Successful Web Search Strategies

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Statistics from www.emarketer.com

- There are about 72 million domain names on the Net
- There are about 2.1 billion Web pages
- Any one search engine can only provide feedback on 40% of Web information

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

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 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?

- Google
- AltaVista
- 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?

- User navigates through a series of menus on the directory's server.
Choose “Education” from the top menu

“Teaching” category

Two sub-categories

Lesson plans choices

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
  educat* educator educators education educational

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
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)
(loosing 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*)

Result #1 from HotBot

Some other considerations

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

Specialized Interest from All-In-One

All-In-One Search Page
http://allonesearch.com/
Searching shortcuts in Netscape Navigator 4.0/Communicator
Type your keywords/search phrase into the Location window and hit enter.

Choosing the right terms
• Use a unique keyword
• Make it a multi-step process
• Search only your results
• Start with a “title” search
• Find out if case counts
• Check your spelling
• Try using quotation marks around phrases

Searching shortcuts in Internet Explorer
Internet Explorer 5
Using the frame on the left which appears when you choose Search, you can view the results of your search in the right-hand frame.

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 makes it good?

What is the best tool for the job?
What is the best tool for the job?

INFORMATION NEED
• I have an idea of a broad topic.

What is the best tool for the job?

INFORMATION NEED
• I want a small number of relevant hits and an idea of what’s in each document before I visit the page.

What is the best tool for the job?

INFORMATION NEED
• What’s available on the Internet for my topic?

Broad topic: Yahoo

Small number of hits & good summaries: Excite

What is available for my topic: MetaCrawler
What is the best tool for the job?

INFORMATION NEED

• I need to do a pinpoint search because my terms are narrow.

Pinpoint search: AltaVista

INFORMATION NEED

• I have common keywords that probably appear in many documents and I should make my search specific.

Common keywords: HotBot

INFORMATION NEED

• I have common keywords in a phrase like New in New Orleans or A in Vitamin A that cannot be ignored.

Keywords in a phrase: Infoseek
What is the best tool for the job?

INFORMATION NEED
• I know the date of an event and am looking for more information.

Date of an event: Hotbot

What is the best tool for the job?

INFORMATION NEED:
• I need information on a proper noun.

Proper noun: AltaVista, Infoseek, Hotbot

What is the best tool for the job?

INFORMATION NEED
• I want to find an image on the Web.

Image: AltaVista
http://altavista.com/
**What is the best tool for the job?**

**INFORMATION NEED**
- I want to find out who has links to a site.

**Links to a site: AltaVista**

**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?**

- 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


**What would be a useful student search strategy?**

**What is the future of searching?**

- Mapping
- Collaborative filtering
- Client-side metasearching
- Personal agents
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.

Mapping: Perspecta
www.perspecta.com

What is the future of searching?

Collaborative Filtering
Using data on where other users who have visited a site have gone, as well as text analyses of the site, these engines dynamically suggest other links.

Collaborative Filtering: Alexa’s Internet
www.alexa.com

What is the future of searching?

Client-side Metasearching
A search tool that resides on your machine, searches the Net, cleans up the results, and returns the results to you.

Client-Side Metasearching: Copernic
www.copernic.com
What is the future of searching?

Personal Agents
Users set up the agents with ongoing queries and the agents monitor the sites and notify the user of the relevant new pages.

Personal Agents: Wisewire
www.wisewire.com

Kathy Schrock’s Guide for Educators
http://d...
“Search Engines for the World Wide Web”  
by Alfred and Emily Glossbrenner  
Peachpit Press, ©1998

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“Finding it Online: Web Search Strategies”  
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“The Future of Search”  
by David Lidsky and Regina Kwon  
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The End  
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