

Successful Web Search Strategies



Kathleen Schrock

Itinerary

- Definition of “search engine”
- How a search engine works
- Definition of “subject directory”
- Improving your use of search engines
- Effective search strategies
- Teaching students to search
- The future of searching



What is an Internet search engine?

- An Internet tool which will search for sites containing the words that you designate as a search term
- Search engines search their own databases of information

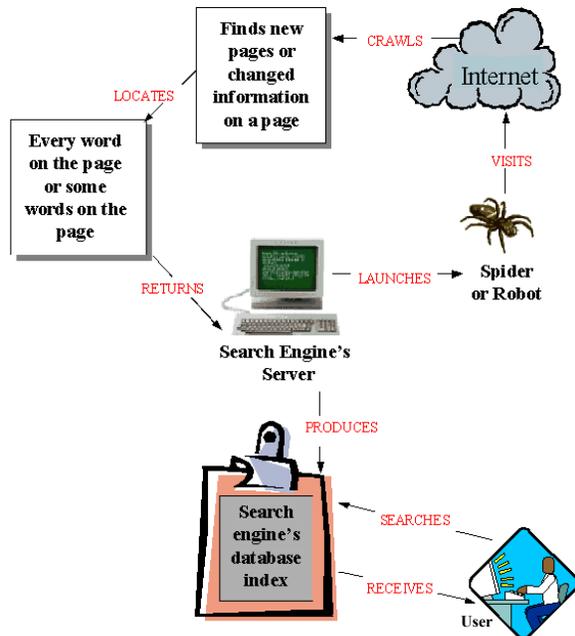


How does a search engine work?

- Deploys a robot program called a *spider* or *robot* designed to track down Web pages, follow the links these pages contain, and add information to their own database
- Each search engine has its own way of doing things



How does a search engine work?



How do the search engines differ?

- Different databases are searched
- The degree of detail collected differs
- The level of sophistication of the “robot” varies
- Relevancy rankings differ



What determines relevancy?

- Results are presented in order of relevance
- Web page designers often try *spamdexing*
- Relevancy rankings based on a formula
- Differing methods of collection



How does a search engine know about the documents on the Web?

- If the search engine's "spiders" or "robots" find the site on their gathering missions
- If the publisher of the document registers it with the search engines



What are some search engines?



Clusty

Google

Google

HOTBOT

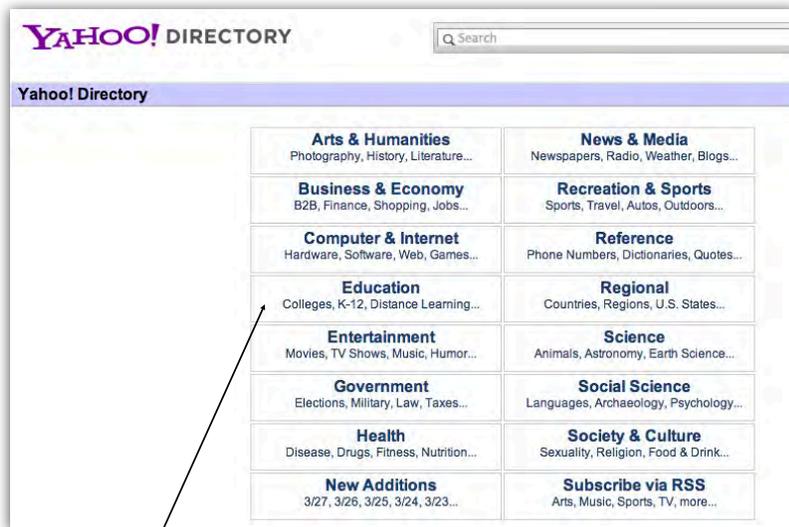
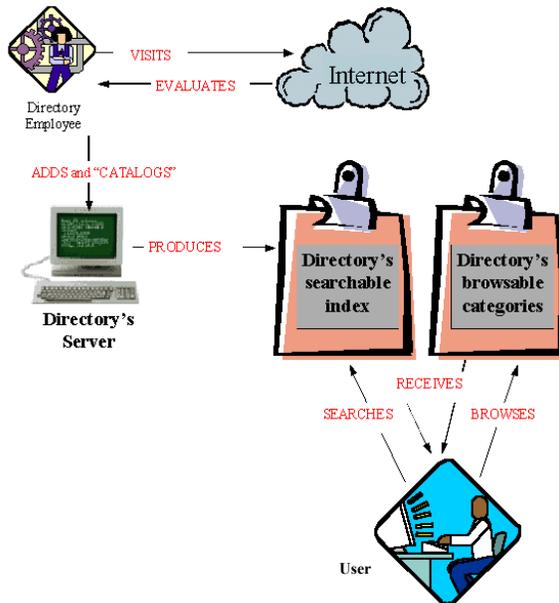
HotBot

What is an Internet subject directory?

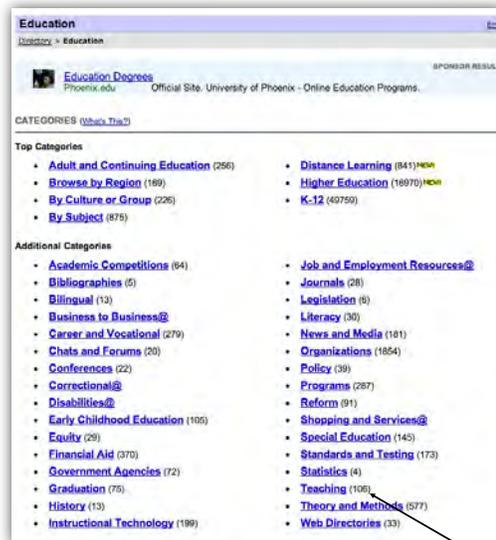
- Organizes Internet sites by subject
- User works down a series of menus
- Smaller than search engines
- Maintained by human beings



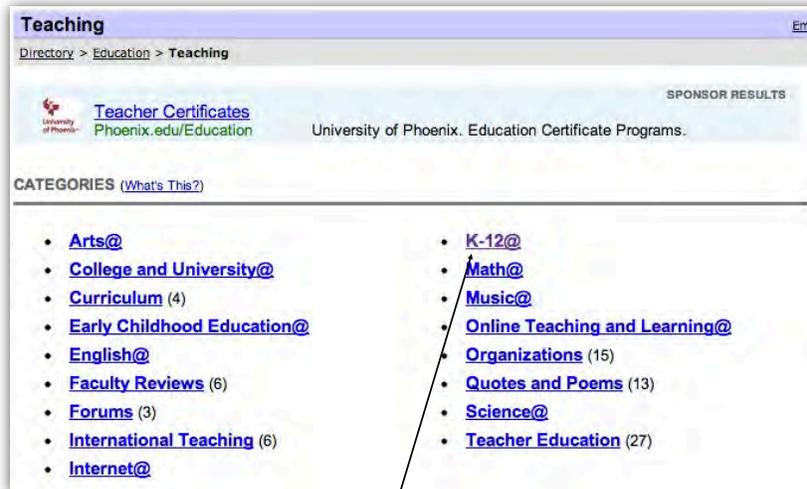
How does a directory work?



Choose "Education" from the top menu



“Teaching” category



K-12

K-12 Teaching [Email this](#)

[Directory](#) > [Education](#) > [K-12](#) > [Teaching](#)

K12 International Academy
www.icademy.com/Homeschooling
 Education

K-12 Private Online Homeschooling. Industry Leader in Online Education

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Lesson plans

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- [WebQuests@](#)
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Math lesson plans

Which is better -- a search engine or a subject directory?

- Personal preference
- Directories allow the user to form the search, but may not use common terms
- Search engines allow the user to use common language, but may lead to lots of hits



How do I prepare to search?

Formulate your search question carefully

Examples

- I want to find information on popular methods of losing weight.
- What are the characteristics to look for when purchasing a diamond?
- When do the Monarch butterflies migrate?



How do I prepare to search?

Identify keywords

I want to find information on popular methods of losing weight.

What are the characteristics to look for when purchasing a diamond?

When do the Monarch butterflies migrate?



How do I prepare to search?

Select synonyms and other word forms

I want to find information on popular methods of losing weight.

Popular _____ common favorite

methods _____ method ways way techniques technique

losing _____ lose reducing reduce reduction

weight _____ fat dieting diet



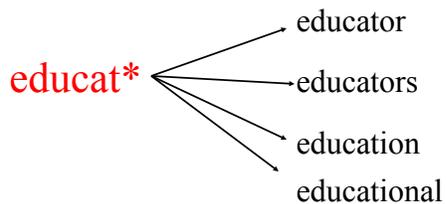
How can I improve my use of search engines?

- Read the help files
- Learn about wildcard searches
- Learn about Boolean searching



Wildcard Searches

- A special symbol which allows you to search simultaneously for several words with the same stem



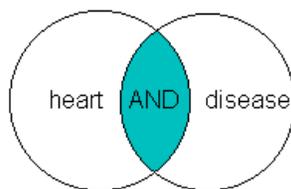
Boolean Searches

- Allow you to broaden a search
- Allow you to narrow a search
- Designated differently in each search engine



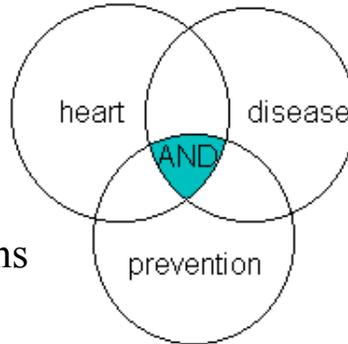
How do I narrow a search using “and”?

- Using *and* will only provide links to sites which have BOTH of these words present



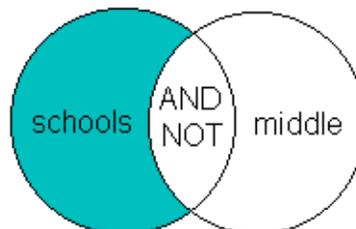
How do I narrow a search even more?

- Using *and* twice will limit the search even more
- You will only get pages that include all THREE of the terms



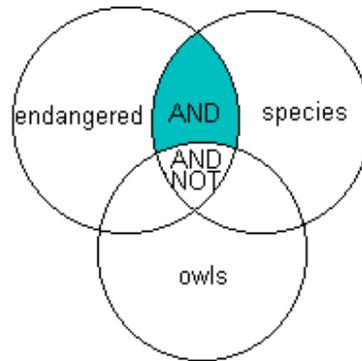
How do I narrow a search using “not”?

- Using *not* narrows the search by telling the search engine to exclude certain words
- AltaVista uses the form *and not*



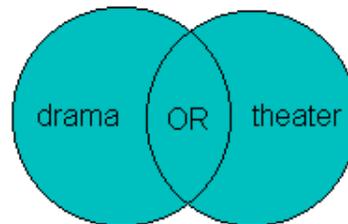
Can I combine two different operators?

- You can combine different operators to limit or broaden a search



How do I broaden a search?

- Use of the word *or* will broaden a search
- Use *or* if two words may be used interchangeably
- Can use *or* more than once to get very broad

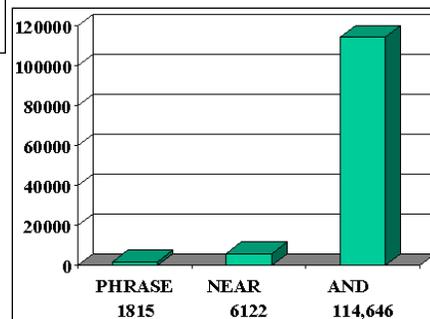


How do I narrow a search using “near”?

- Using *near* narrows the search by telling the search engine to look for words close to others
- Use when *and* gives too many hits

“Near” comparison

“prevent heart disease”
“heart disease” near prevent
heart and disease and prevent



How do search engines deal with Boolean operators?

- Not consistent among search engines
- May enter it by hand or via a pop-up box
- May have to go to an “advanced” page
- The default may be *and* or *or*



How do I prepare to search?

Combine synonyms and keywords carefully

Combine synonyms with Boolean OR

(popular or common or favorite)

(losing or lose or reducing or reduce or reduction)

Use wildcards to combine variant word forms

(method* or way* or technique*)

(weight or fat or diet*)

Combine these phrases with the Boolean AND to limit the search

Dieting methods search string

Combine synonyms and keywords carefully

(popular or common or favorite)
and (method* or way* or technique*)
and (los* or reduc*)
and (weight or fat or diet*)



Some other considerations

- Know how to use your browser
- Consider the time of day
- Check your spelling
- Search engines are in competition



Misspelling

The screenshot shows the AltaVista search interface. At the top, it says "AltaVista™ Results" with links for "Help - AltaVista Home" and "Help - Advanced". Below this is a search bar containing the text "shcool" and a "Search" button. A yellow banner below the search bar displays a spell check suggestion: "Spell check: did you mean **school**?". Underneath, a blue banner states "AltaVista found 2336 Web pages for you." followed by a link to "Refine your search". The first search result is for "shcool", described as the "Official company or product home page by RealName (sm)". Below this is a numbered list item: "1. School of Information Sciences, University of Tennessee, Knoxville". The description for this result includes the address: "The School of Information Sciences, The University of Tennessee, 804 Volunteer Boulevard, Knoxville, TN 37996-4330 (423) 974-2148, FAX: (423) 974-4967..."

Google : Advanced Search

The screenshot shows the Google Advanced Search page. At the top is the Google logo and the text "Advanced Search". Below this is a section titled "Find pages with..." containing several search criteria: "all these words:" with a text box containing "ipad"; "this exact word or phrase:" with an empty text box; "any of these words:" with an empty text box; "none of these words:" with an empty text box; and "numbers ranging from:" with two empty text boxes and a "to" label between them. Below this is a section titled "Then narrow your results by..." with several dropdown menus: "language:" set to "any language"; "region:" set to "any region"; "last update:" set to "anytime"; "site or domain:" with an empty text box; "terms appearing:" set to "anywhere in the page"; "SafeSearch:" set to "Show most relevant results"; "reading level:" set to "no reading level displayed"; "file type:" set to "any format"; and "usage rights:" set to "not filtered by license". At the bottom right of the page is a blue "Advanced Search" button.

Google : Related Search

Site search

You can use special searches to find pages that are similar to or link to a specific URL.

Type of page you're looking for	How to find it
Search for pages that link to a URL	Use the "link:" operator. For example, to find pages that link to www.google.com, use [link:google.com]. You can also search for links to specific pages like [link:google.com/images].
Search for pages that are similar to a URL	Use the "related:" operator. For example, to find pages similar to www.nytimes.com, search for [related:nytimes.com].
Search for results from a specific site	Use the "site:" operator. For example, to find information about golden retrievers from the American Kennel Club, search for [golden retrievers site:akc.org].

What is a “meta” search engine?

- A meta search engine doesn't create its own database of information
- It searches the databases of other engines
- Allow you to sift and see what is out there





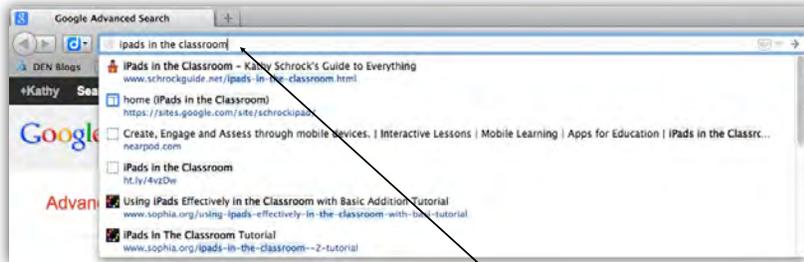
What is a unified search interface?

- Users enter search queries to several search engines/directories within the same interface
- The databases are searched sequentially, rather than simultaneously





Searching shortcuts in modern Web browsers



Type your search terms directly into the URL box

Choosing the right terms

- Use a unique keyword
- Make it a multi-step process
- Search only your results
- Start with a “title” search
- Check your spelling
- Try using quotation marks around phra



What are some effective search strategies?

- Decide whether you need a subject directory or search engine
- Be as specific as possible when using a search engine
- Try different search engines
- Read the help and tips files for each search engine



How do I determine if a search engine meets my needs?

- How easy was it to figure out how to search?
- Were the help files adequate?
- Were the amount of results returned adequate/overwhelming?
- How current were the results?
- What else made it useful?



Common error messages

- 404 Not found
 - host computer found, but not the file you are looking for
- 403 Forbidden/Access denied
 - Web site needs special permission or a password to access
- 503 Service unavailable
 - server is very busy; try again in 30 seconds
- Document contains no data
 - you are at the right place but the page is being updated at that moment; try again later

How do you teach students to search?

What would be a useful student search strategy?

- State their purpose in one sentence.
- List the databases they plan to search.
- Brainstorm keywords and topics.
- Consider varying word forms.
- Refine the search online
- Offline evaluation

Valenza, Joyce. *Power Tools*. ALA, 1998.

What is the future of searching?

Mapping

Java-based products that analyze and organize documents by concept and then present the user with a dynamically generated navigable map of the relationships and hierarchies



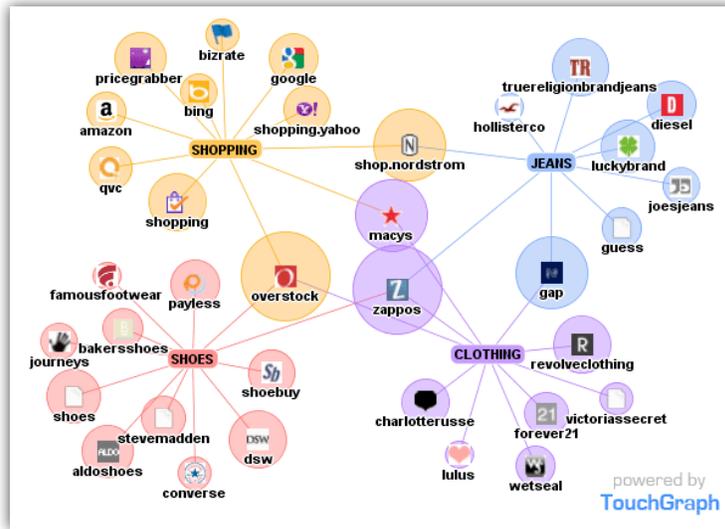
Visual search engines

www.spezify.com



Mapping search engine

<http://touchgraph.com>



Kathy Schrock's Guide to Everything

<http://schrockguide.net>



