

Designing the Right Search for Your Site

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1. What's the problem?

How do people approach the problem of finding what they are looking for?

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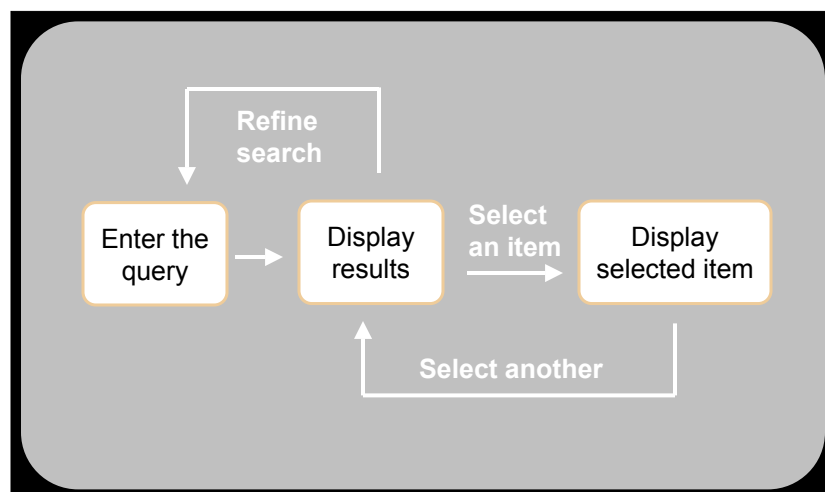
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Is finding information...

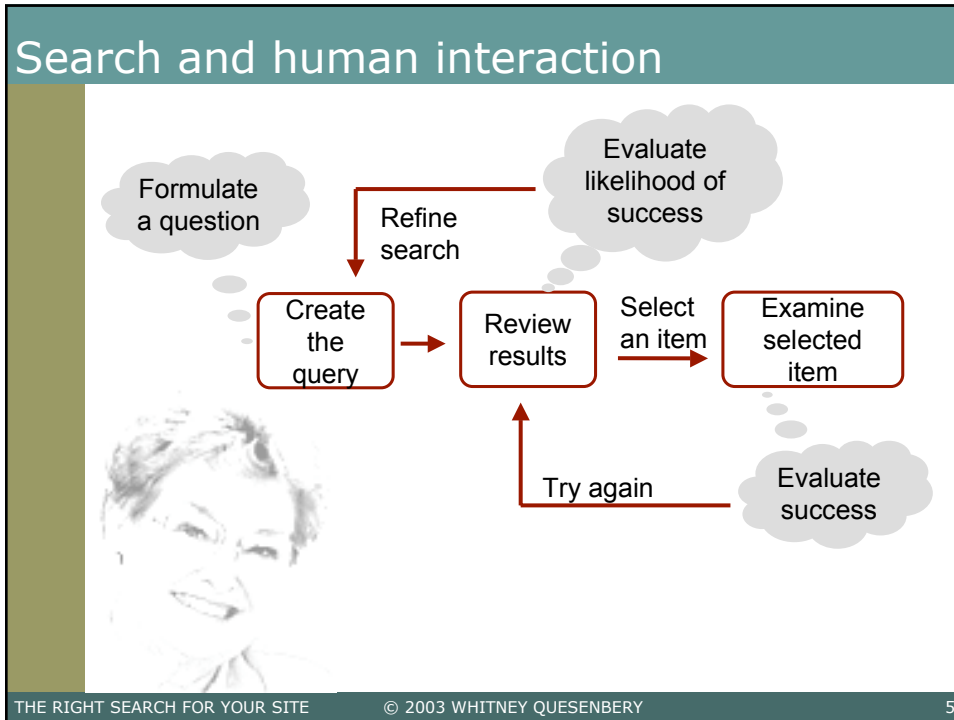
- A technology problem?
- A content problem?
- A training problem?
- An interface problem?

The classic interface model



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Usability research with health info sites

<p>1: Test of a specific site</p> <ul style="list-style-type: none"> ■ Use of search was part of a more general test ■ Participants were asked to show how they normally looked for information 	<p>14 participants who seek healthcare information online</p> <ul style="list-style-type: none"> ■ Aged 35-60 ■ Screened for frequent internet use ■ Expressed frustration in using the web ■ Screened for interest in specific conditions
<p>2: Research on search</p> <ul style="list-style-type: none"> ■ Search tasks were spread across a variety of sites with different search features ■ Both general health sites and sites for specific conditions were used 	<p>18 participants with an interest in online healthcare information</p> <ul style="list-style-type: none"> ■ Aged 35-60 ■ Screened for high internet use ■ Expressed little frustration in finding information online ■ Screened for interest in specific conditions to help focus tasks
<p>3: Usability tests during design</p> <ul style="list-style-type: none"> ■ Search tasks were part of general test of emerging design ■ Three different tests over several months, using structured interaction and interview 	<p>16 participants who use online health information</p> <ul style="list-style-type: none"> ■ Aged 25-50 ■ Screened for high internet use ■ Screened for interest in site content, and activity online within past three months

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Some surprises

- More participants wanted search than we had expected
- Those who use search regularly were adamant about wanting search
- Many expected some kind of keyword search and missed it if the links did not produce results
- They had opinions about where the search box should be placed
- Many were influenced by having a search engine as their browser start page

JUST GIVE ME A PLACE TO TYPE

"I think I might have to type it in"

"I want to see a box ...like a search box"

"I guess my question is, do they have a search"

"I do miss being able to just type somewhere...I could get to it quicker if I were able to search"

What did they mean by "search?"

FIND

I know exactly what I'm looking for and just need to find it

QUERY

I can describe what I'm looking for and need a few good options

GUIDED

I want to be taken through in a planned way

BROWSE

I just want to explore. I'll follow my nose.

STRUCTURED

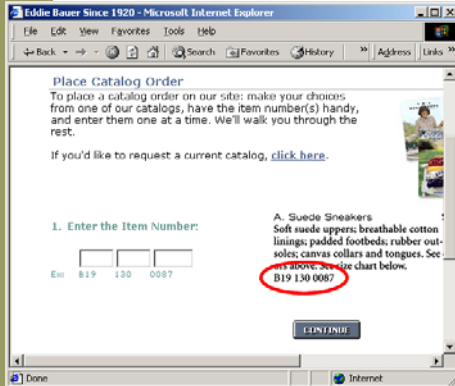
I want to narrow down my choices and then be able to look through some options



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Find



www.eddiebauer.com

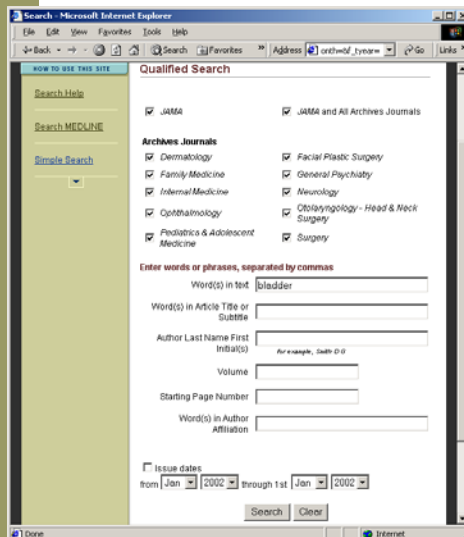
- Precise way to locate an item in a small number of steps
 - For those who know the domain well
 - Have a second source of information
 - Need precision or efficiency

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Query



http://jama.ama-assn.org/

- Typical "advanced search" interface
- Allows an open-ended query
 - Simple one-field entry
 - Complex multi-fielded search

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Structured

- Navigation through a classification scheme or menu hierarchy
 - May use a hidden search mechanism to keep content evergreen
 - Shortcuts allow users to jump through levels

www.eddiebauer.com

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Browse

- Exploration without entering search criteria

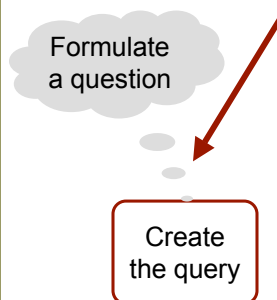
www.epicurious.com

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2. Identifying usability problems

What makes a search succeed or fail?

Between thought and action...



Putting a question into words is hard for users...

- They try to guess the correct type of language to use
- They get “stuck” on specific words and have trouble thinking of other terminology
- They try to be “precise” or to think “the way the computer does”

... and they recognize the problem

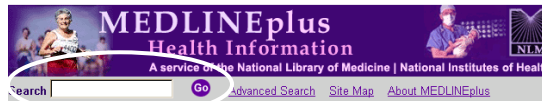
Even relatively experienced searchers expressed frustration about choosing search terms

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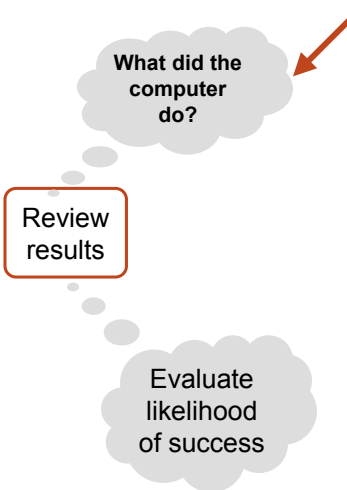
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Finding the search box

- Text entry boxes have a strong “attraction” and users will type in any search
- Clutter around the box or being hidden in the header decoration could make it hard to see
- Most people don’t even notice additional options around the box on their first search



Seeing the results..or not



Even finding the list can be a challenge

- Search boxes above the results were confusing
- Results links too far down the page, or below a secondary header were confusing
- Results links that were not the most important thing on the page were confusing
- Links that didn’t look like links were confusing

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Seeing the results..or not

"It says to search again..."

Results list



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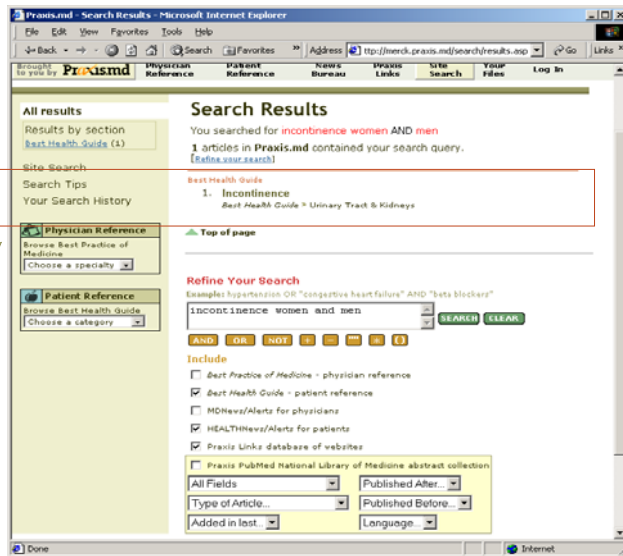
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Seeing the results..or not

Results list

"There are no headlines on this page"



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Reading a list of search results

Review results

Users read the list as a page

Evaluate likelihood of success

- They rely on “headlines” to tell them what is in an article
- The abstracts need to convey the difficulty, type and scope of the content
- Sometimes, reading the abstracts gave them the information they needed

...and they count on it to be informative.

When the results list is chaotic or uninformative, users give up quickly

Two extremes

- Good headlines
- Abstracts act as introduction to the content

On the About network: stress urinary incontinence

[What are the types of urinary incontinence?](#)

A look at the various types of urinary incontinence. Learn about the symptoms & URL: <http://womenshealth.about.com/library/weekly/aa071700b.htm> (About Women's Health)

[Urinary Incontinence Treatment Options for Women](#)

Medical Treatment options in physical therapy for loss of bladder control and uri URL: <http://physicaltherapy.about.com/library/bl/pelvicfloor/bladderrx.htm> (About Physical Thera

[Types of Urinary Incontinence in Women](#)

Types of Urinary incontinence that causes loss of bladder control in women. URL: <http://physicaltherapy.about.com/library/bl/pelvicfloor/blincontinence.htm> (About Physical I

[It's No Laughing Matter](#)

New Survey Reveals the Emotional Impact of Incontinence URL: http://seniorliving.about.com/library/newsbytes/bl0402_incontinence.htm (About Senior Liv

[Urinary Incontinence in Women--How it is diagnosed](#)

How loss of bladder control and urinary incontinence difficulties id diagnosed in \ URL: <http://physicaltherapy.about.com/library/bl/pelvicfloor/blincontinencex.htm> (About Physica

All About Urinary Incontinence - Senior Health - Date 01/15/99

- About as bad as it got

Articles matching "bladder":

[glossary.asp](#)
[problems.asp](#)
[print_problems.asp](#)
[doctor.asp](#)
[print_doctor.asp](#)
[basics.asp](#)
[expect.asp](#)
[print_expert.asp](#)
[basics.asp](#)
[doctor_not_alone.asp](#)
[print_basics.asp](#)
[doctor_conversation.asp](#)
[how.asp](#)
[helping.asp](#)
[helping.asp](#)

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Results should be in priority order

- Users universally assumed that the most important items were at the top of the list.
- Headline words count heavily in setting apparent priority

Results for: incontinence

153 results found, sorted by relevance 1-10 ▶

THE MERCK MANUAL, Sec. 17, Ch. 215, Urinary Incontinence	63%	<input type="checkbox"/>
Transient incontinence is uncommon in younger persons but common in the elderly, in whom it should always be considered. It requires ...	03 Apr 02	Find Similar
http://www.merck.com/pubs/mmanual/section17/chapter215/215b.htm	- size 13.5K	
THE MERCK MANUAL, Sec. 17, Ch. 215, Urinary Incontinence	61%	<input type="checkbox"/>
Urinary incontinence is abnormal regardless of age, mobility, mental status, or frailty. Incontinent persons are frequently embarrassed ...	03 Apr 02	Find Similar
http://www.merck.com/pubs/mmanual/section17/chapter215/215a.htm	- size 11.6K	
THE MERCK MANUAL OF GERIATRICS, Sec. 12, Ch. 99, Urinary Incontinence	58%	<input type="checkbox"/>
Eight to 34% of community-dwelling elderly persons suffer from urinary incontinence; rates are higher in women than in men, and urinary ...	03 Apr 02	Find Similar
http://www.merck.com/pubs/mm_geriatrics/sec12/ch99.htm	- size 50.7K	
THE MERCK MANUAL OF GERIATRICS, Sec. 13, Ch. 110, Constipation, Diarrhea, and Fecal ...	57%	<input type="checkbox"/>
Constipation has different meanings to different people, making a precise definition ...	03 Apr 02	Find Similar

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Identifying what's beyond the link

- The articles found are very heterogeneous, with little to identify their content

Searched for **adhd** in **All of the FDA Website** | Results 1-10 of about 75. Search took 0.173095 seconds.

[Attention Disorder: Overcoming the Deficit Abuse of Attention ...](#)

... Des Moines Register on her treatment for attention-deficit/hyperactivity disorder (ADHD) with Ritalin, the brand name for the stimulant medicine methylphenidate ...
[http://www.fda.gov/fdac/features/1997/597_adhd.html](#) - [Cached](#) - 18k

[http://www.fda.gov/cber/genadmin/pedlist.pdf](#)

... Drug Products Alprazolam Anxiety, panic No No Yes Yes Amphetamine/Dextroamphetamine
ADHD No No Yes Yes ne Baclofen Treatment of spasticity resulting from spinal ...
[Cached](#) -

[Investigators' Reports--May-June 1998 FDA Consumer](#)

... ADD, which falls under the umbrella of attention-deficit/hyperactivity disorder (ADHD), is typically diagnosed in children who show signs of inattentiveness ...
[http://www.fda.gov/fdac/departs/1998/398_irs.html](#) - [Cached](#) - 13k

[Letters to the Editor--March-April 2001 FDA Consumer](#)

... allow this to occur. A. Shackelford, RN, CCRN Danville, Pa. Concerta for **ADHD**. In your article on ...
[http://www.fda.gov/fdac/departs/2001/201_ltrs.html](#) - [Cached](#) - 7k

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Search was no easier the second time

- Typed the same words again
- Changed the order
- Replaced words with phrases
- Used same words on a different site
- Or just pressed the search button a second time

Try another site

This site doesn't look like it has anything.

Review results

When the results list does not look like it will produce a good article to read, users give up on the whole site quickly

Options to refine search were ignored

- They looked at them, and made no choices
- Even users who cared about dates did not use date ranges
- The most successful were article types... but even these were infrequently used

Refine Your Search Enter a free text or Boolean [search term](#): By Author:

Choose any additional criteria then select the Search Again button.

Date: From to months

Sort by: Publish Date Relevance

Choose Content Type

- Choose Content Type
- Abstract
- Ask The Expert
- CME Circle
- CME Spotlight
- Conference Coverage

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Design Recommendations

- Make search visible
 - Put a simple entry box on the home page, in a visible position
 - Keep search in a standard location
 - Avoid clutter and other distractions
- Make results meaningful
 - Create informative link titles
 - Make descriptions short, but informative
 - List results in priority - relevance order
- Make advanced features make sense
 - Save “advanced search” for content (and users) that need it
 - Provide other ways to “search”
 - Use links to search for common terms
- Make search smart
 - Use search engine features to help with misspellings and synonyms
 - Provide recommended links when appropriate
 - Suggest good search terms and examples
 - Use metatags to customize search
- Make it a conversation
 - Maintain context of page or section, especially on large sites
 - Identify different types of articles clearly

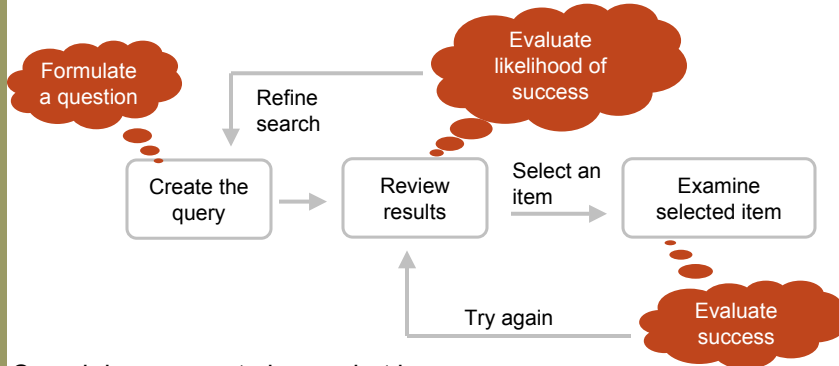
4. Patterns of interaction

How do we put it all together so people find what they are looking for?

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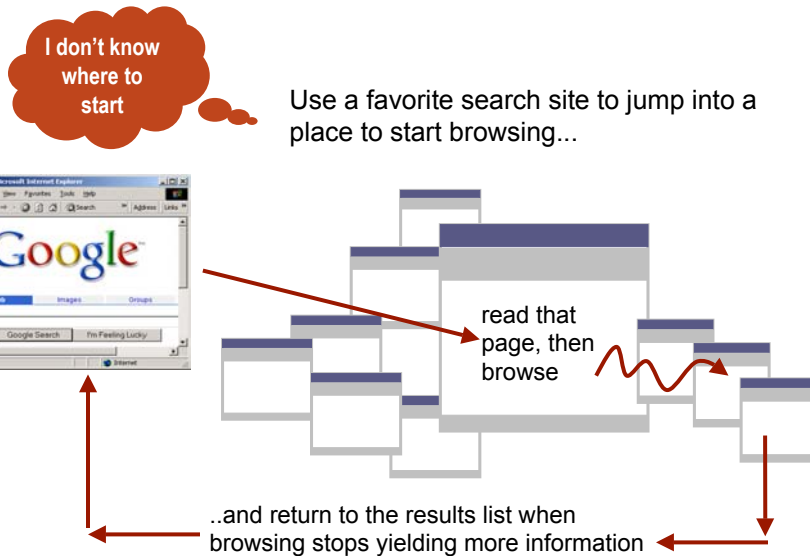
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It's a conversation



- Search is one way to learn what is available on a site
- People browse and search
- People are hopeful, but give up easily
- When they find a good article, they read it carefully

Patterns: Alternating search and browse



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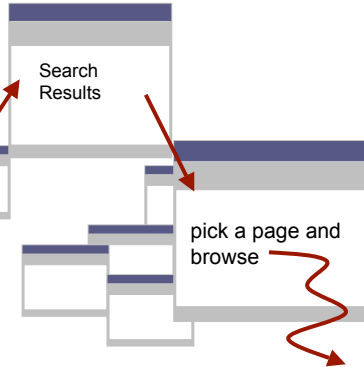
Patterns: Alternating search and browse

This is a site I know

Start at a specific site and combine browse and search within it.

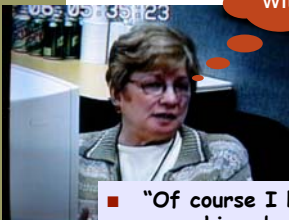


browse first, to the general area... then search for specific information

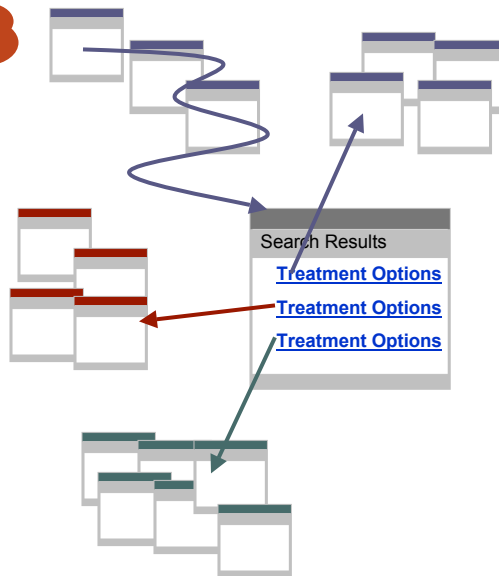


A one-sided conversation

Keep up with me...



- "Of course I know it's a machine, but you do want it to know..."
- "You ask for one thing, and you get all of this."
- "We're already in 'stroke.' Will that stay, or will I have to add it..."



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Using browsing techniques to search

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Blending search and browse

- Several approaches on one page
 - Links to special features that are likely to provide direct answers (Find)
 - Simple text-box search (and a link to an advanced search) (Query)
 - An index of terms that initiate a search (Structured)

http://www.vanguard.com/site/search.html
(no longer the current design)

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Key Personas Form a Continuum

	Hunter	Gatherer	InfoSeeker
	<p>Attitudes</p> <p>I know the web pretty well</p> <p>I'm looking for specific information, and need to know the source</p> <p>Most likely to refine search or use advanced features</p> <p>Often, has a favorite bibliographic site</p>	<p>Attitudes</p> <p>I want new details, not the same old information</p> <p>I want to see where this information comes from</p> <p>Don't distract me, unless it's important</p> <p>Often has a favorite search engine</p>	<p>Attitudes</p> <p>Help me get started</p> <p>Give me links to what I need to know</p> <p>Easily distracted by new information</p> <p>Primarily a browser, but will search if frustrated</p>
	<p>Needs</p> <p>A good search with professional results</p> <p>Fast access to key information</p>	<p>Needs</p> <p>Good launch points and a search that narrows from there</p> <p>Some features, such as sorting by date, to help determine relevancy</p>	<p>Needs</p> <p>Good links</p> <p>Easy to read search results</p> <p>Simple search</p>

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The Right Search on the Right Site

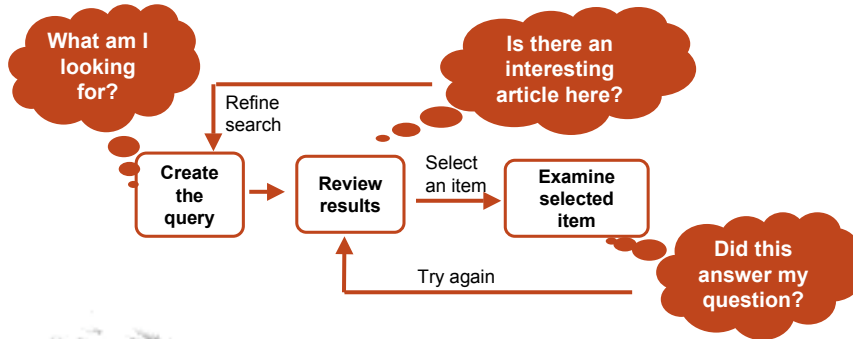
	Focused site	Deep site	Broad site
	<p>Single narrow topic</p> <p>Limited number of pages</p> <p>Single primary audience</p>	<p>Single, broader topic</p> <p>May have many pages</p> <p>May have several audiences</p>	<p>Multiple topics</p> <p>May be organized into "subsites"</p> <p>Large number of pages</p> <p>Many audiences</p>
	<p>Search helps locate specific, detailed topics (but may often have no hits)</p> <p>Expands the site by providing a way to link to other sites that have appropriate material</p>	<p>Search aids in site navigation</p> <p>Exposes all of the site content on a specific topic, cutting across the menu hierarchy</p>	<p>Search narrows the world to a section where the visitor can explore</p> <p>Search makes connections between sections or topics on the site</p>

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In the end... it's about people



- Usable search interfaces help answer user questions at every step
 - Present the right amount of information (or options)
 - Make the information architecture match user mental models and terminology
 - Anticipate questions and provide answers

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Contact Information



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Whitney Quesenbery designs interfaces for projects from web sites to applications and helps companies implement a user experience capability to improve the usability of their products. She is an expert in developing new concepts that achieve the goal of meeting business, user *and* technology needs.

As one of the developers of LUCID (Logical User-Centered Interaction Design), she promotes the importance of a user-centered approach and usability in design.

Whitney is on the UPA board of directors and manages the STC Usability SIG web site.

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