

Social Information Access

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Outline

Overview of Social Web and Web 2.0

- Key elements
- Example applications
- Differences

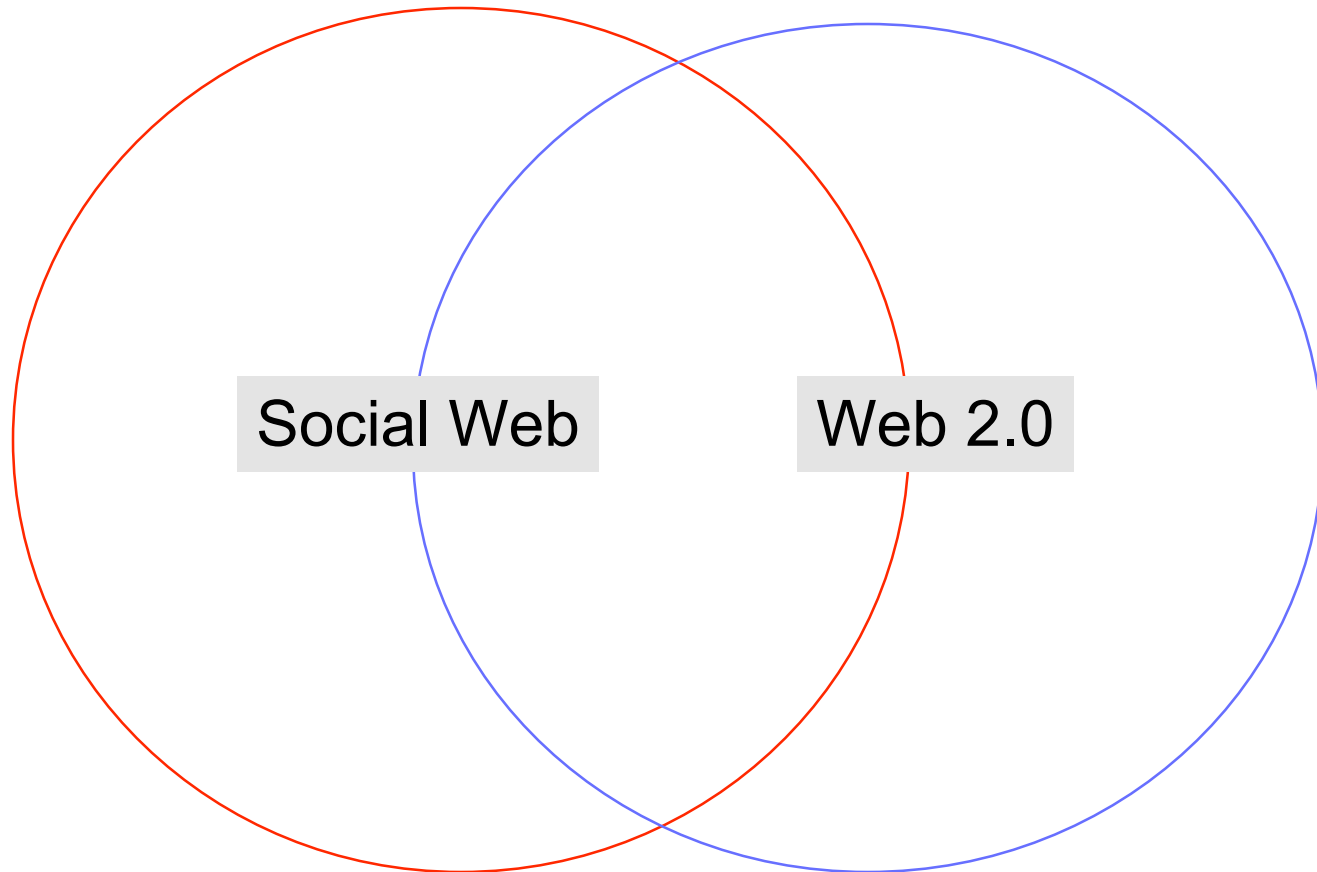
Social Information Access

- Definition
- Types
- Social Navigation
- Social Search

The New Web

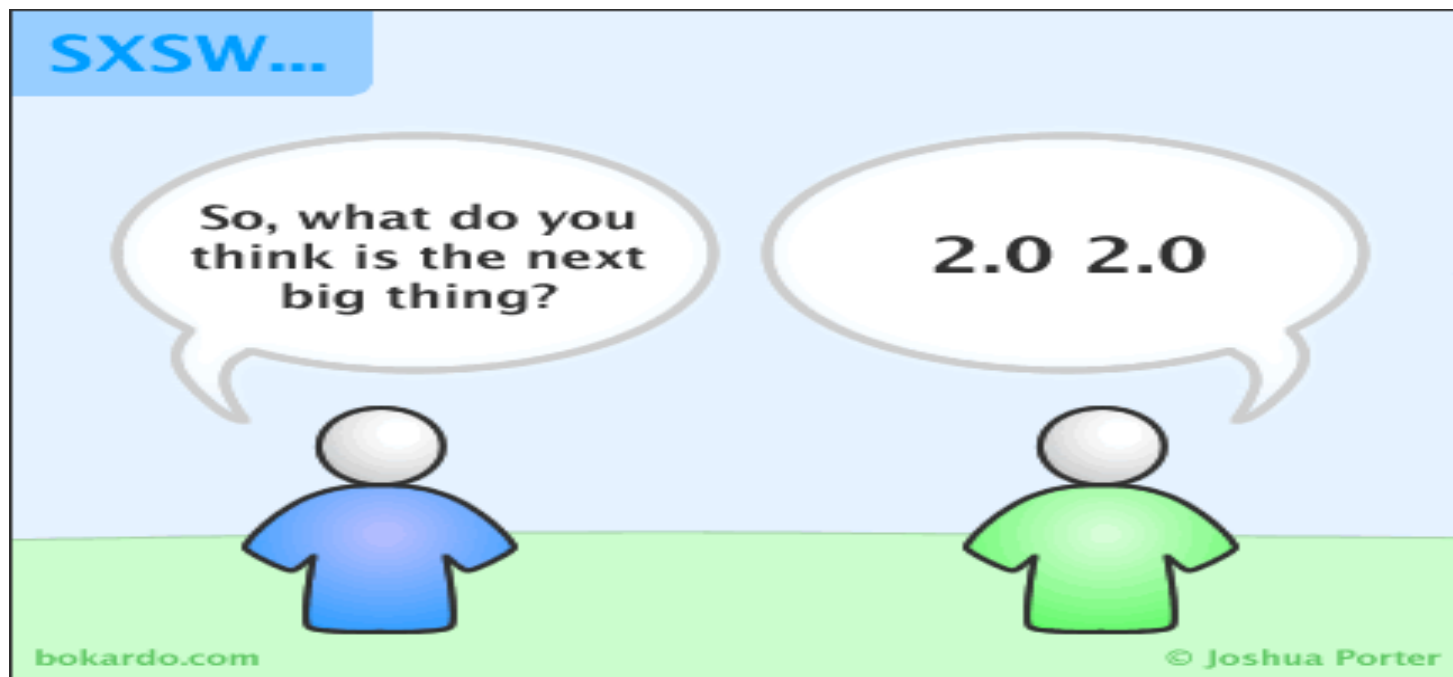


Social Web or Web 2.0?



Web 2.0

- Term was introduced following the first O'Reilly Media Web 2.0 conference in 2004
- By September 2005, a Google search for Web 2.0 returned more than 9.5 million results



The Social Web



Key Elements

- Collective Intelligence:
Wisdom of the Crowds
- The power of the user
- Applications powered by user community
- The Users' Web
- Stigmergy
- User as a first-class participant, contributor, author



Amazon.com

amazon.com Hello. Sign in to get personalized recommendations. New customer? [Start here.](#)

Your Amazon.com Today's Deals Gifts & Wish Lists Gift Cards

Shop All Departments Search Electronics

Electronics Browse Brands Top Sellers Camera & Photo Computers & PC Hardware Audio & Video Cell Phones & S

Prime To get this item by **Thursday**, Jan 10 order within 17hr 27min.

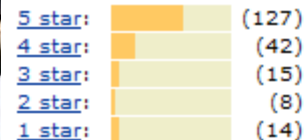
Get Free Shipping for a full month with a Free Trial of Amazon Prime [learn more](#) FREE Upgrade to Two-Day Shipping on this item with Amazon Prime

Customer Reviews

Apple 8 GB iPod nano AAC/MP3 Player Black (3rd Generation)



206 Reviews



Average Customer Review

★★★★☆ (206 customer reviews)

Share your thoughts with other customers

[Create your own review](#)

Search Customer Reviews

GO!

Only search this product's reviews

The most helpful favorable review

160 of 173 people found the following review helpful:

★★★★☆ **Apple improves the Nano and delivers an enjoyable player.**

Apple's new nano is designed to improve upon the past models and add some functionality. The improved video, smaller thinner body and updated firmware are enough to make it stand out. The slightly lower price tag is also sure to help sell more units.

The Looks

The most helpful critical review

99 of 118 people found the following review helpful:

★★★★☆ **I like it, but it has two major drawbacks for my needs**

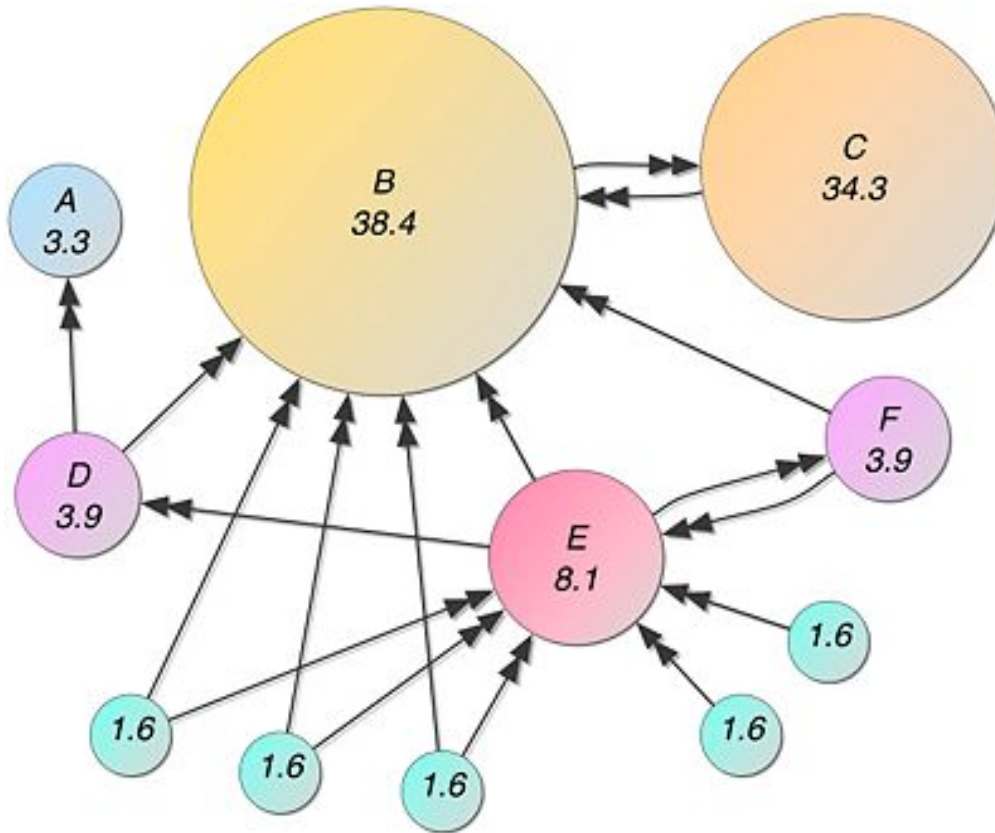
If 'TV out' isn't important to you, or you don't care about playing podcasts back to back without fiddling with the ipod, then I'm sure you'll still love the new 3g nano. I like the video feature, the size (great for commuting), style, and colors of the new nano 3g, and iPods have the easiest/best way of selecting and sorting through music of any MP3 player out there...

[Read the full review >](#)

Vs.

Google PageRank

Using the link structure of the web



eBay

Collective activity of all its users

The screenshot displays the eBay homepage interface. At the top left is the eBay logo, followed by the text "Welcome! Sign in or register." and a "Live help | Site Map" link. A navigation bar contains links for "Buy", "Sell", "My eBay", "Community", and "Help". Below this is a search bar with a dropdown menu set to "All Categories", a "Search" button, and a link to "Advanced Search". A secondary navigation bar includes "Categories", "Motors", "Express", "Stores", and a link to the "eBay Security & Resolution Center". A yellow banner reads "Welcome to the new eBay homepage! See what's new." Below this, an advertisement for "ENDING NOW" features a Motorola RAZR V3 phone and lists other retro phones like BlackBerry Pearl and Motorola KRZR. To the right, a "Welcome to eBay" section offers "Sign In" and "Register" buttons, with the text "New to eBay? Registration is fast and free". A "Don't just shop. Win!" section features a "#2 KEEP IN TOUCH" banner and a collage of various mobile phones.

Buy Sell My eBay Community Help

Welcome! Sign in or register. Live help | Site Map

All Categories Search Advanced Search

Categories Motors Express Stores eBay Security & Resolution Center

Welcome to the new eBay homepage! See what's new.

ADVERTISEMENT (about)

ENDING NOW

Retro Phones
Motorola RAZR V3
BlackBerry Pearl
Motorola KRZR

Welcome to eBay

Welcome

Sign In **Register**

New to eBay? Registration is fast and free

Don't just shop. Win!

RESOLUTION #2 KEEP IN TOUCH

Wikipedia

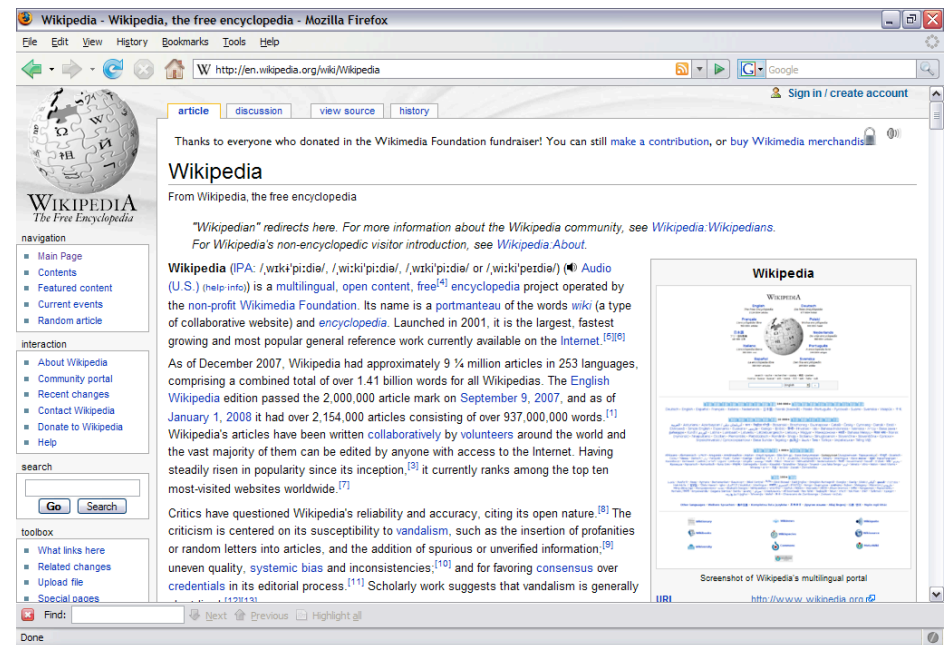
Launched in 2001

Largest and fastest growing, and most popular reference work

As of December 2007

9 ¼ million articles in 253 languages

2,154,000 articles in English



Cloudmark

Collaborative spam filtering

Aggregate the individual decisions of email users



The screenshot shows the top portion of the Cloudmark website. At the top left is the Cloudmark logo, a blue hexagonal shape with a white center, followed by the text "CLOUDMARK®". Below the logo is a horizontal navigation bar with five items: "SOLUTIONS", "TECHNOLOGY", "RESEARCH", "PARTNERS", and "SUPPORT". Below the navigation bar is a dark blue banner with the text "Service Provider Solutions" in yellow. Below the banner is a white area with text describing the service: "Cloudmark uses networked collective intelligence, a combination of intelligent message fingerprinting, corroborated global feedback and automated data analysis to virtually eliminate messaging abuse before it impacts subscribers and messaging infrastructures." A small grey box with a white right-pointing arrow and the text "Ser" is partially visible on the left side of the text.

CLOUDMARK®

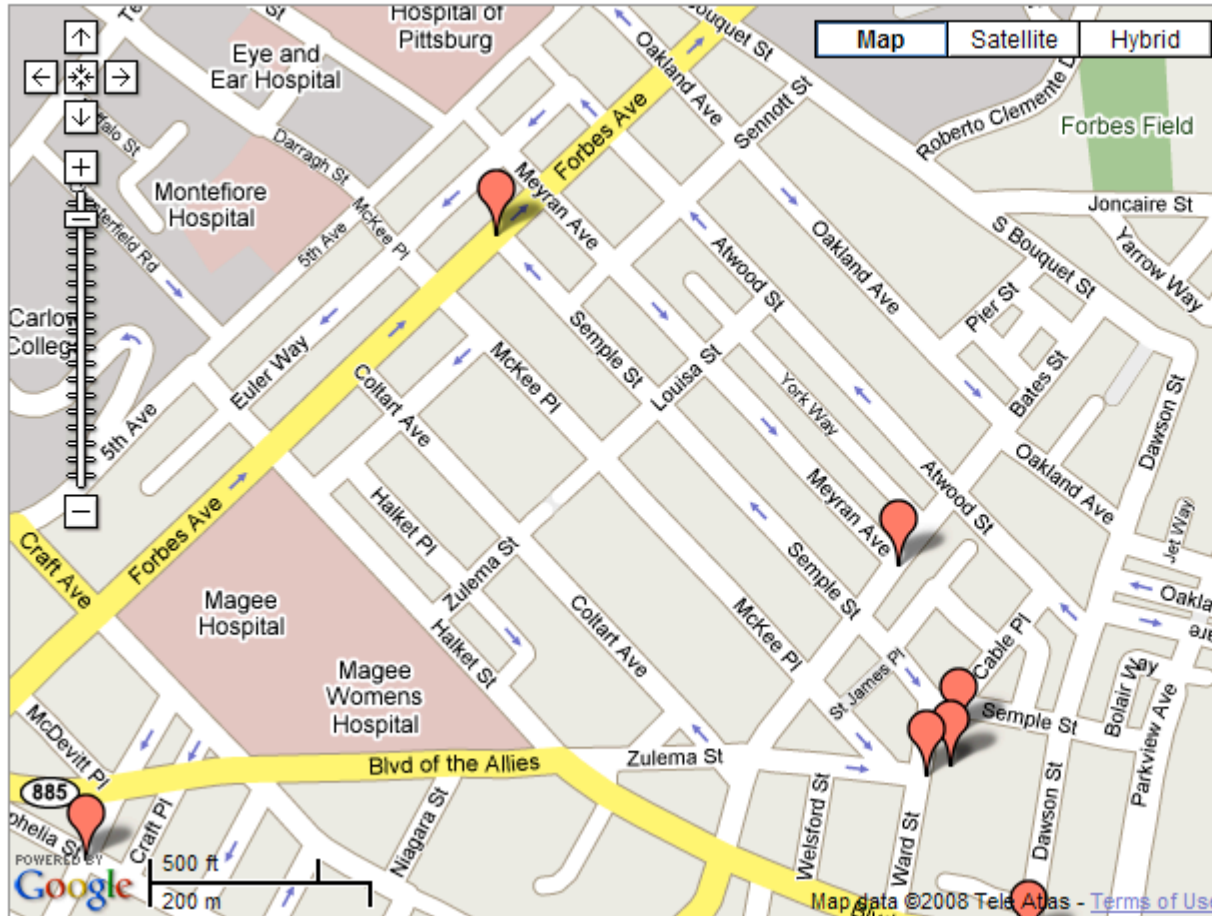
SOLUTIONS | TECHNOLOGY | RESEARCH | PARTNERS | SUPPORT

Service Provider Solutions

Cloudmark uses **networked collective intelligence**, a combination of intelligent message fingerprinting, corroborated global feedback and automated data analysis to virtually eliminate messaging abuse before it impacts subscribers and messaging infrastructures.

API and Mash-ups

City: Price: [Show Filters](#) ^{New} [Refresh](#) [Link](#)



pics	price	bd	description
	\$2000	1bd	Fully Loaded Shadyside Condo
	\$1595		Sewickley Village
	\$1980	2bd	2 Bedroom with a Den*Fireplace*Garage*Washer and Dryer in unit
	\$1700	5bd	Totally redone row house
	\$1600	4bd	Duplex 3400 Block of Ward
	\$1500	5bd	Lawrenceville Huge 5 BR 3 Bath House
	\$1575	3bd	Luxury rental, stainless gourmet kitchen, Ac. laundry, new everythig
	\$1595	3bd	Village of Breckenridge - Townhouse Development
	\$1500	5bd	3 bath house for rent
	\$1600	7bd	Large Duplex
	\$1600	4bd	Duplex on Ward
	\$1700	5bd	Totally redone row house
	\$1700	5bd	Row house totally rehab
	\$1600	7bd	large duplex
	\$1600	4bd	duplex on 3400 block of Ward
	\$1600	1bd	Stunning City Views - Live in Luxury while Renting!

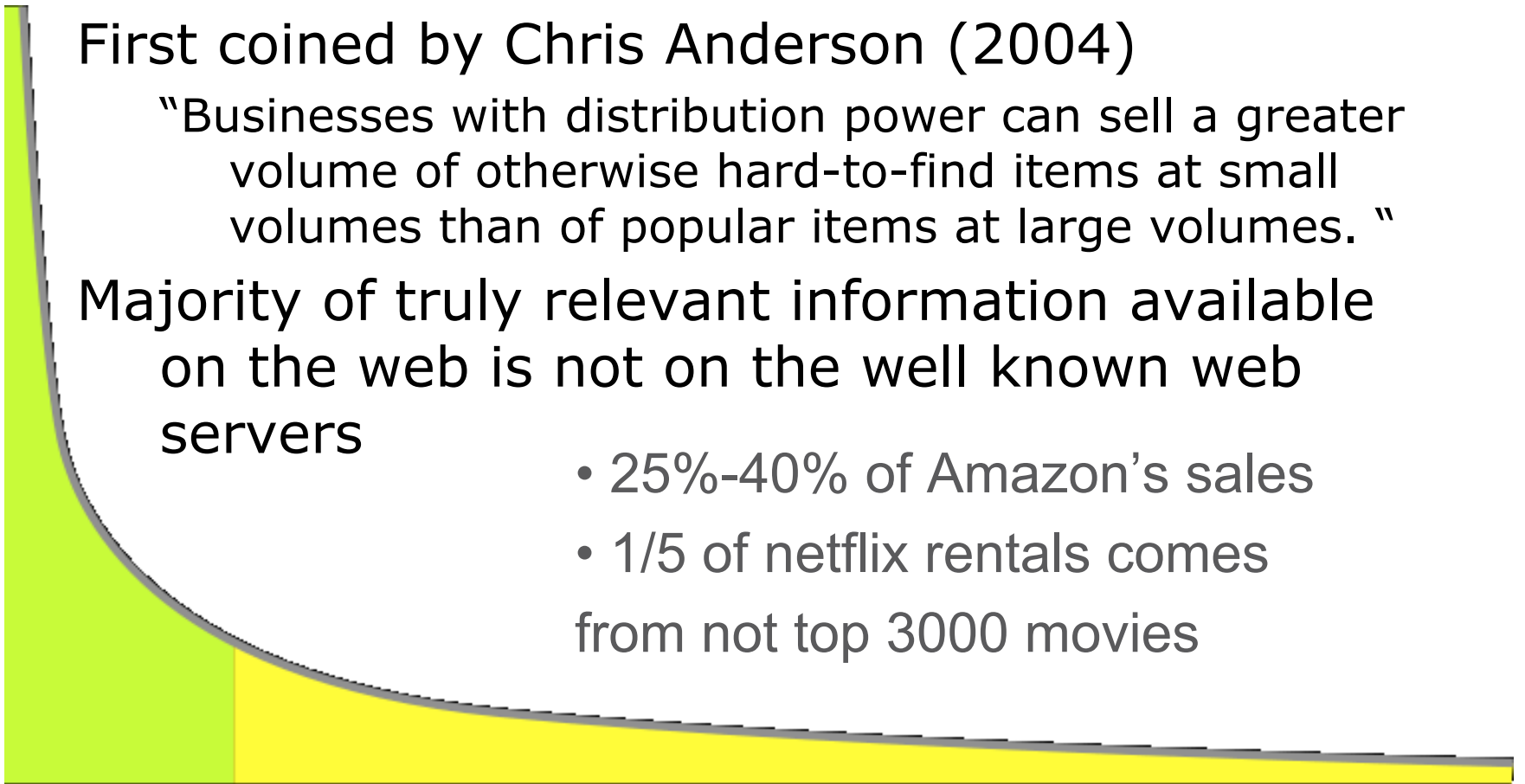
Long Tail

First coined by Chris Anderson (2004)

“Businesses with distribution power can sell a greater volume of otherwise hard-to-find items at small volumes than of popular items at large volumes. ”

Majority of truly relevant information available on the web is not on the well known web servers

- 25%-40% of Amazon's sales
- 1/5 of netflix rentals comes from not top 3000 movies



Social Information Access

Methods for organizing users' past interaction with an information system (known as explicit and implicit feedback), in order to provide better access to information to the future users of the system

Social Information Access

Social Navigation

- Social support of user browsing

Collaborative Filtering

- Recommendation because *other people like you* liked something

Social Search

- Social support of search

Social Visualization

- Social support for visualization-based access to information

Social Bookmarking

- Access to bookmarked/shared information facilitated with tags

The Focus for Today



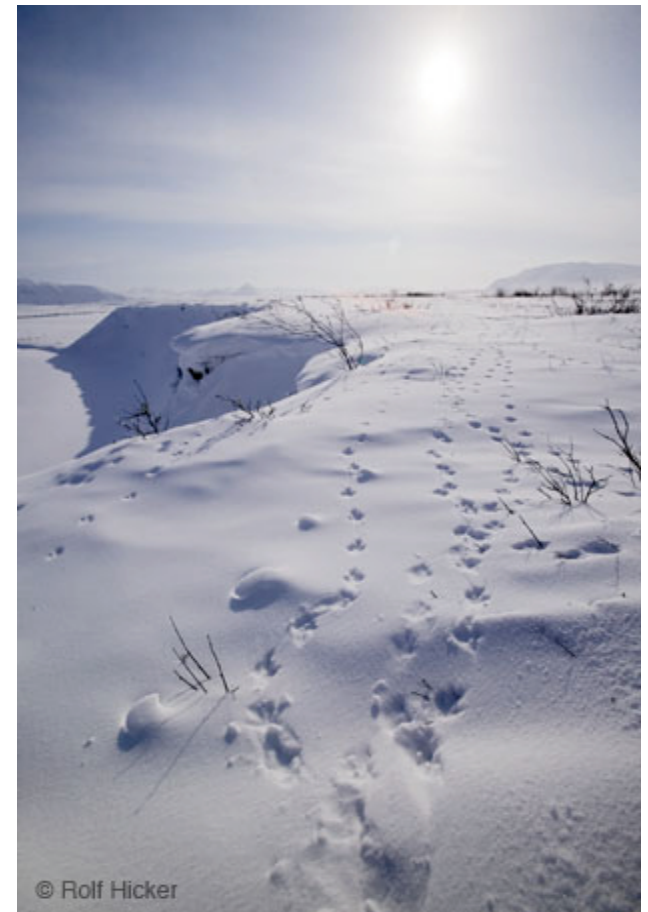
Social Navigation in Real Life

What would you do...?

- Walking by the cinema you feel like watching a movie, but none of the movies seems familiar
- You missed a lecture and want to do your readings. You have a textbook and 100 assigned pages to read, but do not know what was most important in the lecture and what can be skipped
- You are attending SOFSEM 2008 and hiking along a trail to a famous waterfall. You reached an unmarked road split and you have no map

Social Navigation

- Natural tendency of people to follow each other
 - Making use of “direct” and “indirect” cues about the activities of others
 - Following trails
 - Footsteps in sand or snow
 - Worn-out carpet
 - Using dogears and annotations
 - Giving direction or guidance
- Navigation that is conceptually understood as driven by the actions from one or more advice provider



Social Navigation in Information Space

Collaborative filtering

- Recommender systems

History-enriched environment

- Social navigation support

Restoring lost interaction history

- Footprints
- Notes in the margins
- Worn-out carpet
- Dog-eared pages

Annotations in *Footprints* System

Wexelblat & Maes, 1997

Allowing users to create history-rich objects

Providing history-rich navigation in complex information space

Showing what percentage of users have followed each link

Research Groups

- [Aesthetics and Computation \(8%\)](#)
- [Affective Computing](#)
- [Electronic Publishing](#)
- [Epistemology and Learning](#)
- [Explanation Architecture](#)
- [Gesture & Narrative Language](#)
- [Interactive Cinema](#)
- [Machine Listening](#)
- [Machine Understanding \(8%\)](#)
- [Micromedia](#)
- [Object-Based Media](#)
- [Opera of the Future](#)
- [Personal Information Architecture](#)
- [Physics and Media](#)
- [Sociable Media](#)
- [Software Agents](#)



Ideas for Social Navigation on WWW

Awareness of presence of other users

- Discussion of an article
- Location attracting large crowds of users

Relevant objects

- Links visited by similar users
- Items appreciated by similar users

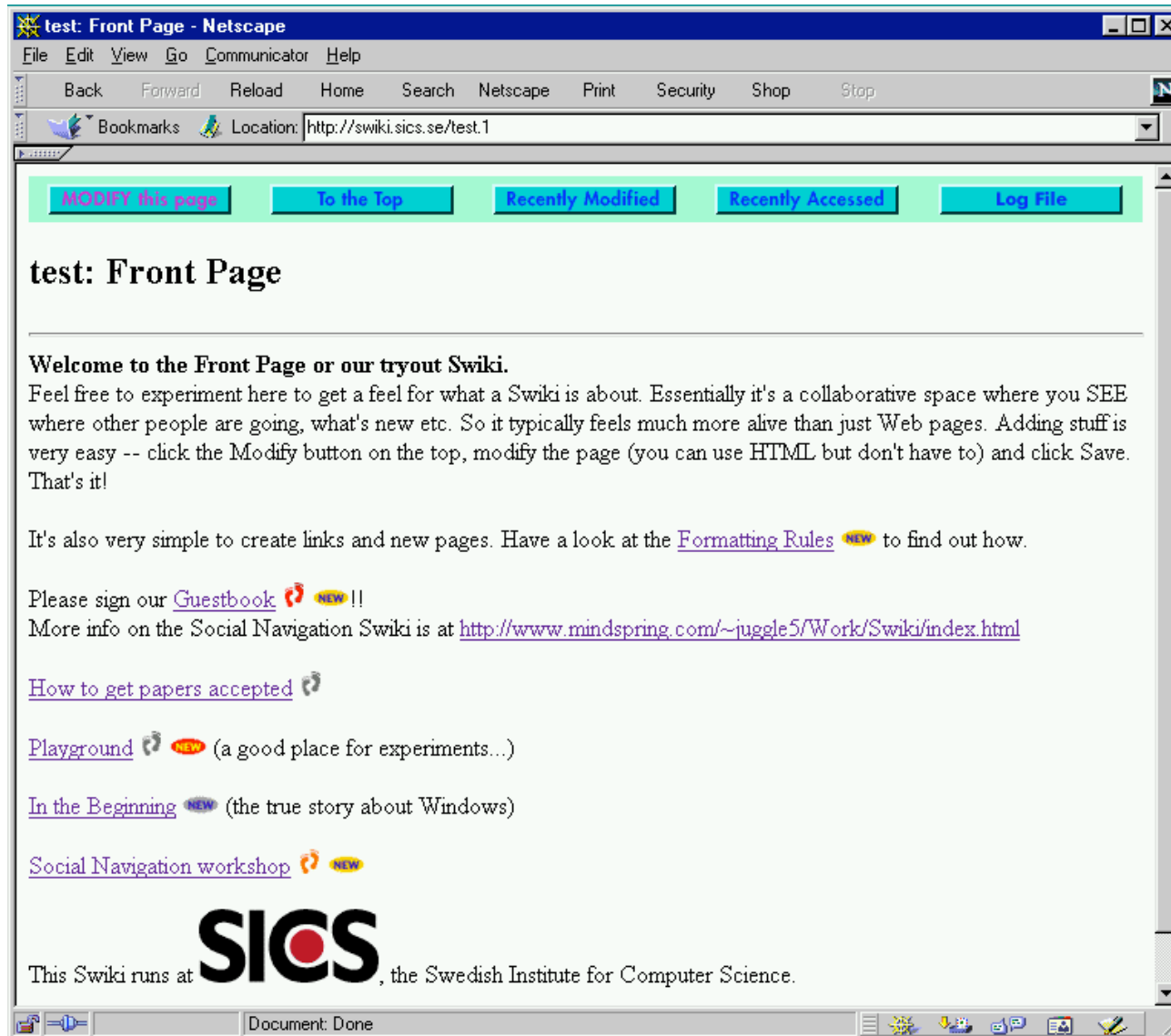
Recency

- How long ago the page was created/visited

Attitude

- What other users did/thought about an item

Example: CoWeb



Example: KnowledgeSea II

Knowledge Sea v2.0 - TALER - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://ir.exp.sis.pitt.edu/ks2/default.jsp?userid=rosta&groupid=3&kt_sid=null

Getting Started Latest Headlines Affogato Coffee Google Music & Lyrics by Zib... http://www.bbc.co... Yahoo! Mail - The be...

KnowledgeSea v2.0

Help

Search in KnowledgeSea

operator, loop, expression L11	operator, loop, expression	operator, expression, value L14	data, type, variable L8	data, type, variable	variable, data, type	variable, function, declaration	function, variable, declaration
loop, operator, statement	operator, expression, loop	language, operator, type	data, type, variable L9	data, variable, type	variable, declaration, function	function, variable, declaration	function, variable, declaration L18 L23
loop, statement, operator L12 L15	statement, loop, operator L16	language, statement, problem	language, problem, work	language, data, problem	memory, variable, structure	memory, function, pointer	function, memory, pointer
statement, compiler, loop	language, statement, compiler	language, problem, run	language, problem, scanf	memory, scanf, language	memory, pointer, structure	pointer, memory, function	pointer, memory, function
file, compiler, include	compiler, file, language	language, compiler, run L7	language, scanf, problem	scanf, language, memory	memory, pointer, scanf	pointer, memory, array	pointer, memory, array L21
file, compiler, include	file, compiler, run	language, printf, scanf	scanf, string, printf	scanf, string, character	pointer, memory, string	pointer, memory, array	pointer, array, memory
file, source, include L10	file, output, function	file, output, printf	string, character, printf L20	string, character, scanf	string, character, scanf	array, pointer, string	array, pointer, memory
file, output, source	file, output, input	file, string, output L13	string, character, printf	string, character, print	string, character, array	array, string, pointer L19	array, pointer, string L17 L22

Cells & Pages

Univ. of L... : [Functions and Protot ...](#)

R. Miles : [void](#)

R. Miles : [notitle](#)

R. Miles : [\(void \)](#)

R. Miles : [\(](#)

R. Miles : [Functions So Far](#)

R. Miles : [Function Heading](#)

R. Miles : [Function Body](#)

R. Miles : [return](#)

R. Miles : [Calling a Function](#)

R. Miles : [Full Functions Examp ...](#)

S. Summit : [2.7 Function Calls](#)

S. Summit : [Chapter 5: Functions ...](#)

S. Summit : [5.1 Function Basics](#)

S. Summit : [5.3 Function Philoso ...](#)

P. Burden : [Functions and storag ...](#)

P. Burden : [Functions and storag ...](#)

P. Burden : [Functions and storag ...](#)







P. Burden : [Functions and storag ...](#)

P. Burden : [Functions and storag ...](#)

P. Burden : [Functions and storag ...](#)

D. Marshall : [Random Numbers](#)

Subsections

- [History of C](#)
- [Characteristics of C](#)
- [C Program Structure](#) 
- [Variables](#)
 - [Defining Global Variables](#)
 - [Printing Out and Inputting Variables](#) 
- [Constants](#)
- [Arithmetic Operations](#)  
- [Comparison Operators](#)
- [Logical Operators](#)
- [Order of Precedence](#)  
- [Exercises](#)

Visual Cues in Knowledge Sea II

- Traffic based
 - Using intensity of colors to present footprints of other students
 - Distinguishing the most and the least visited pages
- Annotation based
 - Using visual cues to present students' annotation activity
 - magnitude of group annotation activity
 - presence of learners annotation
 - magnitude of individual annotation activity

CourseAgent

- Adaptive community-based course recommendation system
 - Provides personalized access to course information
 - Provides social recommendation about courses
- Recommendation in the form of in-context adaptive annotation
 - Visual cues
 - Expected course workload
 - Expected relevance to students' career goals
 - Course Schedule
 - Course Catalog

Course Schedule

Spring 2006 List

Click to see the schedule

CourseAgent
Adaptive Online Course Recommendation System

Control Panel Schedules Career Scope Course Catalog Faculties Register

Roste's CourseAgent Help Log off

Schedule of spring 2006

Taken Courses, Planned Courses, Currently Taken Courses, Recommend by Advisor, Degree of Relevance to Career Goals

CRN	Course No	Title	Day	Time	Location	Instructor	Workload	Relevance	Action
2692	TELCOM 2940	PRACTICUM	apt			Richard Thompson			Plan It
16084	INFSCI 2120	INFORMATION AND CODING THEORY	tue	6:00-8:50 P	302 CL	Paul Munro	🔧🔧	👍👍👎	Plan It
16077	INFSCI 2130	DECISION ANALYSIS AND DECISION SUPPORT SYSTEMS	wed	6:00-8:50	411 IS	Marek Druzdel	🔧🔧	👍👍👎	Plan It
16088	UIS 2194	ETHICS IN THE INFORMATION SOCIETY	mon	3:00-5:50 P	403 IS	Toon Carbo			Plan It
16099	INFSCI 2350	HUMAN FACTORS IN SYSTEMS	thu	6:00-8:50 P	411 IS	Michael Lewis	🔧🔧	👍👎👎	Register It
16056	INFSCI 2470	INTERACTIVE SYSTEM DESIGN	wed	6:00-8:50 P	405 IS	Peter Brusilovsky	🔧🔧	👍👍👍	Evaluate It
16079	INFSCI 2511	INFORMATION SYSTEMS ANALYSIS, DESIGN, AND EVALUATION	tue	6:00-8:50 P	411 IS	Glenn Baz	🔧		Plan It
16011	INFSCI 2610	DATA STRUCTURES	thu	3:00-5:50 P	501 IS	Boyer Flynn	🔧🔧	👍👎👎	Plan It
16118	INFSCI 2611	ALGORITHM DESIGN	tue	3:00-5:50 P	406 IS	Hassan Karmi	🔧🔧	👍👍👍	Plan It
16065	INFSCI 2720	GEOGRAPHIC INFORMATION SYSTEMS	thu	6:00-8:50 P	405 IS	Hassan Karmi	🔧🔧	👍👍👍	Plan It

Planned to take (can be registered)

Already taken (can be evaluated)

Difficulty level of the course
Low 🔧 , Medium 🔧🔧 , High 🔧🔧🔧

Degree of relevance to students' career goal
Marginally relevant
Relevant
Very Relevant

Course Catalog

Control Panel | Schedules | Career Scope | **Course Catalog** | Faculties | Register

Rosta 's CourseAgent He

Course Catalog

Please select one of the programs to view the course list:

Select the program

(Click on each "AREA" to see the list of related courses)

~~Taken Courses~~, ~~Planned Courses~~, **Currently Taken Courses**, : Recommend by Advisor, : Degree of Relevance to Career Goals

Cognitive Science Area

Select the area of study

Course No	Course Title	Workload	Relevance	Action
INFSCI 2300	HUMAN INFORMATION PROCESSING			View Feedback
INFSCI 2330	FOUNDATIONS OF COGNITIVE SCIENCE			Plan It
INFSCI 2350	HUMAN FACTORS IN SYSTEMS			

Plan the recommended course to take

-Cognitive Systems Area

Course No	Course Title	Workload	Relevance	Action
INFSCI 2410	INTRODUCTION TO PARALLEL DISTRIBUTED PROCESSING			Plan It
INFSCI 2420	NATURAL LANGUAGE PROCESSING			Plan It
INFSCI 2440	ARTIFICIAL INTELLIGENCE			Plan It
INFSCI 2450	ARTIFICIAL INTELLIGENCE PROGRAMMING TOOLS			Plan It
INFSCI 2470	INTERACTIVE SYSTEM DESIGN			Leave Feedback

Challenges for Social Navigation

Concept drift

- Old history information becomes less relevant
- Shift of Interest

Snowball effects

- Just one visit before the current visit can turn the page into 'hot'
- Tarpits

Bootstrapping



What is Social Search?

A set of techniques focusing on:

- collecting, processing, and organizing traces of users' past interaction
- applying this "community wisdom" in order to improve search-based access to information

Variables Defining Social Search

Which users?

Creators

Consumers

What kind of interaction is considered?

Browsing

Searching

Annotation

Tagging

What kind of search process improvement?

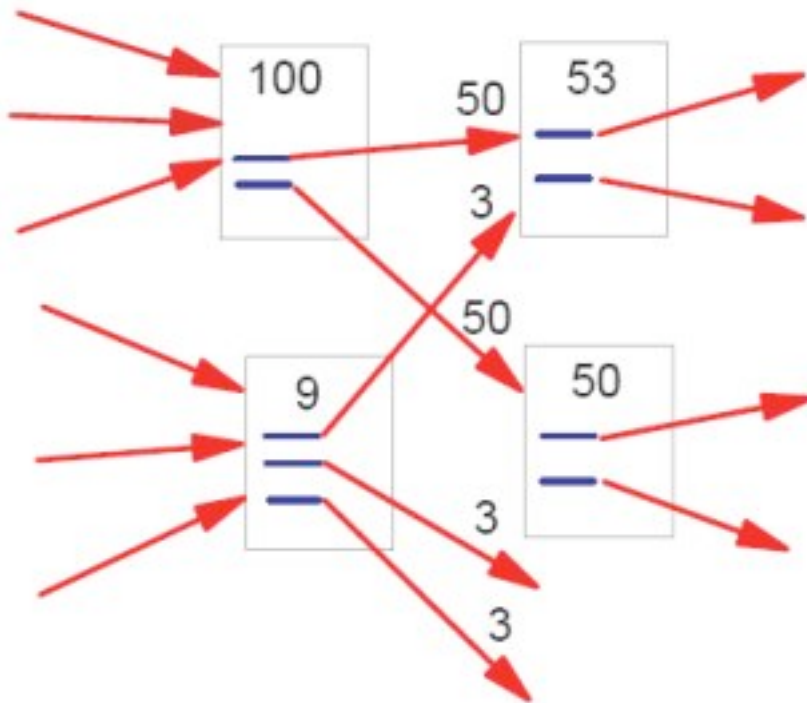
Off-line improvement of search engine performance

On-line user assistance

The Case of Google PageRank

Which users?

Which activity?



What is affected?

How it is affected?

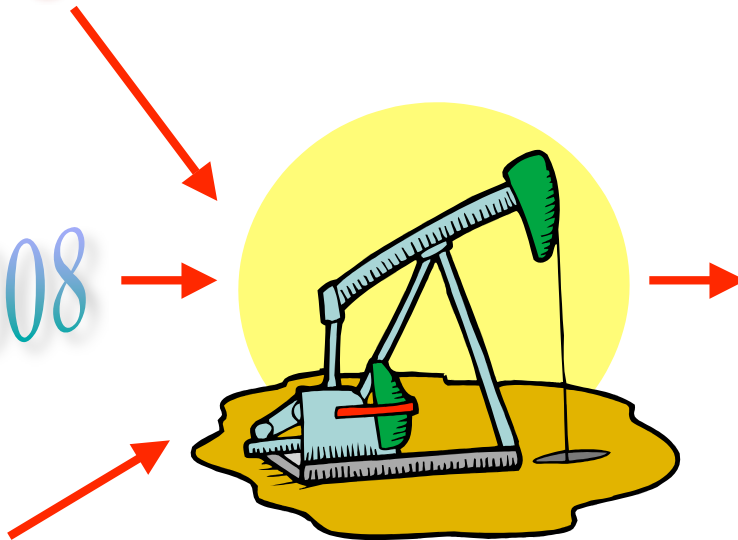
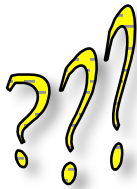
How it improves search?

How Search Could be Changed?

Let's classify potential impact by stages

peter brusilovsky

sofsem 2008



Google social web Search


Web News Results 1 - 10 of about 104,000,000 for **social web**. (0.07 seconds)

[Social Web: Bringing people together through Events, Academics...](#)
The **Social Web** is a community interactive portal site and calendar hosting service bringing people together through events, academics, common interests, ...
[www.socialweb.net/](#) - 36k - [Cached](#) - [Similar pages](#)

[Social web - Wikipedia, the free encyclopedia](#)
The **Social Web** refers to two different, yet related concepts. The first is as a description of **web 2.0** technologies that are focused on **social** interaction ...
[en.wikipedia.org/wiki/Social_Web](#) - 22k - [Cached](#) - [Similar pages](#)

[The Social Web | ZDNet.com](#)
Facebook have announced that they are going to license their APIs and proprietary markup language to other **social web** sites - the first of which is Bebo. ...
[blogs.zdnet.com/social/](#) - 124k - [Cached](#) - [Similar pages](#)

[News results for social web](#)

 [MySpace Agrees to Youth Protections](#) - 9 hours ago
By BRIAN STELTER The **social** networking **Web** site MySpace and the attorneys general for 49 states announced Monday that they had reached an agreement under ...
[New York Times](#) - [1095 related articles »](#)

[Predictions for a Web 2.0 social experience](#)
Ben Hunt casts an eye to the future of a more connected **web**, and predicts that Yahoo! will be the dominant online brand for the next 5 years.
[www.webdesignfromscratch.com/future-social-web-experience.cfm](#) - 53k - [Cached](#) - [Similar pages](#)

[PlaNetwork Journal](#)
Democracy Ecological Design Economics Global Systems Independent Media - Infrastructure Networks Collective Intelligence **Social** Sculpture Transparency ...
[journal.planetwork.net/article.php?lab=reed0704](#) - 12k - [Cached](#) - [Similar pages](#)

[Flock - The Social Web Browser](#)
Flock is a free **web** browser that makes it easy to connect with your friends and express yourself online. Upload photos, blog anything, subscribe to RSS, ...
[www.flock.com/](#) - 32k - [Cached](#) - [Similar pages](#)

Before search

During search

After search

Improving Search Engine Work

Search Engine =
Crawling + Indexing + Ranking

Can we improve crawling?

Can we improving indexing?

Can we improve ranking?

Social Indexing: Some Ideas

Use social data to expand document index
(document expansion)

What we can get from page authors?

Anchor text provided on a link to the page

What we can get from searchers?

Page selection in response to the *query* (Scholer, 2002)

Query sequences (Amitay, 2005)

What we can get from page visitors?

Page annotations (Dmitriev et al., 2006)

Page tags (Yanbe, 2007)

Improving Search Engine Ranking

What we can get from page authors?

Links (Page Rank)

What we can get from searchers?

Page selection in response to the *query*
(DirectHit)

What we can get from page visitors?

Page tags (Yanbe, 2007; Bao, 2007)

Page annotations

~~*Page visit count*~~

Combined approaches

PageRate (Zhu, 2001), (Agichtein, 2006)

How We Can Help Before Search?

Query checking - now standard

Suggesting related queries

How it can be done?

Example: query networks (Glance, 2001)

Query refinement and query expansion

Using past queries and query sequences - what the user is really looking for (Fitzpatrick, 1997; Billerbeck, 2003; Huang, 2003)

Using anchors (Kraft, 2004)

Using annotations, tag

How We Can Help After Search?

Better ranking (re-ranking)

- Link ordering

Suggesting additional sources

- Link generation

Annotating results

- Link annotation

Post-search system can provide better help
by using more data

AntWorld

AntWorld: Describe your quest - Netscape

File Edit View Go Communicator Help

Back Forward Reload Home Search Netscape Print Security Stop

Bookmarks Location: serPass=kantor&aStartURL=http%3A//scils.rutgers.edu/%7Ekantor/SECRET/judgmentScreen.jpg What's Related

AntWorld: Describe your quest

(Optional) To log in, enter...

AntWorld username:

AntWorld password:

New user? Leave username/password blank (to login as guest), or [create an account](#)

Standard interface ▾

(Optional) Choose the start page

To start a new quest, enter a short description here:

Optional long description of your quest:

To resume your most recent quest, leave both boxes empty

Begin Quest!

Document: Done

Start WS... Telne... Telne... Ant... Explo... Micro... Judg... 15:47

Quest Approach to Social Search

The idea of AntWorld:

- Quests establish similarities between users
- Relevance between documents and quests is provided by explicit feedback

Similar approach: SERF (Jung, 2004)

- Results with recommendations were shown on over 40% searches.
- In about 40% of cases the users clicked and 71.6% of these clicks were on recommended links! If only Google results are shown users clicked in only 24.4% of cases
- The length of the session is significantly shorter (1.6 vs 2.2) when recommendations are shown
- Ratings of the first visited document are higher if it was recommended (so, appeal and quality both better)

I-SPY: Community-Based Search



the smarter way to search

Communities

About I-Spy

Private Search check box

shakey

Search

PRIVATE SEARCH

computer science: Your Search for shakey returned 35 Results | **Displaying 1 - 35** | **Result Page: 1**

Related Information

Recent Queries

[VIEW ALL](#)

1. [regular expressions for...](#)
2. [java](#)
3. [adaptive search tree](#)
4. [artificial intelligence](#)
5. [irish web hosting provider](#)

Recent Web Pages

[VIEW ALL](#)

1. [RE-Tree: An Efficient I...](#)
2. [Enterprise JavaBeans Te...](#)
3. [Adaptive Structuring Of...](#)
4. [Adaptive Heuristics for...](#)
5. [International Joint Con...](#)

Popular Queries

[VIEW ALL](#)

1. [cbr](#)
2. [java](#)
3. [latex tutorial](#)
4. [adaptive search tree](#)
5. [regular expressions for...](#)

Popular Web Pages

[VIEW ALL](#)

1. [Java Technology](#)
2. [Adaptive Hypermedia 2004](#)
3. [The Javaftml Tutorial](#)
4. [STAIRS 2004](#)

I-Spy Recommends

Showing 2 of 4 promoted results.

0 4

Tip : Move the slider to see more recommended results
Recommended results are marked with

Slider Bar

[SRI Technology: Shakey the Robot](#)

Shakey the Robot Shakey was the first mobile robot to reason about its actions. ...
 Shakey used programs for perception, world-modeling, and acting. ...

<http://www.sri.com/about/timeline/shakey.html>

Related Queries [sri shakey](#) [shakey robot](#) [stanford shakey](#)

Promotional Results



Related Queries

[Moravec Robot book figure](#)

... 1970-Shakey the robot reasons about its blocks Built at Stanford Research Institute, Shakey was remote controlled by a large computer. ...

<http://www.frc.ri.cmu.edu/~hpm/book98/fig.ch2/p027.html>

Other Matching Results

[shakey.com - Welcome](#)

Shane Byrne Official Website - Diary, Latest News, Gallery, Forum and more! ... Check out the new 2005 Shakey Collection in our exclusive online shop! ... figured the best people to model the Shakey gear would be the hard core of Shakey fans

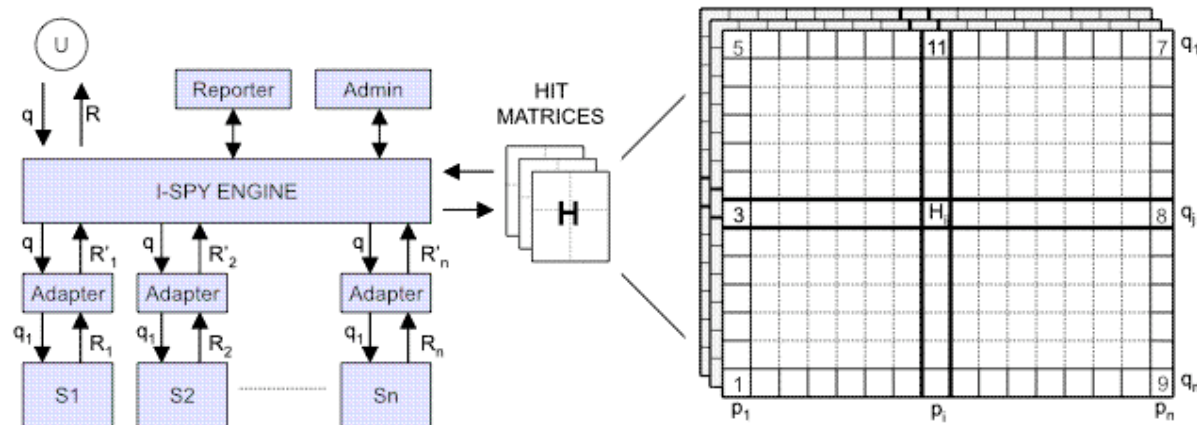
Meta-search Results



I-SPY: Mechanism

User similarity defined by communities and queries

Result selection provide implicit feedback



Social Search with Visual Cues

KnowledgeSea Search

Query:

Stemmed query: *dynam alloc memori* | 370 of 2498 documents retrieved (score > 0.01). | Search time: 0.10 seconds | [View with Lighthouse](#)

Removed common words: of

Result pages: [1](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#) [8](#) [9](#) [10](#) [11](#) [12](#) [13](#) [14](#) [15](#) [16](#) [17](#) [18](#) [19](#)

Rank	Source	Title	Score	State
1	S. Summit	Chapter 11: Memory A ...	0.62	
2	S. Summit	11.2 Freeing Memory	0.48	
3	C.Faq	s7.html	0.45	
4	R. Miles	Memory	0.42	
5	R. Miles	c13.html	0.40	
6	S. Summit	11.4 Pointer Safety	0.37	
7	R. Miles	free	0.35	
8	R. Miles	malloc	0.34	
9	D. Marshall	section2_21_8.html	0.30	
10	C.Faq	Question 19.23	0.29	

Similarity score

General annotation

Question

Praise

Negative

Positive

Document with high traffic (higher rank)

Document with positive annotation (higher rank)

Knowledge Sea Search Evaluation

Acceptance

- Users agreed with the need for social search
 - Survey results
- Users noticed and applied social visual cues
 - Frequency of usage - viewed more documents per query with social visual cues

Performance

- Social Visual Cues are taken into account
 - Social Navigation is twice as more “attractive” in influencing user navigation decision than high rank
- Social visual Cues provide higher prediction for page quality than high rank

I-Spy: Proxy Version

Google **Web** [Images](#) [Groups](#) [News](#) [more »](#)
Search: [Advanced Search](#) [Preferences](#)
Search: the web pages from Ireland

Web Results 1 - 10 of about 74,300,000


[NBA.com: Michael Jordan Bio](#)
Michael Jordan | 23. Season statistics & Notes · Season splits · Game-by-game stats · Bio · Printable player file. 2002-03 Statistics. PPG, 20.0. RPG, 6.10 ...
www.nba.com/playerfile/michael_jordan.html - 139k - [Cached](#) - [Similar pages](#)



[NBA.com: Michael Jordan Summary](#)
Michael Jordan By acclamation, **Michael Jordan** is the greatest basketball player of all time. Although, a summary of his basketball career and influence on ...
www.nba.com/history/players/jordan_summary.html - 48k
[[More results from www.nba.com](#)]


[Michael Jordan - Wikipedia, the free encyclopedia](#)
Michael Jordan's basketball talent was clear from his rookie season. **Jordan, Michael** Jeffrey. ALTERNATIVE NAMES, **MJ**; Air Jordan
en.wikipedia.org/wiki/Michael_Jordan - 130k - [Cached](#) - [Similar pages](#)

Google **Web** [Images](#) [Groups](#) [News](#) [more »](#)
Search: [Advanced Search](#) [Preferences](#)
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Web Results 1 - 10 of about 74,300,000

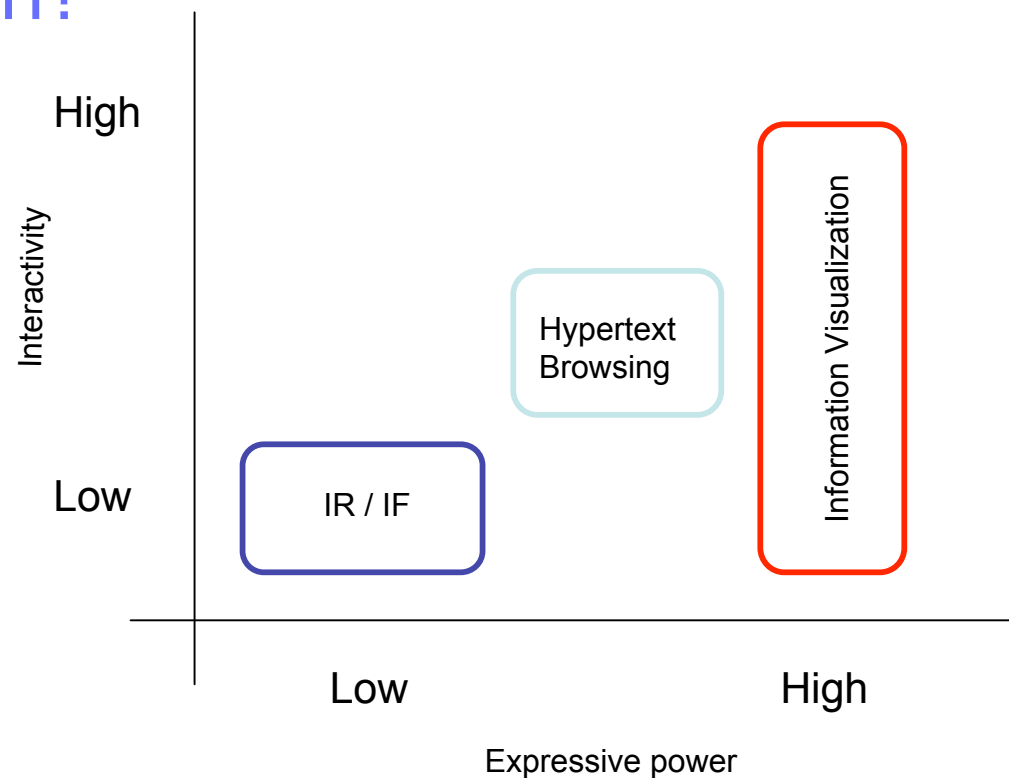
[Jordan, Michael I.](#)  
Graphical models, variational methods, machine learning, reasoning under uncertainty.
www.cs.berkeley.edu/~jordan/ - 9k - [Cached](#) - [Similar pages](#)

[Distinguished Lecturer: Michael Jordan, Fri, Apr 29, 2005](#)  
Michael Jordan is Professor in the Department of Electrical Engineering and ... on kernel machines, and on applications of statistical machine learning to ...
<http://oldwww.cs.pitt.edu/DL/2005/michael-jordan.29apr2005.html>

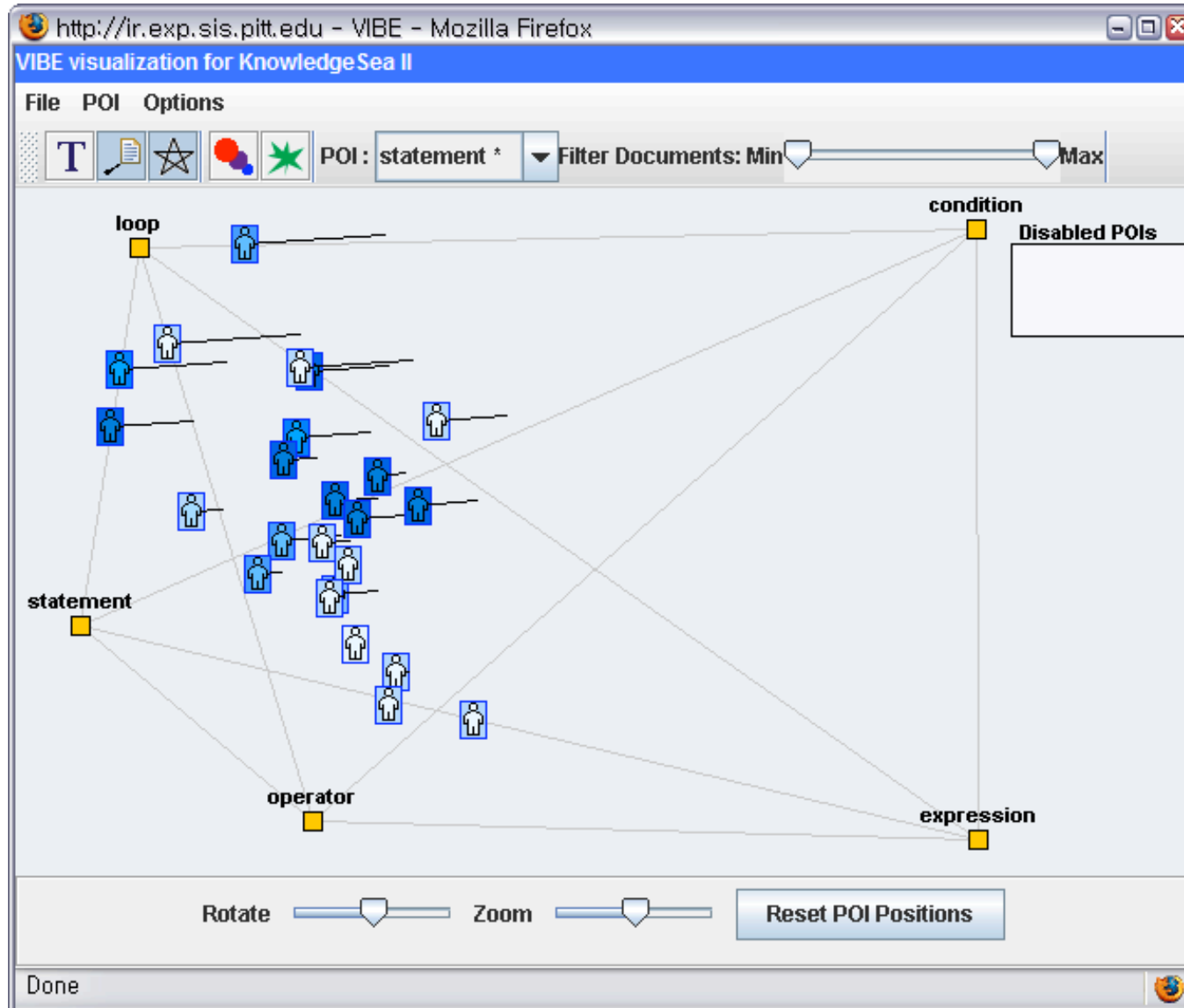
[DBLP: Michael I. Jordan](#)   
... Tommi Jaakkola, **Michael I. Jordan**: Mean Field Theory for Sigmoid Belief Networks ...
Michael I. Jordan: Reinforcement Learning by Probability Matching. ...
http://www.informatik.uni-trier.de/~ley/db/indices/a-tree/j/Jordan:Michael_I_.html

Social Visualization

What are the benefits of information visualization as an information access approach?



Social Visualization with VIBE



Social Information Access

Peter Brusilovsky
School of Information Sciences
University of Pittsburgh
<http://www2.sis.pitt.edu/~peterb>

