Search 3.0
Knowledge Management & Discovery

Information that’s hard to find will remain information that’s hardly found.

Peter Morville, KMWorld & Intranets 2008

Peter Morville

Background
• Library and Information Science
• Information Architecture Pioneer
• Faculty, University of Michigan

Current Roles
• President, Semantic Studios
• Co-Founder, Information Architecture Institute
• Author, Ambient Findability (2005)
• Author, Search Patterns (2009)
information architecture n.

- The structural design of shared information environments.
- The combination of organization, labeling, search, and navigation systems in web sites and intranets.
- The art and science of shaping information products and experiences to support usability and findability.
- An emerging discipline and community of practice focused on bringing principles of design and architecture to the digital landscape.
Findability Facts

- For every search on cancer.gov, there are over 100 cancer-related searches on public search engines.
- Of these searches, 70% are on specific types of cancer.
Semantic Studios

Enterprise Findability

AILM Market IQ Study (528 End-Users):

- 49% agreed that finding the information I need to do my job is difficult and time consuming.
- 69% believe that less than half of their organization’s information is searchable online.
- 49% have no formal goal for enterprise findability.
- 50% believe that findability in their organization is worse than their consumer-facing web site.

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Current State (Fortune 500 Company)

The current state of the portal is poor relative to internal expectations and when compared to other organizations.

- Performance is terribly slow.
- The design and layout damages usability and credibility.
- Users can’t trust the accuracy or currency of content.
- Users often can’t find the information they need.
- The difficulty of submitting content discourages use.

In user testing, over 40% of task attempts resulted in failure.
Most employees rely on phone and email rather than the portal.
Enterprise Findability = IA + KM + Search

- In portal space, IA is top-down (e.g., controlled vocabulary). Traditional methods of structure, organization, and evaluation are needed.
- In collaboration space, IA is emergent. Our job is to observe, shepherd and harness the learning to make things navigable, searchable, etc. (e.g., Technorati).
- Enterprise search needs to serve as bridge across portal, intranet, collaboration space, web sites, and library databases and services.
- Success requires supportive culture and incentives.

**find·a·bil·i·ty n**

The quality of being locatable or navigable.
The degree to which an object is easy to discover or locate.
The degree to which a system or environment supports wayfinding, navigation, and retrieval.

**am·bi·ent adj**

Surrounding; encircling; enveloping (e.g., ambient air)

the ability to find anyone or anything from anywhere at anytime
Chained Libraries

In the Middle Ages there were few books, and those that did exist were usually kept locked in chests or cupboards, or chained to desks in a church.

“This book belongs to the monastery of St. Mary of Robert’s Bridge, whosoever shall steal it, sell it or in any way alienate it from this house, or mutilate it, let him be forever cursed.”

A wealth of information creates a poverty of attention.
Herbert Simon, Nobel Laureate Economist
Automatic Locates
Schedule an "automatic locate" to see where your child is at a given time.

Breadcrumbing Feature
This feature is great for identifying a specific route or series of destinations.
Cisco Wireless Location Appliance

“A quick glance at the screen shows exactly where the tagged wheelchairs are located... Patients wait no more than a few minutes for a wheelchair, and we **save $28,000 a month** by eliminating searches.”

Reciprocal Transparency

“In the information age to come, cameras and databases will sprout like poppies – or weeds – whether we like it or not. Over the long haul, we as a people must decide the following questions:

Can we stand living exposed to scrutiny, our secrets laid open, if in return we get flashlights of our own that we can shine on anyone who might do us harm – even the arrogant and strong?

Or is an illusion of privacy worth any price, even the cost of surrendering our own right to pierce the schemes of the powerful?”

ABOUTNESS

FINDABILITY
“There are known knowns; there are things we know we know. We also know there are known unknowns; that is to say we know there are some things we do not know. But there are also unknown unknowns - the ones we don’t know we don’t know.”
IBM’s Public Image Monitoring Solution
Software Tracks Blogs, Web Content to Capture Buzz, Spot Trends Around Companies, Products and Marketing Campaigns

Metadata

Revenge of the Librarians

Metadata

flickr
The old way creates a tree.
The new rakes leaves together.

David Weinberger
Semantic Studies

Learns, Proposes, Innovates, Gets All The Attention

Fast
- Fashion & Art
- Commerce
- Infrastructure
- Governance
- Culture
- Nature

PACE
LAYERING

Slow

Remembers, Disposes, Integrates, Has All The Power
“Search has become the new interface of commerce.”

John Battelle
http://www.gseis.ucla.edu/faculty/bates/berrypicking.html

Search is a...
Complex, Adaptive System

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There is one timeless way of building. It is thousands of years old, and the same today as it has always been. The great traditional buildings of the past, the villages and towns and temples in which men feel at home, have always been made by people who were very close to the center of this way.

It is not possible to make great buildings, or great towns, beautiful places, places where you feel yourself, places where you feel alive, except by following this way. And, as you will see, this way will lead anyone who looks for it to buildings which are themselves as ancient in their form, as the trees and hills, and as our faces are.

*The Timeless Way of Building*
Christopher Alexander

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Window Place (180)

Everybody loves window seats, bay windows, and big windows with low sills and comfortable chairs drawn up to them.

May be part of:
- Entrance Room (130)
- Zen View (134)
- Light on Two Sides (159)
- Street Windows (164)

May contain:
- Alcoves (179)
- Low Sill (222)
- Built-In Seats (202)
- Deep Reveals (223)

*A Pattern Language*
Christopher Alexander et al.
Rating an Object

Purpose
A user rating a query to test their opinion on an object, with minimal or no interaction by any other user for the query.

Use Case
- A user can rate a query to test their opinion.
- The rating can be used to adjust the ranking of results.
- The user can rate a query to help refine the search results.

Methods
- Users can rate queries to test their opinion.
- The rating can be used to adjust the ranking of results.
- The user can rate a query to help refine the search results.

Behavior Patterns

Search Patterns

- Web search
- Social search
- Local search
- Media search
- Mobile search
- E-commerce
- Enterprise

Narrow

Search & Browse & Ask

Pearl Grow
A few good starting points suggested by humans.
Because users don't know where to look.
Multiple ways to search (and browse) in combination.
Search Metrics (Endeca)

Home Depot
- Conversion rate increased over 30% in first two weeks.
- Double digit increase in average order size.

Cabot Corporation
- Technical information downloads increased by 48%.
- Email and telephone inquiries reduced by 21%.

Sigma-Aldrich
- Increased successful searches from 53% to 83%.
- Increased site traffic to the final product detail page by 80%.

“A leading e-commerce site reported a revenue increase of $370 million in the year following launch.”
Because little things make a big difference.
Media Search

Cool tools for finding music, images, video, and other non-text formats. Most rely on keyword search, but some allow users to query by shape, texture, color, sound, and other inherent properties of the objects they seek.

Songza

Songza is also an interface showcase. I’ve used the interface principles discussed here on the Humanized blog to design Songza to be humane, slick, and vital. Play with the interface for a bit, and you’ll find habituable pie-menus instead of slow linear menus; an inviting design that uses only two icons, both of which act as illustrations for words; an incredibly high density of content and a correspondingly low amount of interaction, undo instead of warnings; and transparent messages that don’t break your train of thought.
Mobile Search

Spime Search

WineM

A smart wine rack that uses RFID to track bottles in the rack and identify ones that fit the selection criteria.

Collectors and restaurants can use WineM racks to search collections.

The wine can be dynamically reorganized by any combination of year, region, price, etc.

A handheld device accepts queries, and full-color LED lights transform the rack and bottles into a search results interface. The system even supports faceted navigation.

Redefining Search
### Possible Futures of Search

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### Exploring Possible Futures

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Search is a Wicked Problem

- No definitive formulation.
- Considerable uncertainty, Complex interdependencies.
- Incomplete, contradictory, and changing requirements.
- Stakeholders have radically different world views and different frames for understanding the project or process.
- The problem is never solved.

The test of a first rate intelligence information architect is the ability to hold two a gazillion opposed ideas in the mind at the same time, and still retain the ability to function.

F. Scott Fitzgerald

Share Your Patterns!
IA Therefore I Am

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Semantic Studios
http://semanticstudios.com/

Search Patterns
http://flickr.com/photos/morville

My Blog
http://findability.org/

This Presentation
http://semanticstudios.com/search3.pdf