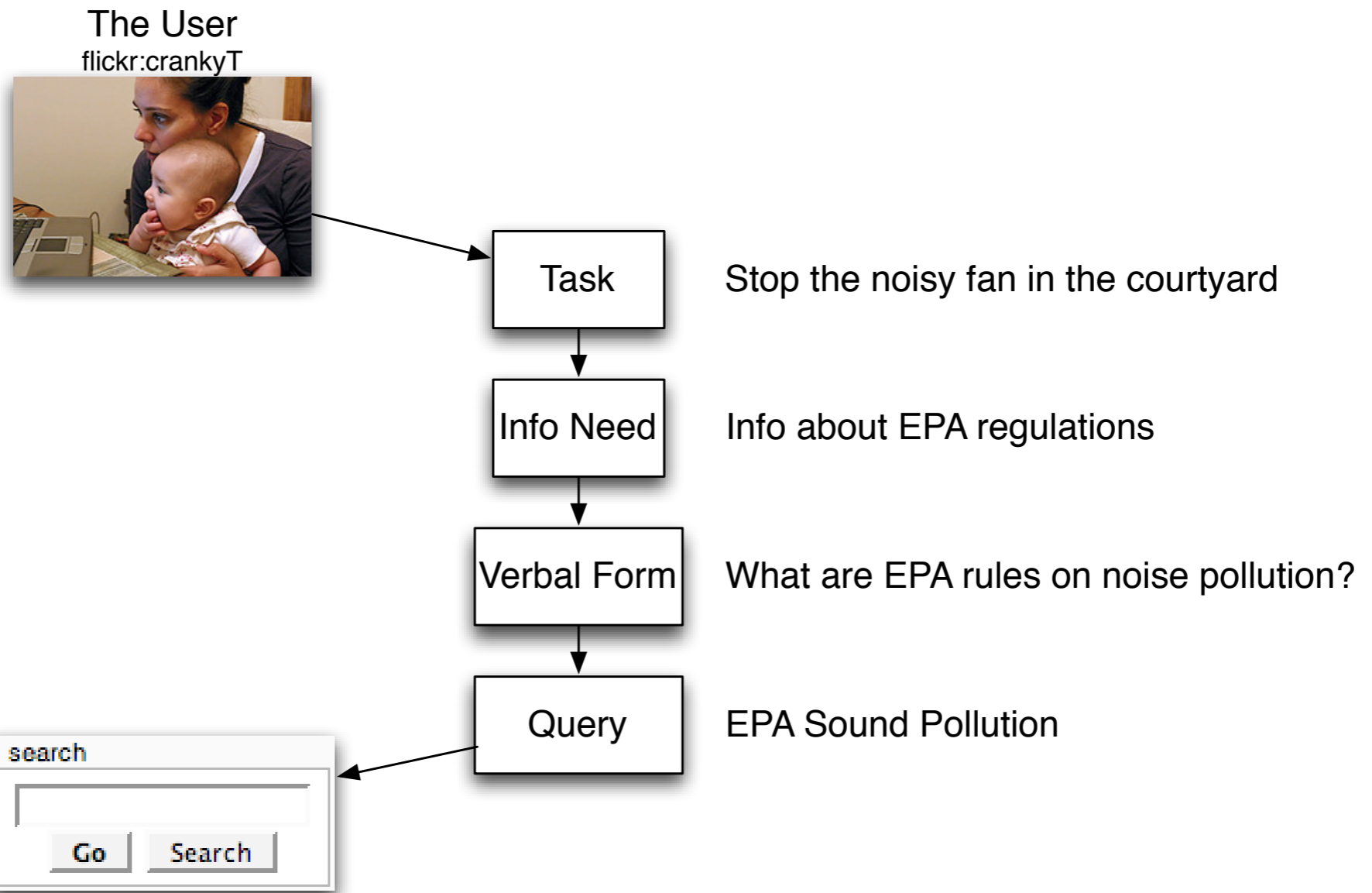


Overview

- Introduction
- Classic Information Retrieval
- Web IR
- Sponsored Search
- Web Search Basics
 - Size of the Web
- Web Users
- Spam
- Helping the User



True Example *



"To Google or to GoTo" Business Week Online 9/28/2001

Answering “the need behind the query”

- The query is often an imprecise indicator of what the user really wants
- What can we do to get a better handle on the underlying information need?
- Query language
 - Adjust rank of English results for a Japanese query
- Use user context
 - In particular geographic context



Answering “the need behind the query”

- Guess what type of information the user wants
 - a web page?
 - a map?
 - a stock price?
 - what else?
- Correct queries
 - Suggest correct spellings
 - Suggest related searches (google-fu)



Examples - language



The screenshot shows a Google search results page for the query "kitakurihama". The browser window title is "kitakurihama - Google Search". The address bar shows the URL "http://www.google.com/search?hl=en&cli". The search bar contains the text "kitakurihama" and a "Search" button. The page displays the Google logo and the search results. The results are categorized under "Web" and show "Results 1 - 10 of about 276 for kitakurihama. (0.12 seconds)".

Web Results 1 - 10 of about 276 for **kitakurihama**. (0.12 seconds)

Did you mean: [kujukurihama](#)

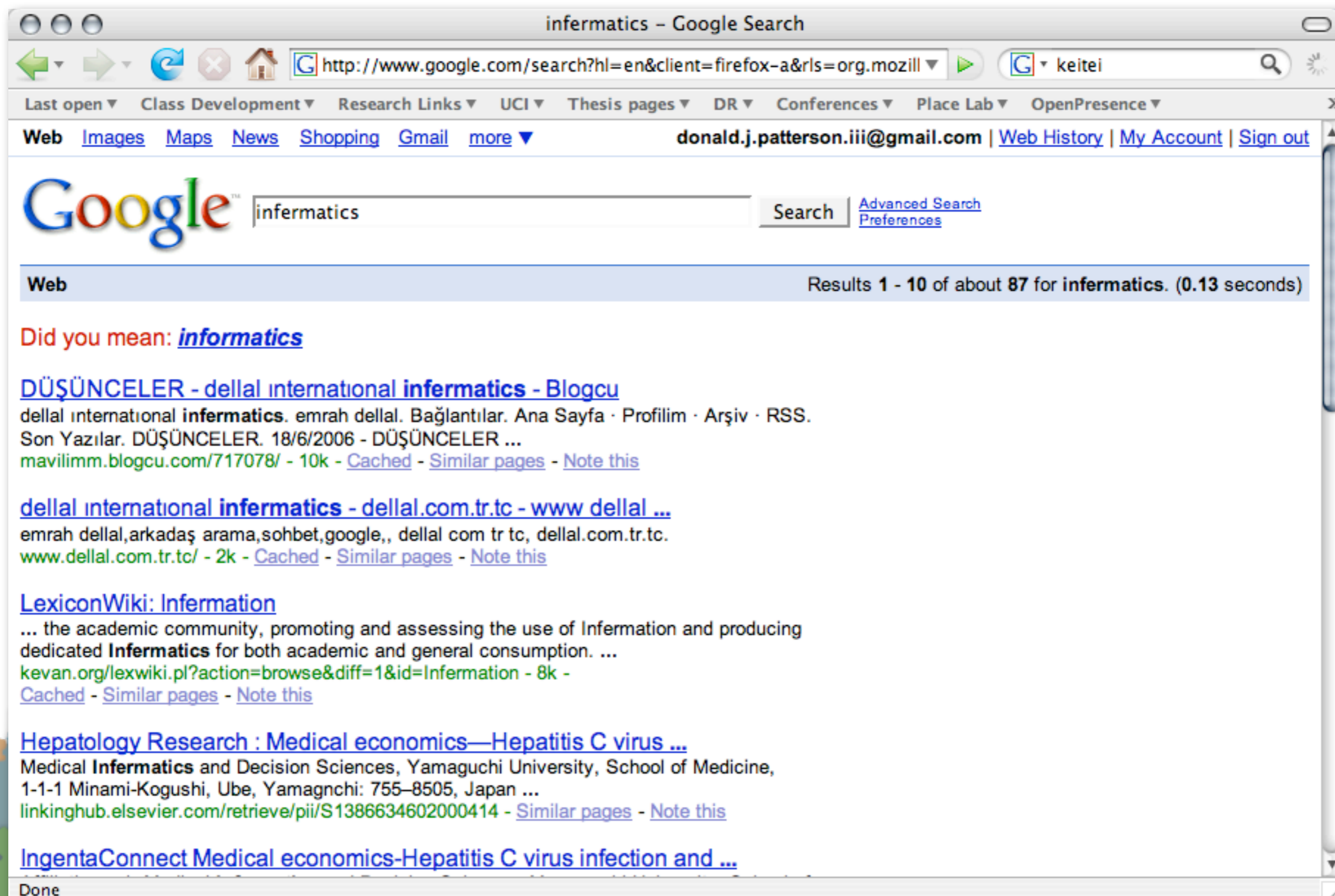
[MySpace.com - Nasty - Kitakurihama, Kanagawa - Hip Hop - www ...](#)
MySpace music profile for Nasty with tour dates, songs, videos, pictures, blogs, band information, downloads and more.
[profile.myspace.com/index.cfm?fuseaction=user.viewprofile&friendid=1000891776](#) - 48k -
[Cached](#) - [Similar pages](#) - [Note this](#)

[Kitakurihama](#) - [[Translate this page](#)]
Kitakurihama. 1 to 7 out of 7 Glee land (グリーンランド) Karaoke box HAIR CLINIC TAIRA (ヘアクリニック タイラ) Hairdressing and cosmetics TAKOCHU (たこ忠) ...
[p.bari3.net/.../lookup2.asp?agntcd=1802&ct1=&ct1_nm=&ct2=007&ct2_nm=Kitakurihama&lv=1](#) - 5k -
[Cached](#) - [Similar pages](#) - [Note this](#)

[保育所ちびっこランド 北久里浜園](#) - [[Translate this page](#)]
混合自由保育で三育法を実践。
[www.kidslink.jp/chibikko-kitakurihama/](#) - 2k - [Cached](#) - [Similar pages](#) - [Note this](#)

[YuDiary](#)
i waited for my friend on **kitakurihama** station at 1:00pm. there are a lot of fields in misakiguchi. i drove my car from **kitakurihama** station to his house. ...
[idauyutajifu.blogspot.com/](#) - 61k - [Cached](#) - [Similar pages](#) - [Note this](#)

Examples - query spelling



The screenshot shows a web browser window titled "infermatics - Google Search". The address bar contains the URL "http://www.google.com/search?hl=en&client=firefox-a&rls=org.mozilla". The search bar contains the text "infermatics" and a "Search" button. The results page shows "Results 1 - 10 of about 87 for infermatics. (0.13 seconds)". The first result is a suggestion: "Did you mean: [informatics](#)". The second result is "DÜŞÜNCELER - dellal international infermatics - Blogcu" with a snippet: "dellal international infermatics. emrah dellal. Bağlantılar. Ana Sayfa · Profilim · Arşiv · RSS. Son Yazılar. DÜŞÜNCELER. 18/6/2006 - DÜŞÜNCELER ... mavilimm.blogcu.com/717078/ - 10k - [Cached](#) - [Similar pages](#) - [Note this](#)". The third result is "dellal international infermatics - dellal.com.tr.tc - www dellal ..." with a snippet: "emrah dellal,arkadaş arama,sohbet,google,, dellal com tr tc, dellal.com.tr.tc. www.dellal.com.tr.tc/ - 2k - [Cached](#) - [Similar pages](#) - [Note this](#)". The fourth result is "LexiconWiki: Infermation" with a snippet: "... the academic community, promoting and assessing the use of Infermation and producing dedicated **Infermatics** for both academic and general consumption. ... kevan.org/lexwiki.pl?action=browse&diff=1&id=Infermation - 8k - [Cached](#) - [Similar pages](#) - [Note this](#)". The fifth result is "Hepatology Research : Medical economics—Hepatitis C virus ..." with a snippet: "Medical **Infermatics** and Decision Sciences, Yamaguchi University, School of Medicine, 1-1-1 Minami-Kogushi, Ube, Yamagnchi: 755-8505, Japan ... linkinghub.elsevier.com/retrieve/pii/S1386634602000414 - [Similar pages](#) - [Note this](#)". The sixth result is "IngentaConnect Medical economics-Hepatitis C virus infection and ...". The status bar at the bottom says "Done".

Examples - query expansion

The screenshot shows a browser window titled "Live Search: rock". The address bar contains the URL "http://search.live.com/results.aspx?q=rock&go=Search&mkt=en-...". The search bar contains the text "rock" and a green "Search" button. Below the search bar, there are navigation links: "Home", "Hotmail", "Spaces", "OneCare", and "Sign in".

Web results 1-10 of 441,000,000
See also: [Images](#), [Video](#), [News](#), [Maps](#), [MSN](#), [More](#) ▼

The Rock - [Jellyfish.com/Movies](#) Sponsored sites
Shop and compare prices across stores. Rebates up to \$1.10.

Rock.com® - The Official Site of Rock Music®
Free Email & Free Music Downloads by **Rock.com**. Get Free Internet Radio, Music Downloads & more. Get your free @rock.com email today
[www.rock.com](#) · [Cached page](#)

Rock music - Wikipedia, the free encyclopedia
Rock music is a form of popular music with a prominent vocal melody accompanied by guitar , drums , and bass . Many styles of **rock** music also use keyboard instruments such as organ ...
[en.wikipedia.org/wiki/Rock_music](#) · [Cached page](#)

Rock and roll - Wikipedia, the free encyclopedia
Rock and roll is a genre of music that evolved in the United States in the late 1940s and early 1950s, and quickly spread to the rest of the world.
[en.wikipedia.org/wiki/Rock_and_roll](#) · [Cached page](#)
[Show more results from en.wikipedia.org](#)

Rock - Australia's Climbing Magazine
Subscription information. Overview of current issue. Classifieds. Back issues and guide books for sale.

Related searches
[Rock Music](#)
[Rocks Minerals](#)
[Pictures Of Rocks](#)
[Rock Star](#)
[Kid Rock](#)
[Rock Cycle](#)
[Hard Rock Cafe](#)

Sponsored sites
Free Rock Music
Listen To Your Favorite Music Now!
It's Free with the Music Toolbar
[Music.alot.com](#)

The Rock
Interviews with Stars, Newsmakers & Icons at The Biography Channel®.
[www.biography.com](#)

Rock Videos
Enjoy Savings & Selection on **Rock Videos!**
[Shopzilla.com](#)

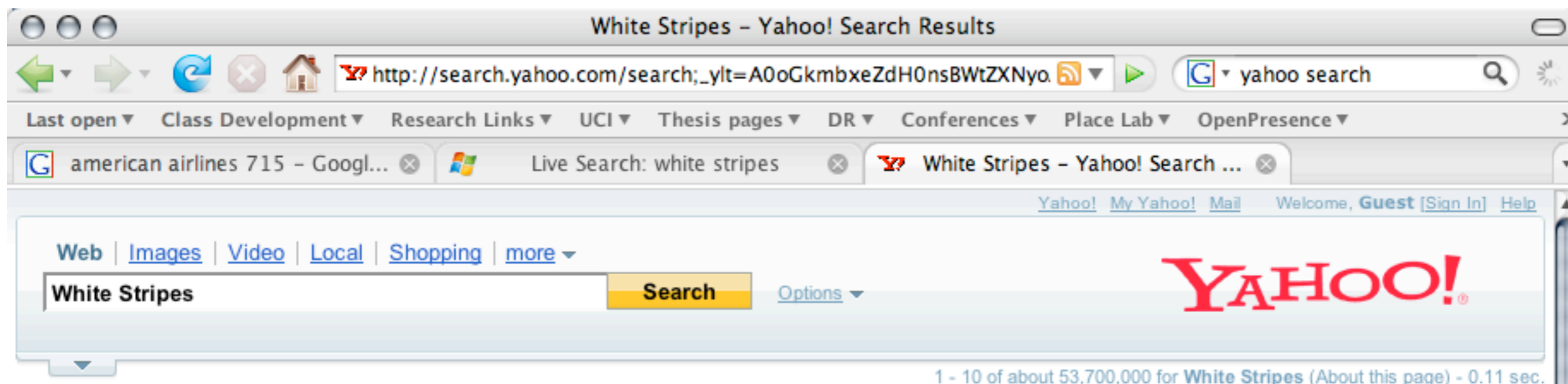
Done

Query shortcuts

- Map: "irvine, ca 92614"
- Calculation: "5+4"
- Flight Info: "american airlines 715"
- Stock price: "msft"
- Unit conversion: "1 dollar in euro"
- Music: "White Stripes"

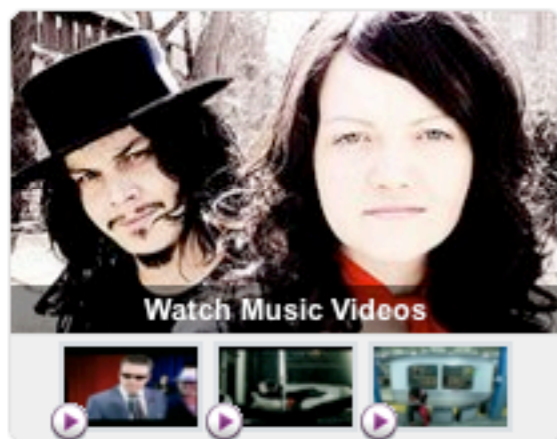


Examples - query shortcuts



The screenshot shows a web browser window titled "White Stripes - Yahoo! Search Results". The address bar contains the URL "http://search.yahoo.com/search;_ylt=A0oGkmbxeZdH0nsBWtZXNyo". The search bar contains the text "White Stripes" and a yellow "Search" button. The page header includes navigation links like "Web", "Images", "Video", "Local", and "Shopping". The main content area displays search results for "White Stripes".

1 - 10 of about 53,700,000 for White Stripes (About this page) - 0.11 sec.



[The White Stripes - Official Site](http://www.whitestripes.com)

www.whitestripes.com

[Albums](#) | [Lyrics](#) | [Photos](#) | [Videos](#)

Play Popular Songs

- [Icky Thump](#)
- [You Don't Know What Love Is \(You Jus...](#)
- [300 M.P.H. Torrential Outpour Blues](#)

[More Songs...](#)

Yahoo! Shortcut - [About](#)

[The White Stripes](http://www.whitestripes.com)

Official site for The **White Stripes**, the Detroit-based garage/blues duo featuring Jack and Meg **White**.

www.whitestripes.com - 2k - [Cached](#)

[White Stripes v2](#)

Jack and Meg **White** fansite includes news and tour information, forum, links, release details, and more.

SPONSOR RESULTS

[White Stripes Ringtones](#)

Complimentary **White Stripes** Ringtones. Get Them Instantly. www.TheBombRingtones.com

[White Stripes Ringtones](#)

White Stripes Ringtones. Get Them Complimentary Now. ChartRingers.com/whitestripes

[The White Stripes](#)

Find, compare & buy. Compare & Buy from 1000's of Stores. www.Dealtime.com

[The White Stripes at Amazon.com](#)

Low prices on new & used music. Qualified orders over \$25 ship free. Amazon.com/music

Examples - query shortcuts

The screenshot shows a browser window titled "Live Search: Don Patterson irvine ca". The address bar contains the URL "http://search.live.com/results.aspx?q=Don+Patterson+irvine+ca&gr". The browser has several tabs open, including "american airlines 715 - Googl...", "Live Search: Don Patterson irvin...", and "White Stripes - Yahoo! Search ...". The search results page displays the query "Don Patterson irvine ca" in a search box with a "Search" button and links for "Advanced" and "Options".

Web results 1-9 of 253,000
See also: [Images](#), [Video](#), [News](#), [Maps](#), [MSN](#), [More](#) ▼

» [Top local listings for Don Patterson near Irvine, CA](#) (1 more) Is this useful? [Yes](#) | [No](#)

- **Don Patterson** (626) 918-1974 15626 Dubesor St, La Puente
- **Don Patterson** (213) 389-7583 226 S Berendo St Apt 205, Los Angeles
- **Don Patterson** (760) 729-6941 2768 Dundee Ct, Carlsbad

[DBLife: University of California-Irvine](#)
Jadwiga Indulska, University of Queensland, Australia **Don Patterson**, University of California Irvine , USA Tom Rodden, Nottingham University, UK Program Committee:
[dblife.cs.wisc.edu/search.cgi?entity=entity-13655& amp;begin=60](#) · [Cached page](#)

[DBLife: University of California-Irvine](#)
Jadwiga Indulska University of Queensland, Australia **Don Patterson** University of California Irvine , USA Tom Rodden Nottingham University, UK...
[dblife.cs.wisc.edu/search.cgi?entity=entity-13655& amp;begin=90](#) · [Cached page](#)
[Show more results from dblife.cs.wisc.edu](#)

[Jerry M. Patterson](#)
Professor: University of California at Irvine (2000-) Moulton Patterson Associates ... Partner (1967-75) State Bar of California 1967. Do you know something we don't?
[www.pndb.com/people/406/000163914](#) · [Cached page](#)

Sponsored sites

- [Irvine CA Book Hotel](#)
Visiting California & Need a Hotel?
Reserve Rooms for Irvine CA!
[www.calibex.com/hotels](#)
- [Locate Don Patterson](#)
Current address and phone available.
Instant results.
[www.usa-people-search.com](#)
- [Don Patterson at Amazon](#)
Low prices on new & used music.
Qualified orders over \$25 ship free
[amazon.com/music](#)
- [Irvine CA - Cheap Rates](#)
Visiting California & Need a Hotel?
Compare Top Sites for Irvine CA!
[www.nextag.com/hotels](#)

[See your message here...](#)

Examples - query aggregations

The screenshot shows a web browser window titled "diabetes - Yahoo! Search Results". The address bar contains the URL "http://search.yahoo.com/search;_ylt=A0oGkl24d5dHeL0A2gZXNyo/". The search bar contains the text "diabetes" and a "Search" button. The page displays search results for "diabetes", including sponsored results and health information.

diabetes - Yahoo! Search Results

http://search.yahoo.com/search;_ylt=A0oGkl24d5dHeL0A2gZXNyo/

Yahoo! My Yahoo! Mail Welcome, Guest [Sign In] Help

Web | Images | Video | Local | Shopping | more

diabetes Search Options

1 - 10 of about 222,000,000 for diabetes (About this page) - 0.09 sec.

SPONSOR RESULTS

Free Diabetes Supplies
www.LibertyMedical.com - Medicare Diabetics - Your supplies Could be 100% covered. Learn more.

Diabetes and Pain
www.Cymbalta.com - Diabetic peripheral neuropathic pain (DPNP) -learn about managing it.

Learn About Diabetes
www.Type2Diabetes-Info.com - Learn more about type 2 diabetes including treatment options.

Diabetes Learning Center
Educational site explains how to manage type 1 and type 2 diabetes.
www.bddiabetes.com

Manage Diabetes Naturally
Sugar Free Psyllium Fiber Products for Type 2 Diabetes. Order Online.
www.konsyl.com

Diabetes
Get a Free Meter from Liberty if You have Diabetes & on Medicare.
www.Diabetic-Testing-Supplies.com

Diabetes Is Info
Get Info on Diabetes Is from 14 search engines in 1.
www.info.com

Diabetes Information - Health Results

Articles	Community	Other Resources
Symptoms	Yahoo! Groups	National Institute of Diabetes &...
Treatments	Ask a Question	American Diabetes Association
Medications	Read Q & A	MedlinePlus: Diabetes

Yahoo! Shortcut - [About](#)

CDC: Basics About Diabetes
Fact sheet about diabetes covering its common symptoms, risk factors, and management options.
www.cdc.gov/diabetes/faq/basics.htm - 36k - [Cached](#)

American Diabetes Association

Losing Income Due to Diabetes?

Context

- Context determination
 - Spatial
 - User Location
 - IP geocoding
 - cell phone localization
 - User input (“make this my home”)
 - Web page location
 - Target Location
 - “SNA” maps to a latitude and longitude




Context

- Query Stream
 - Previous queries have influence
- Personal Search
 - Your profile and history have influence
- Explicit
 - You choose to use a vertical search engine



Context

- Implicit Context
 - google.fr is the default in france
 - User Location and Target Location



The screenshot shows a browser window titled "Google" with the address bar displaying "http://www.google.fr/". The browser's address bar also shows a search engine dropdown set to "yahoo search". The browser's tab bar shows several open tabs, including "american airlines 715 - G...", "Live Search: Don Patterson...", and "White Stripes - Yahoo! Sea...". The main content area of the browser displays the Google France homepage. The Google logo is prominently displayed in the center, with "Google" in its multi-colored font and "France" in blue below it. Below the logo is a search input field with the text "Recherche Google" and "J'ai de la chance" on either side. To the right of the search field are links for "Recherche avancée", "Préférences", and "Outils linguistiques". Below the search field, there are radio buttons for "Web", "Pages francophones", and "Pages : France". At the bottom of the page, there are links for "Programmes de publicité", "Solutions d'entreprise", "À propos de Google", and "Google.com in English".

Context Use

- Restrict Results / Delete inappropriate results
- Rerank results based on context



Helping the user

Amazon.com: single cookbook

http://www.amazon.com/exec/obidos/search-handle-url/index=blend... yahoo search

Last open ▾ Class Development ▾ Research Links ▾ UCI ▾ Thesis pages ▾ DR ▾ Conferences ▾ Place Lab ▾ OpenPresence ▾ Blogs and Wikis ▾

Amazon.com: single cook... Live Search: Don Patterson ... White Stripes - Yahoo! Sear... Google

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


Your Amazon.com Today's Deals ▾ Gifts & Wish Lists ▾ Gift Cards ▾ Your Account | Help

Shop All Departments ▾ Search Amazon.com single cookbook GO Cart Your Lists ▾

Category
Any Category
Books (395)
Software (2)
Home & Garden (1)

Listmania!


Cooking - Just the two of us/you: A list by Laura


Best Books for Health and Diet in 2007: A list by Moni Jeddian "PWR"

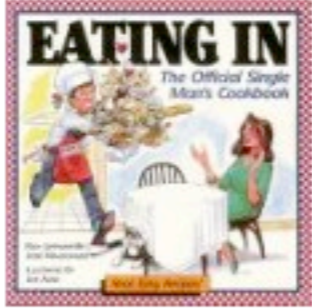
► Create a Listmania! list

Search Listmania! GO!

"single cookbook"

Showing Top Results « Previous | Page: 1 2 3 | Next »

- 

Serves One: Simple Meals to Savor When You're on Your Own by Toni Lydecker (**Paperback** - Dec 25, 2005)
Buy new: ~~\$16.95~~ **\$11.53** [26 Used & new](#) from **\$7.94**
Get it by **Thursday, Jan 24** if you order in the next **5 hours** and choose one-day shipping. Eligible for **FREE** Super Saver Shipping.
★★★★★ (8)
Books: See all 395 items
- 

Eating in: The Official Single Man's Cookbook by Rich Lippman, Jose Maldonado, and Joe Azar (**Paperback** - Oct 1988)
Buy new: **\$8.95** [11 Used & new](#) from **\$5.92**
Not in stock; order now and we'll deliver when available
Eligible for **FREE** Super Saver Shipping.
★★★★★ (2)
Books: See all 395 items
- 

Going Solo in the Kitchen by Jane Doerfer (**Paperback** - Aug 25, 1998)
Buy new: ~~\$16.95~~ **\$11.53** [33 Used & new](#) from **\$7.45**
Get it by **Thursday, Jan 24** if you order in the next **5 hours** and choose one-day shipping. Eligible for **FREE** Super Saver Shipping.