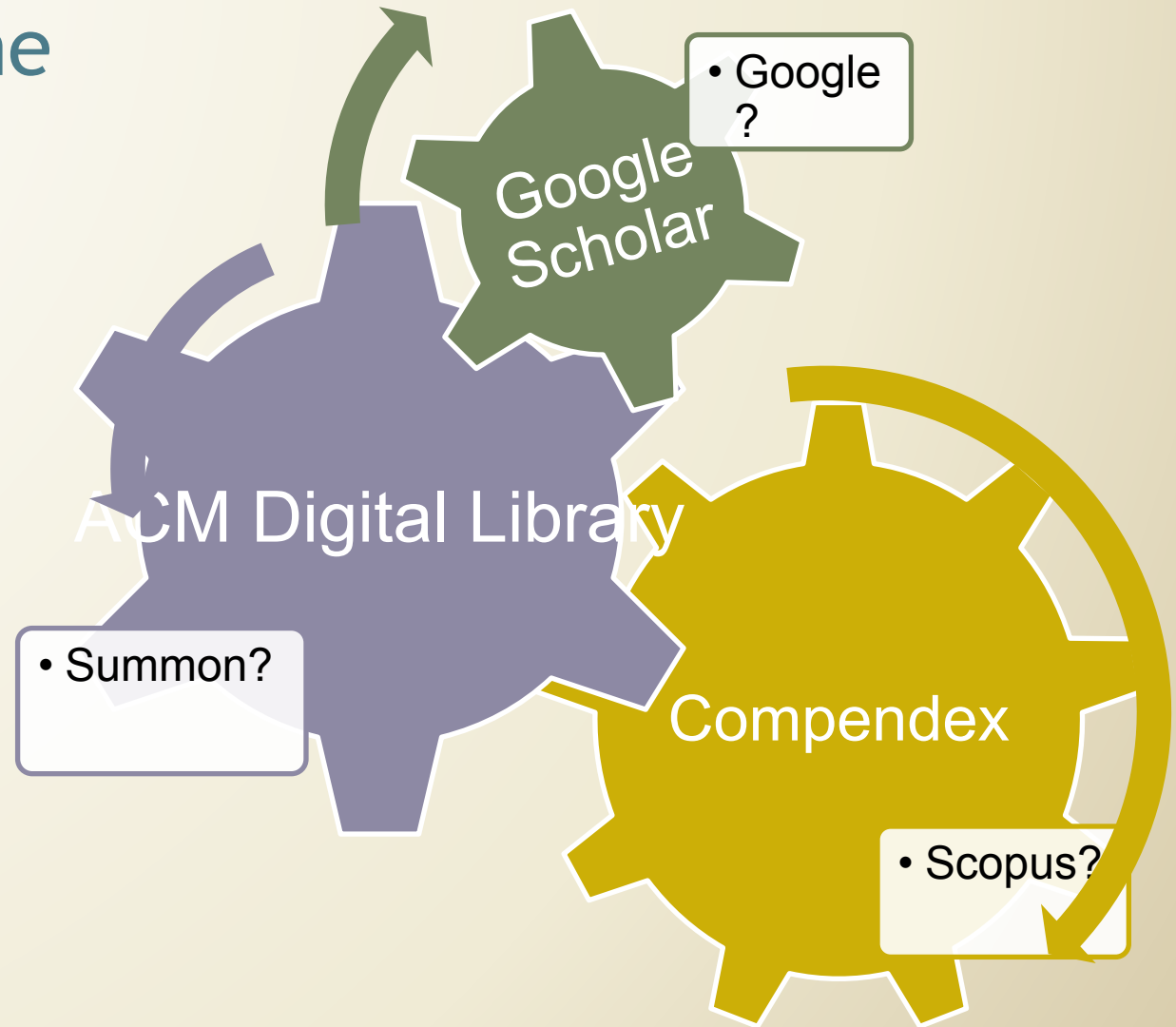
Truncation

Most databases allow searching of truncated (abbreviated) form of a word plus a wildcard.

What truncation sign (if any) does the database use?

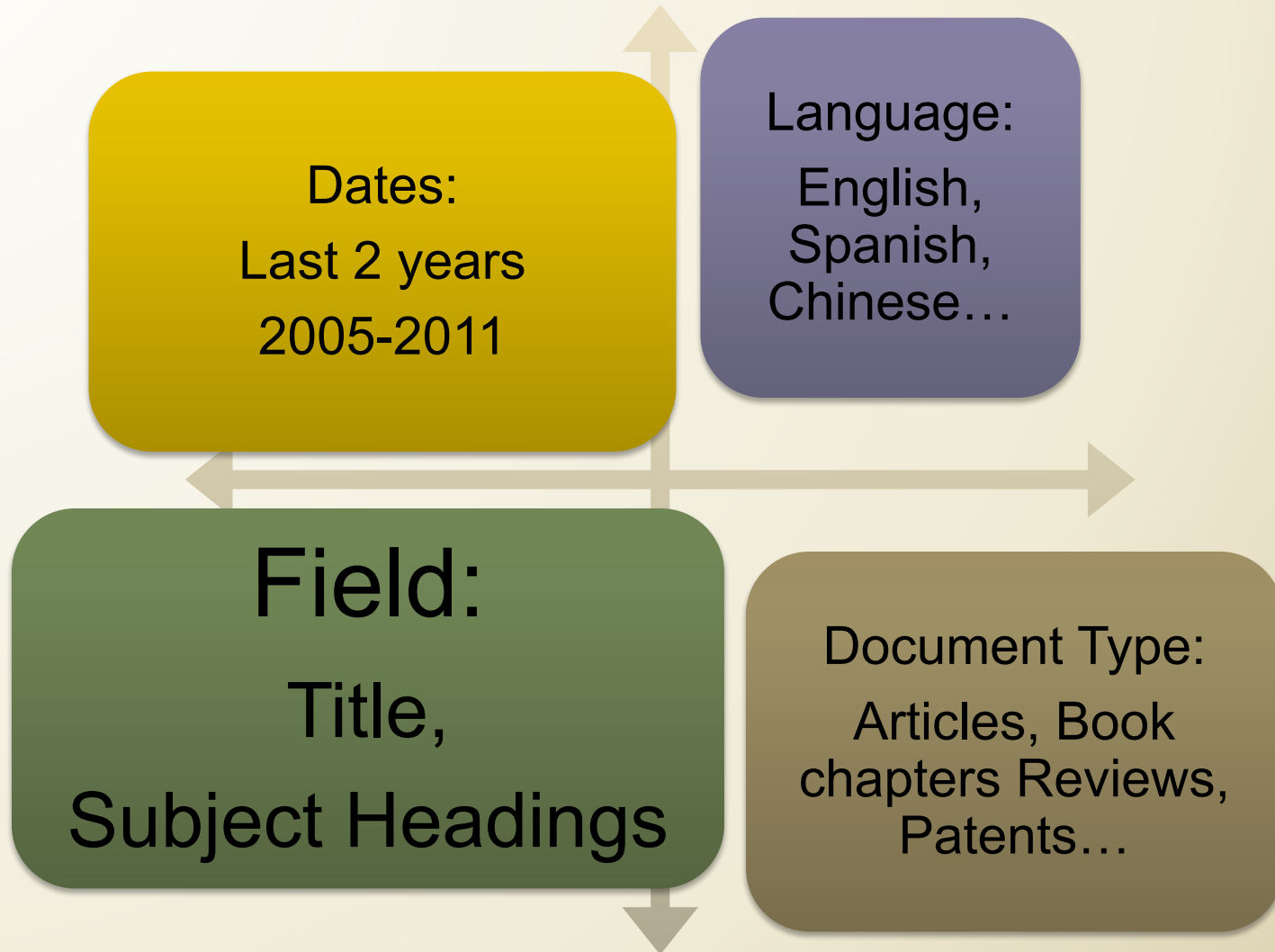
- The most common truncation sign is *
- For example, **comp*** will retrieve items on composition, comprehensive, compelling, computer, compost, etc.

Hands-on Time



Search for scholarly articles on

What do I do if I get too many results?



Limit by....

Limit by Field

SEARCH FOR

image segmentation

AND unified graphics

AND model

SEARCH IN

Subject/Title/Abstract

All fields

All fields

All fields

All fields

Subject/Title/Abstract

Abstract

Author

Author affiliation

Title

Ei Classification code

CODEN

LIMIT BY

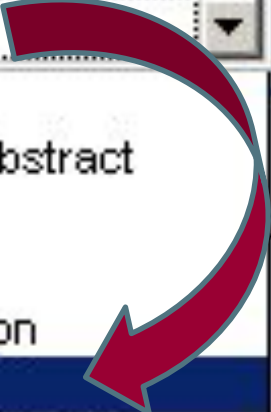
All document types

All treatment types

All Languages

SORT

on year



- Use **OR** searches to **broaden** your search.
- Use **AND** searches to **narrow** your search.

TOPIC: *Simulation of realistic animals in computer graphics*

Separate search into concepts; note any synonyms and truncation

Concept 1 / Synonyms	Concept 2 / Synonyms	Concept 3 / Synonyms
<i>simulation*</i>	<i>animation</i>	<i>animal*</i>
<i>model*</i>	<i>computer graphics</i>	<i>human*</i>
<i>virtual</i>		<i>life forms</i>

TOPIC: *Simulation of realistic animals in computer graphics*

Search Strategy

1	Animal* or human* or “life forms”
2	Simulat* or model* or virtual
3	“Computer graphics” or animation

Engineering Village - Compendex

SELECT DATABASE

All Compendex GEOBASE GeoRef [?](#)

SEARCH FOR

simulat* or model* or virtual*

AND

human* or "life form"

AND

"computer graphic" c

SEARCH IN

Subject/Title/Abstract [?](#)

All fields

All fields

LIMIT BY

Journal article [?](#)

All treatment types [?](#)

English

2005 TO 2011

1 Updates [?](#)

SORT BY

Relevance [?](#) Publication year

Autostemming off [?](#)

Search

Reset

What do I do if I get too few results?

Eliminate concepts

- The more concepts you combine in a search, the fewer results you are likely to retrieve.

Concept 1 / (Synonyms)	Concept 2 / (Synonyms)	Concept 3 / (Synonyms)
Image Segmentation	Unified graphical model	Conditional Random Field

- If you get little or no results from your search, try eliminating some of your concepts, limits, or modifiers.

What do I do if I get too few results?

Examine records for additional keywords to expand your search.

- Computed tomography
 - CT scan, CAT scan, Computerized axial tomography

Look for “Related Articles” feature to expand your search.

- Found only one or two articles?
- Click on a Related Articles link to retrieve more articles similar to the one with which you started.

What do I do if I get too few results?


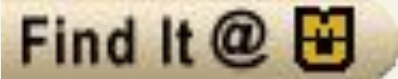
Check references at the end of the article

- Retrieved material from references will naturally be older than your retrieved article

Cited reference search in Scopus, Google Scholar

- More recent articles cite the original article.
- Find more current, up-to-date material on your topic.

How do I locate the full text of the articles ?

- Click on the Findit@MU  button to determine which articles are available on the web or print at MU.
-  will also give you the location (call number) for the print version in the library.

How do I print, e-mail or download my results?

- **Print**, **email** or **download** your results.
- Select items of interest:
 - click in the check box next to the citation.
 - click on the print, e-mail, or download option and follow the on-screen directions
- Customize the results to display abstracts and/or subject terms.
- Download into bibliographic management software, such as EndNote or Zotero: check to see your options and format your results appropriately.

