

Search Engine Strategies

CSE/BIS 197 Fall 2006

- Welcome!
- Profs. [Brian Davison](#) and [Lin Lin](#)
- Syllabus, schedule, etc. all online
 - <http://www.cse.lehigh.edu/~brian/course/sem>
- One credit, meets just once per week
- One textbook: ***Search Engine Marketing, Inc.***

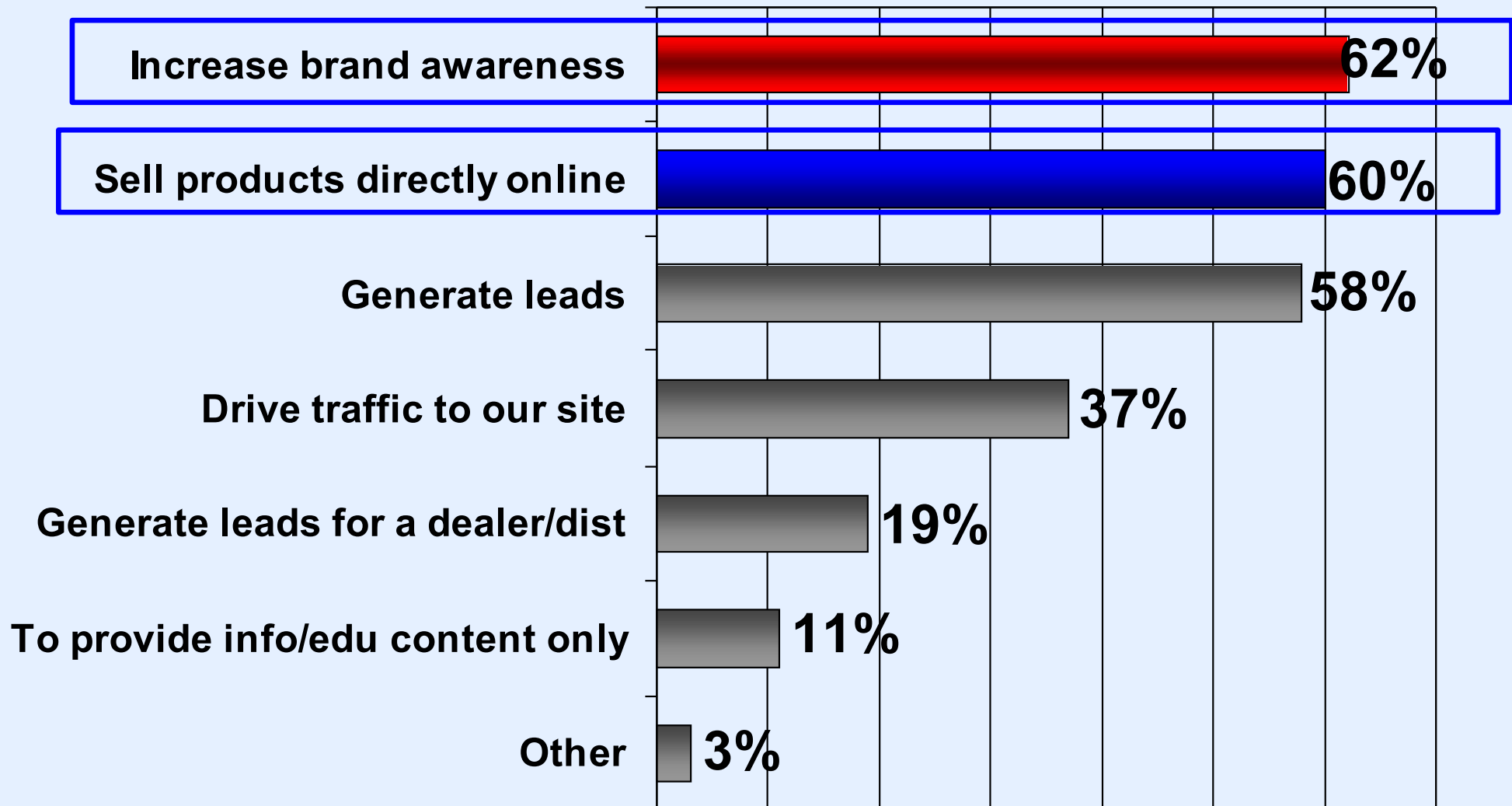
Course Overview

- Three parts
 - Introduction
 - Planning a search marketing campaign
 - Implementation
- Semester-long project
 - Design a campaign for a university department
- Online discussion (*required, by Monday noon*)
 - Ask and answer questions for each chapter
- Expect to have one or more special visitors

Background

- Assumption throughout the course
 - You want to make your website visible and attract your target audience
 - Whether to sell, promote politics, or let yourself be heard
- Search Marketing
 - Process of maximizing the number of searchers coming to your site
 - Includes more than just search engine optimization (SEO)

Reasons that Search advertisers are using Search engine marketing, 2005



Source: SEMPO, December, 2005

Web Search Basics

- More web users are searching
 - 91% of Internet users search for information (60% daily) [[Pew/Internet](#), Dec. 2005]
 - 76% of all web users searched at least once in Jan 2004 (114M visitors to search sites)
 - 64% of web surfers use search as the primary method of finding things on the web
 - Have you Googled yourself?
- You need to know
 - The different kinds of search results
 - Where searchers go

Multiple Kinds of Search Results

- Organic results from an index
- Directory results
- Paid results

File Edit View Go Bookmarks Tools Help

http://www.google.com/search?q=notebook+computer&start=0&ie=ut notebook computer

notebook computer - Google ...

Sign in

Google Web Images Video ^{New!} News Maps more »

notebook computer Search Advanced Search Preferences

Web Results 1 - 10 of about 136,000,000 for **notebook computer**. (0.08 seconds)

PAID RESULTS

HP Notebook With Intel® Sponsored Links
www.hp.com Get Free Shipping & \$150 Rebate on HP Notebooks with Intel® Dual-Core.

Notebook Computer Sponsored Links
www.Dell.com/SmallBusiness Save up to \$400 on select Dell small business

Toshiba Computer
www.ToshibaDirect.com Toshiba Back to School Laptop Sale! Free Shipping & 3 Free Accessories

ORGANIC RESULTS

Discount Laptops - custom centrino and pentium laptop and notebook ...
www.discountlaptops.com/ - 21k - [Cached](#) - [Similar pages](#)
 custom sager chemusa discount laptops notebooks since 1996.

Laptop & Notebook Computers, Projectors and Accessories - Toshiba
www.toshibadirect.com/ - 21k - [Cached](#) - [Similar pages](#)
 toshibadirect.com features the highest quality laptops, **computer** accessories, wireless networking and more. Buy for home, home office, small to mid-size ...

RAS Computers: Computers, Parts and Accessories
Computer parts have various... Upgrade or Replace: **Notebook** PCs Unlike desktop PCs that can be opened up to replace parts or add expansion items, **notebook** ...
www.ras.am/eng/ - [Similar pages](#)

Notebook Computer Guide
 The first step in buying a **notebook computer** is evaluating your needs. In the desktop

Notebook Computer
 breakthrough mobile dual-core capabilities for your **notebook** PC
intel.com/centrino

Panasonic Toughbook eLite
 2.8 Lbs, 60Gb HDD, 6 Colors & Tough Free Digital Camera & Free Memory
www.Panasonic.com/elite

ThinkPad Triple Play Sale
 Free hard drive, battery, & optical drive upgrade on ThinkPad T60!
www.lenovo.com

Notebook Computer
 Choose a Laptop to Fit Your Needs Compare Prices & Features Online!
www.BestBuy.com

Notebooks at Target
 Notebooks Online. School Supplies, Clothes & More.

Done

Multiple Kinds of Search Results

- Organic results from an index
 - Natural results from an index of crawled web pages
 - Usual meaning when referring to search results
 - Search engine optimization efforts are to improve ranking in organic results
 - Searchers click on organic results 60% of the time

Multiple Kinds of Search Results

– Directory results

- Directories show site entries within particular categories
 - Yahoo's directory
 - dmoz Open Directory Project

The screenshot shows the Yahoo! Directory search results for the query 'notebook computer'. The browser address bar shows the URL: http://dir.yahoo.com/Computers_and_Internet/Internet/World_Wide_W.... The search results are categorized under 'World Wide Web > Caching'. The left sidebar lists categories and site listings, including 'Squid (2)', 'Brian D. Davison's Web Caching Resources', 'IRCaché', 'UK National Web Cache at HENSA Unix', 'Internet Caching Resource Center', and 'Web Polygraph'. The right sidebar shows 'SPONSOR RESULTS' with links to 'Cache', 'Download Cache Cleaner Now', 'Direct M / Cache Professional Consulting', and 'Cache Cleaner Evidence Eliminator V5.0'.

The screenshot shows the DMOZ Open Directory Project search results for the query 'd search market 2005'. The browser address bar shows the URL: http://www.dmoz.org/Computers/Internet/Proxying_and_Filtering/Cacl.... The search results are categorized under 'Open Directory - Computers: I...'. The top of the page shows the DMOZ logo and navigation links. The search results are listed under the heading 'Top: Computers: Internet: Proxying and Filtering: Caching (11)'. The results include 'Acceleration and Load Balancing@ (40)', 'ICP (3)', 'Products and Tools@ (96)', 'Brian D. Davison's Web Caching Resources', 'Cache Now', 'Desire II web cache', and 'IR Cache'.

Multiple Kinds of Search Results

– Directory results

- Directories show site entries within particular categories
 - Yahoo's directory
 - dmoz Open Directory Project

The screenshot shows the Yahoo! Directory search results for the term 'Caching'. The browser address bar shows the URL: http://dir.yahoo.com/Computers_and_Internet/Internet/World_Wide_W.... The search results are organized into several sections:

- CATEGORIES** (What's This?): A list of categories with a sub-category 'Squid' containing 2 items.
- SITE LISTINGS** (By Popularity | Alphabetical | What's This?): A list of 9 sites, including:
 - Brian D. Davison's Web Caching Resources**: Offers news, resources, bibliography, articles, links, product listings, and comparisons. www.web-caching.com
 - IRCache**: Caching and the Internet. www.ircache.net
 - UK National Web Cache at HENSA Unix**: www.wwwcache.ja.net
 - Internet Caching Resource Center**: Guide including news and information on cache technology and the caching industry. www.caching.com
 - Web Polvraaph**
- SPONSOR RESULTS**: Includes links for 'Cache' (Looking for women's clothing? whether its fitness apparel... www.ebay.com), 'Download Cache Cleaner Now' (Permanently delete all history and shred sensitive files with PC... www.winfemo.com), 'Direct M / Cache Professional Consulting' (Intersystems Certified Expert professional consulting services... www.cacheconsultant.co...), 'Cache Cleaner Evidence Eliminator V5.0' (Cache, web tracks, Internet history)

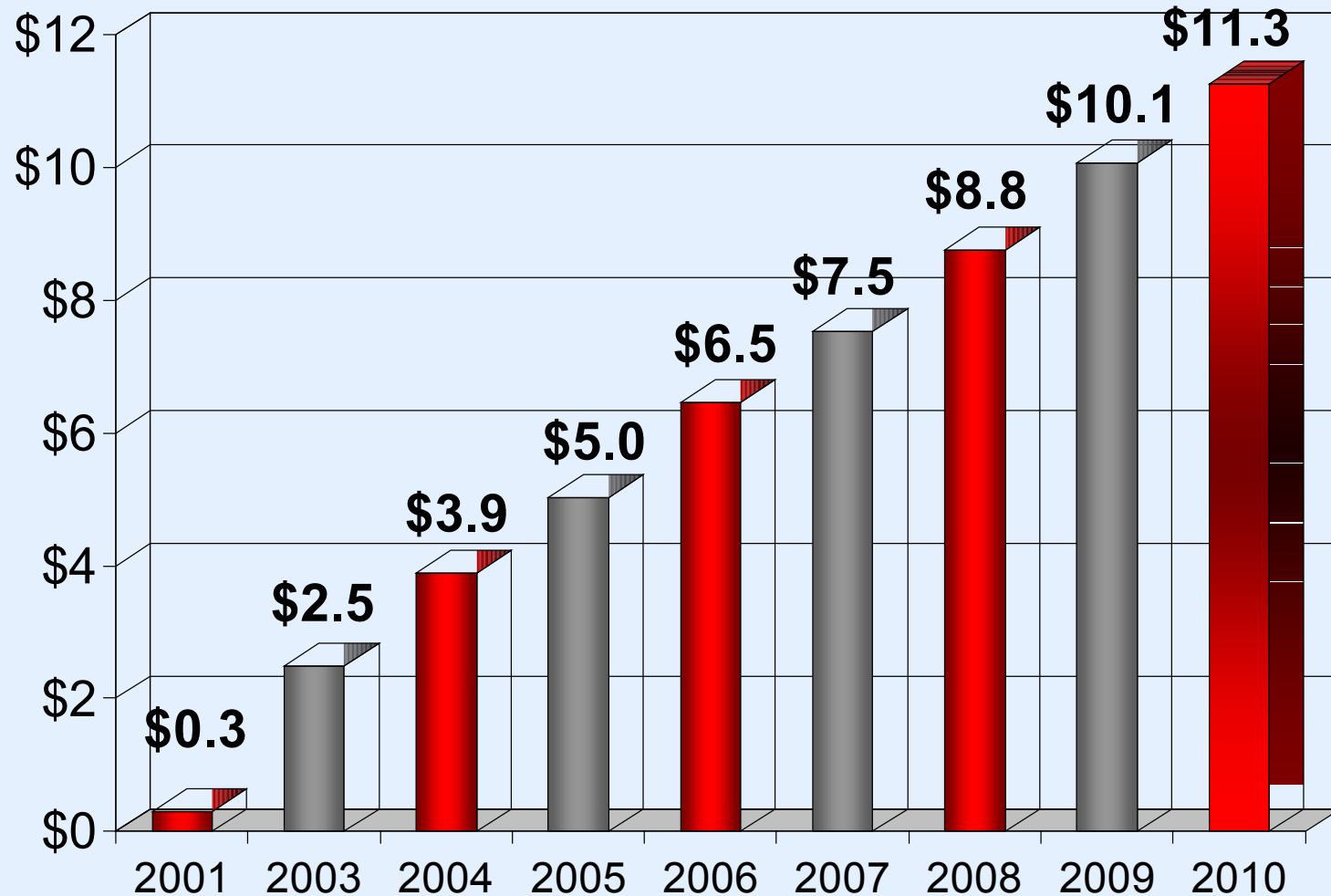
The screenshot shows the Google Directory search results for the term 'Caching'. The browser address bar shows the URL: http://www.google.com/Top/Computers/Internet/Proxying_and_Filterir.... The search results are organized into several sections:

- Categories**: A list of categories including:
 - Acceleration and Load Balancing** (41)
 - ICP** (3)
 - Products and Tools** (102)
- Web Pages**: A list of web pages, including:
 - Brian D. Davison's Web Caching Resources** - <http://www.web-caching.com/>
Product comparisons, news, research projects, publications, and a bibliography.
 - Mnot.net: Caching Tutorial** - http://www.mnot.net/cache_docs/
Describes the main principles of internet caching.
 - Cache Now** - <http://vancouver-webpages.com/CacheNow/>
A campaign to increase the awareness and the use of web caching.
 - IR Cache** - <http://www.ircache.net/>
Project to provide operational hierarchical caching services for organizations and individuals, and to promote their use. Offers documentation, tools and access to logfile data.
 - Mnot.net: Cacheability Engine** - <http://www.mnot.net/cacheability/>
Tool for assessing how cacheable a given piece of content is. Available as an online service or as software.
 - Web-cache.com** - <http://www.web-cache.com/>
Link collection organized by subcategories including products and services, projects, mailing lists, benchmarking, filtering, and privacy.

Multiple Kinds of Search Results

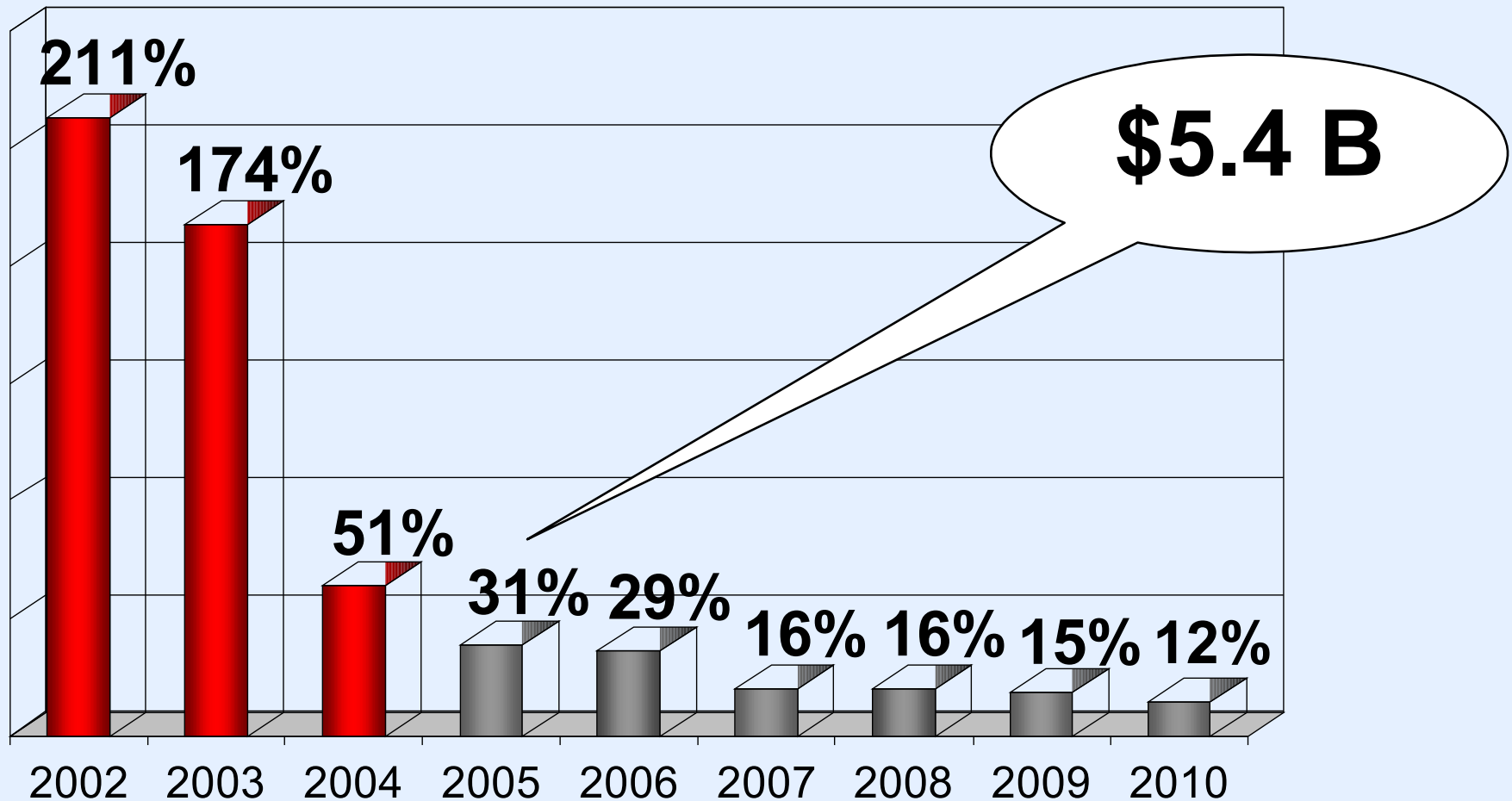
- Paid results
 - Includes both paid inclusion (indexing guaranteed) and paid placement (sponsored search)
 - Paid placement lists ads along with organic results
 - Paid search was a \$10B market in 2005 [[ClickZ](#)]

US Paid Search Advertising Spending, 2001 – 2008 (in billions)



Source: eMarketer, 2005, with IAB/PwC as baselines for 2001 – 2004; *SEMPO figures for N. America

US paid search – spending growth (% increase vs. prior yr)



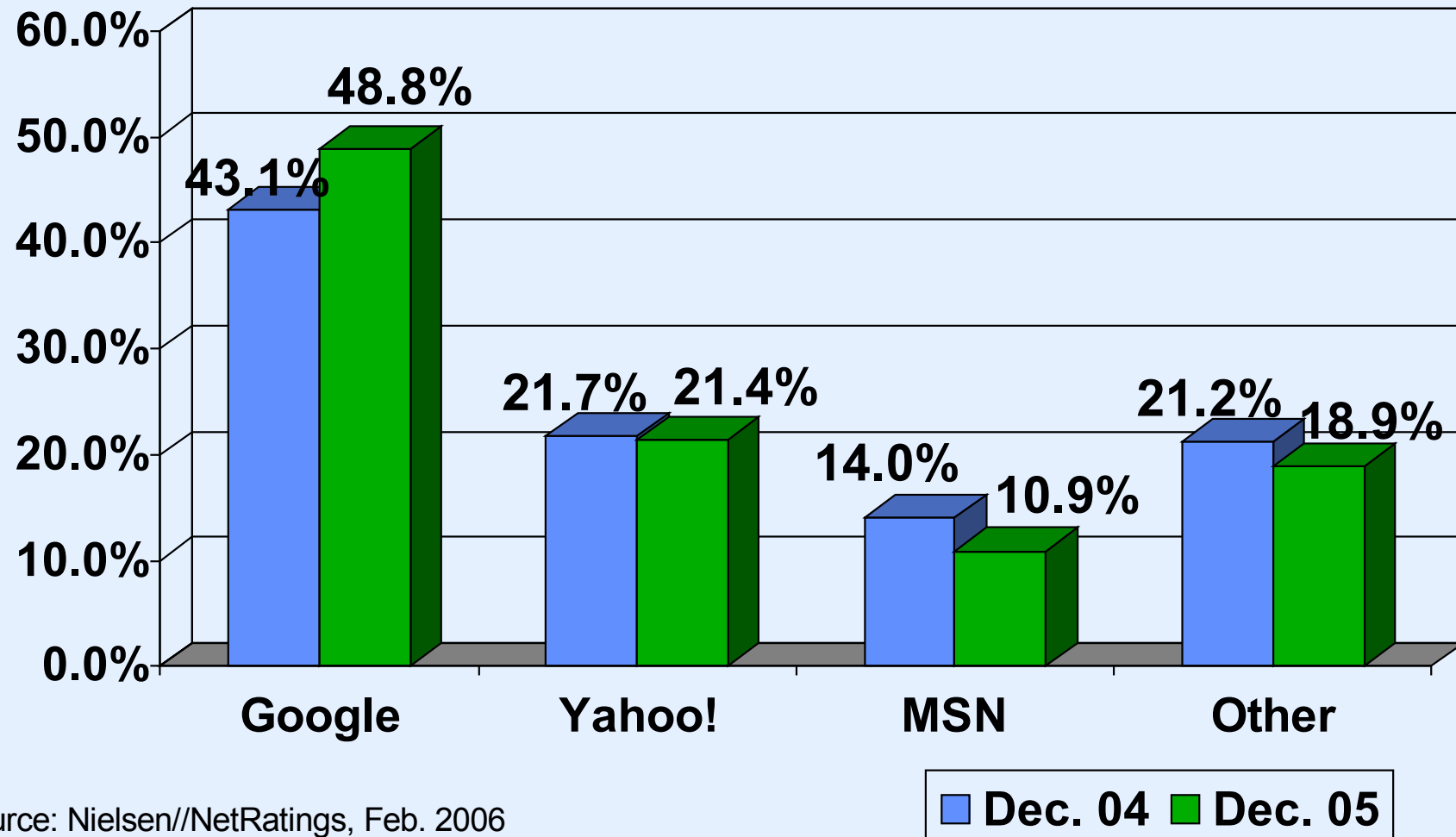
Source: eMarketer, 2005; *SEMPO figure for N. America

Where do searchers go?



- Top destinations:
 - Google, Yahoo, MSN, AOL, Excite, Ask
- Typically half of users of an engine will use another engine if needed

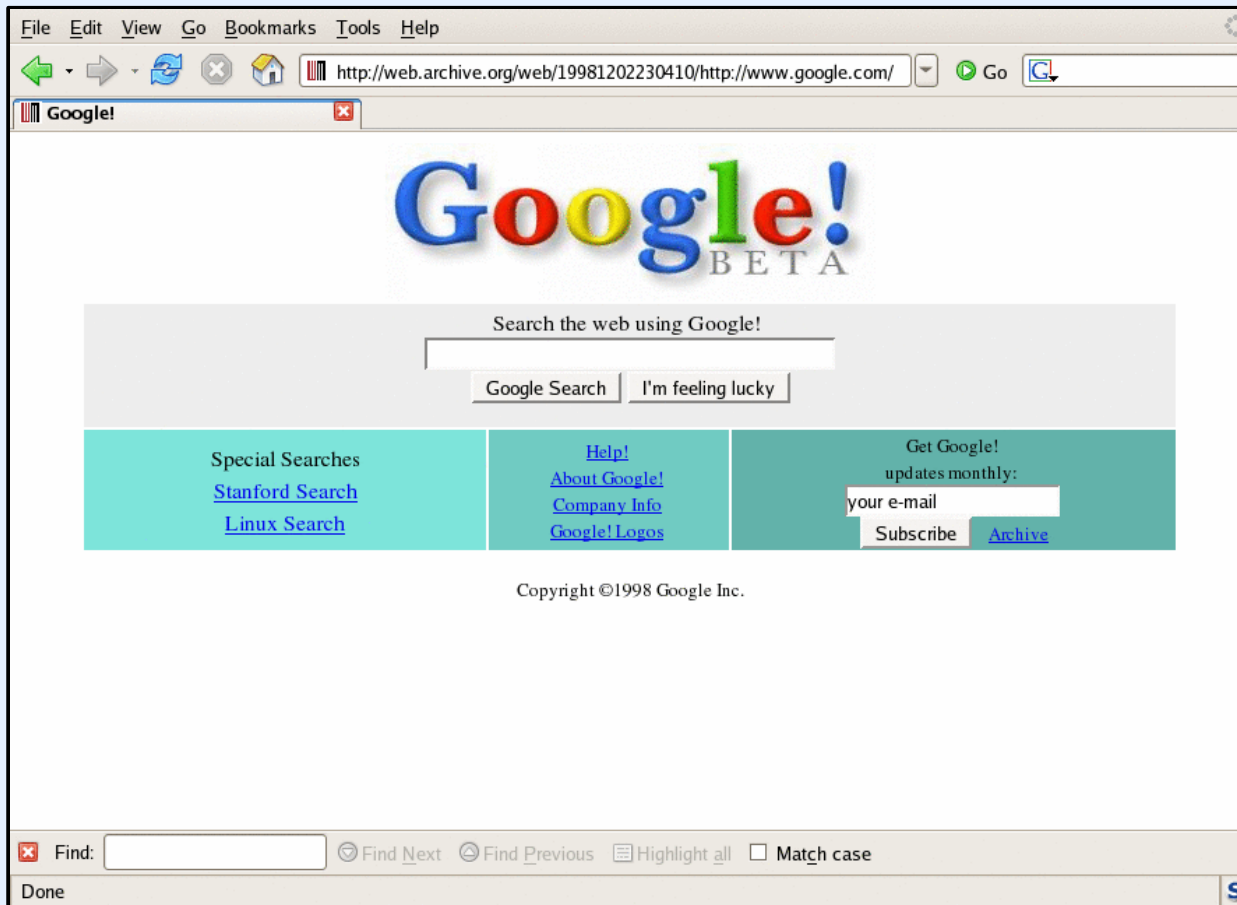
Share of US online searches, by Search Engine, Dec. '04 vs. Dec. '05



Source: Nielsen//NetRatings, Feb. 2006

Google

- Play on the word googol (1 followed by 100 zeros)
- Created in 1998 by Stanford graduate students Larry Page and Sergey Brin
- Googling has become a verb
- Handles about half of all web searches
- Has many (much less popular) additional services

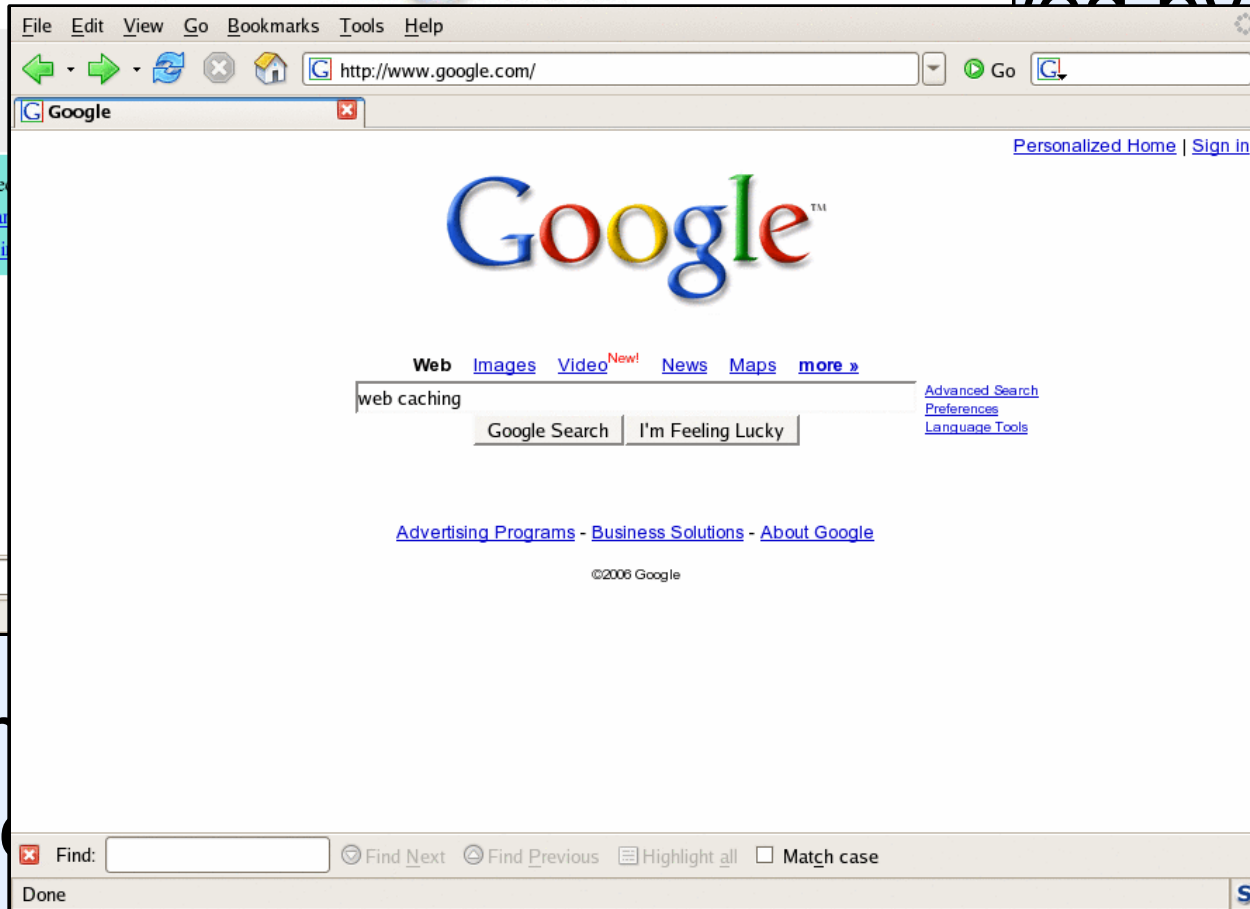
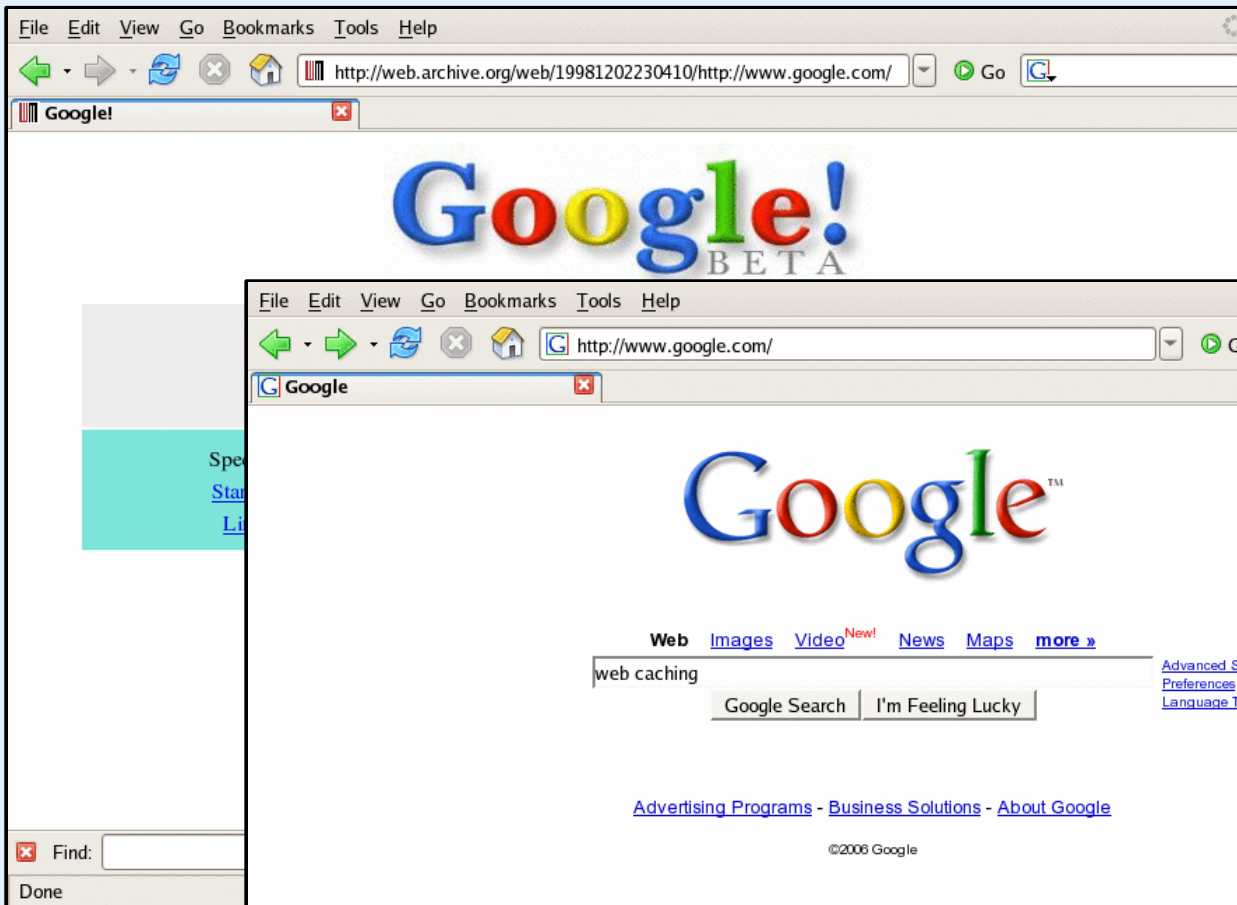


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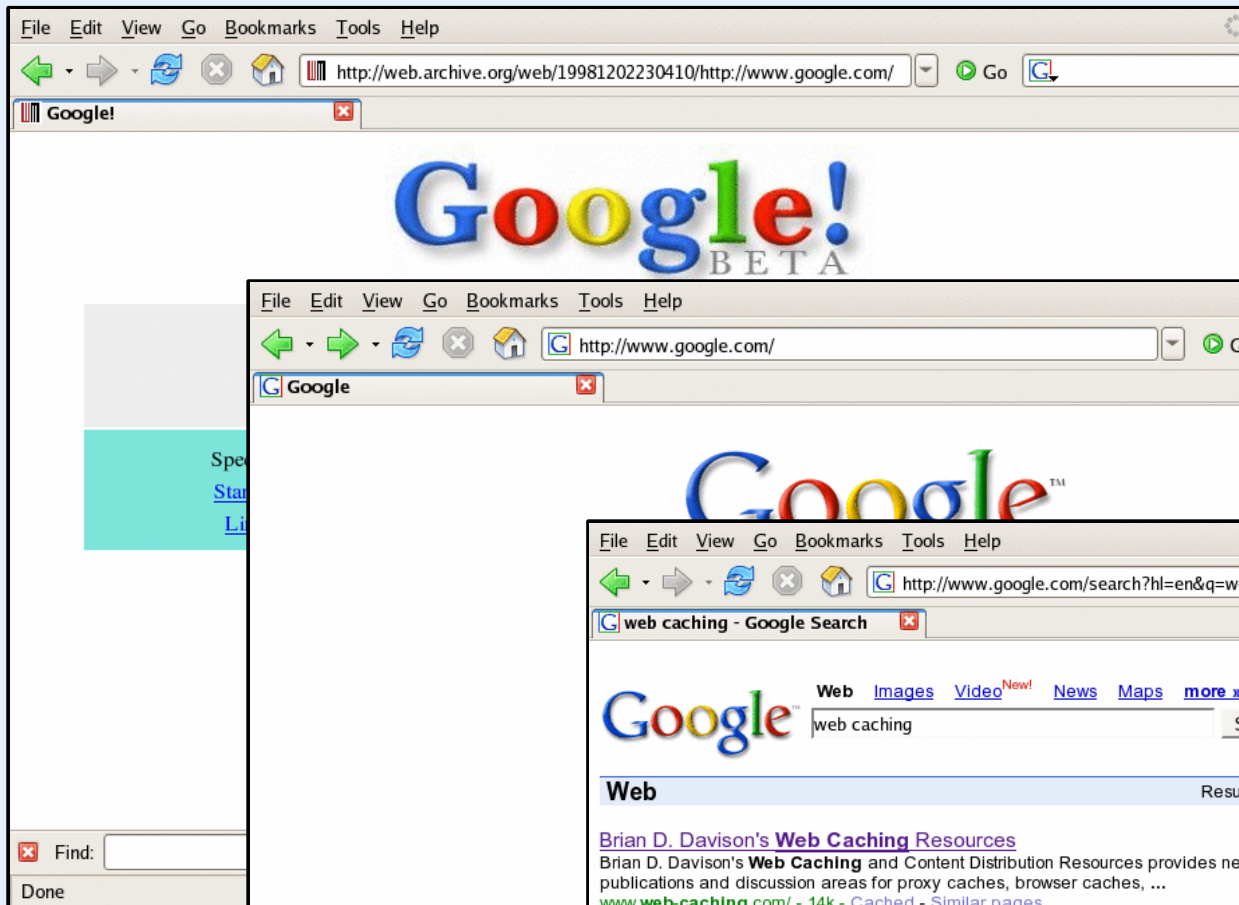


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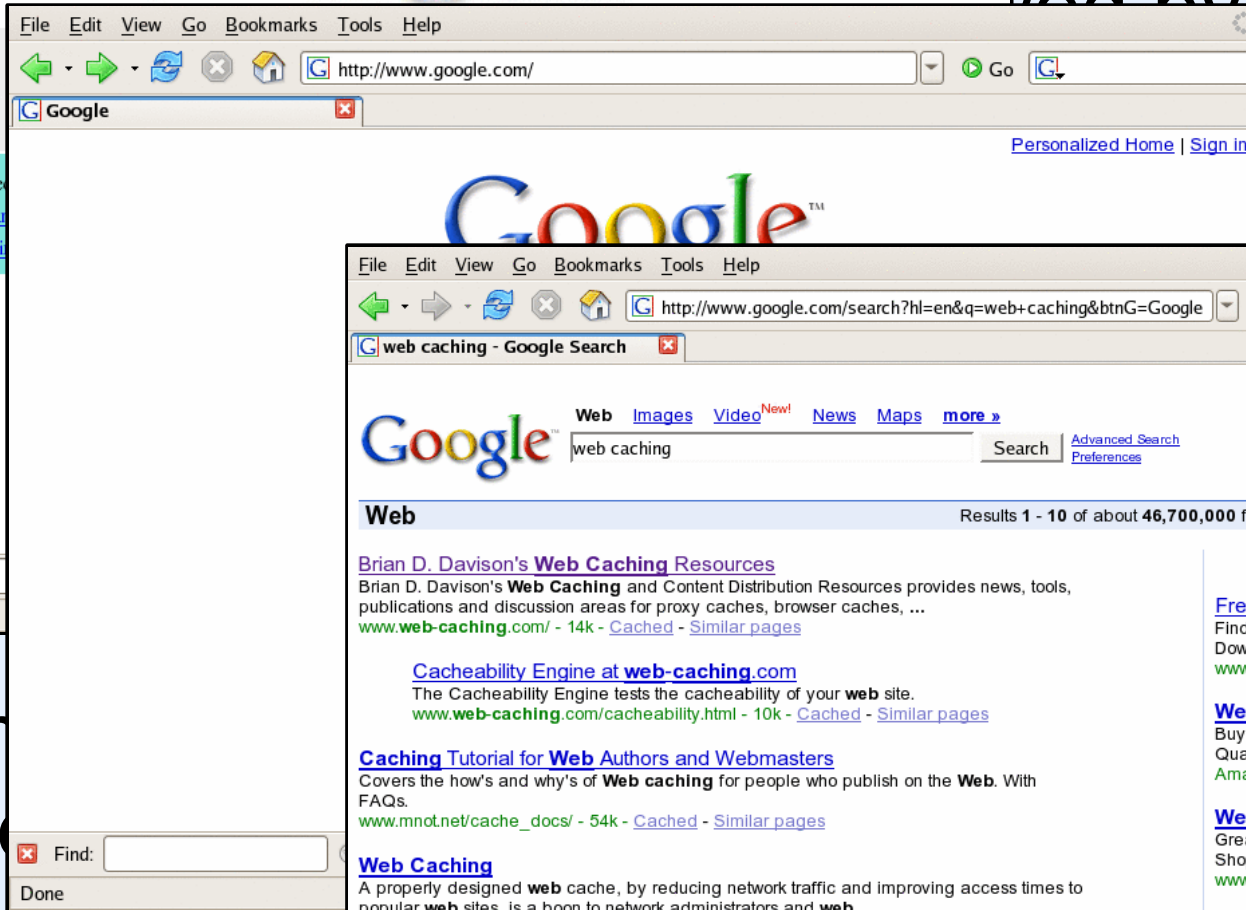
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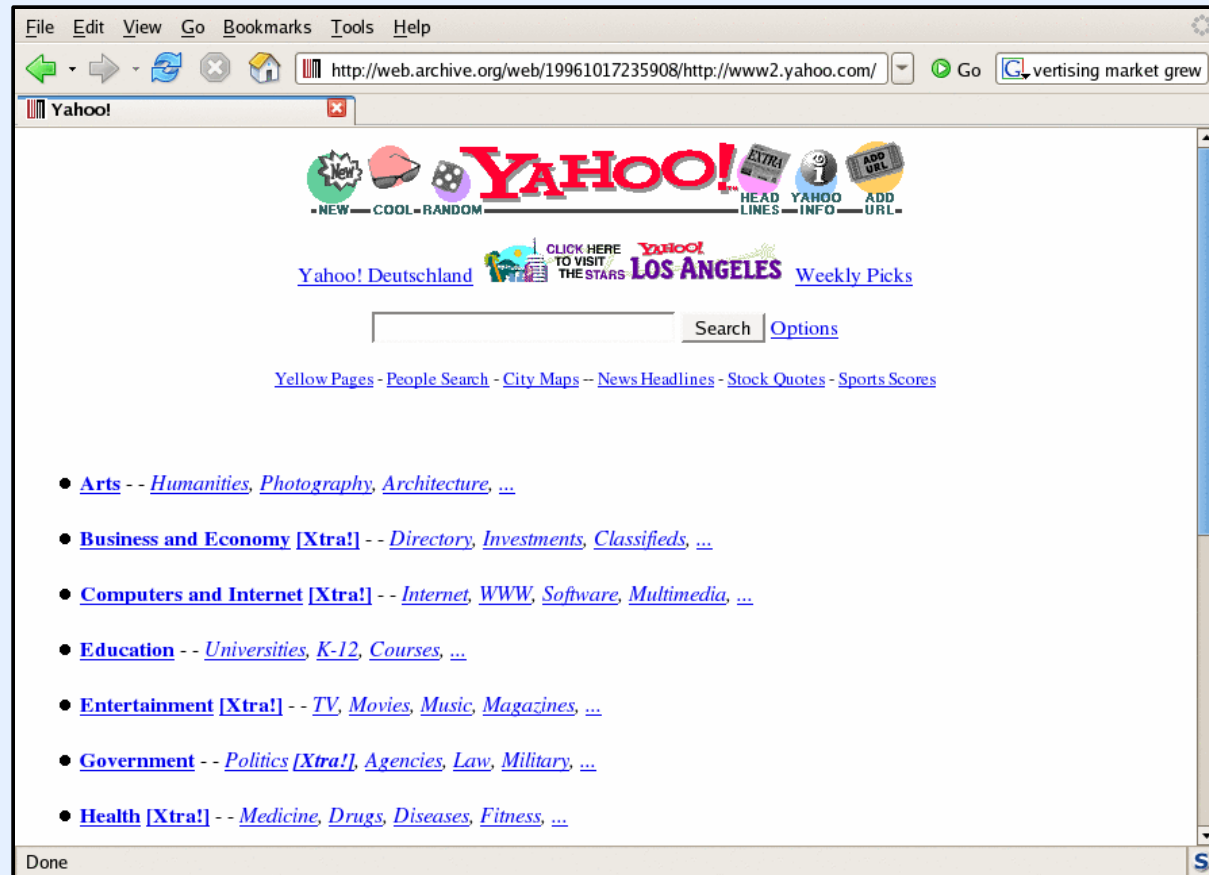
Yahoo!

- One of the most-visited sites on the Web
- Includes portal with news, shopping, email, etc.
- Founded in 1994 by Stanford graduate students
- Acronym: Yet Another Hierarchical Official Oracle
 - Built directory of web sites, very popular!



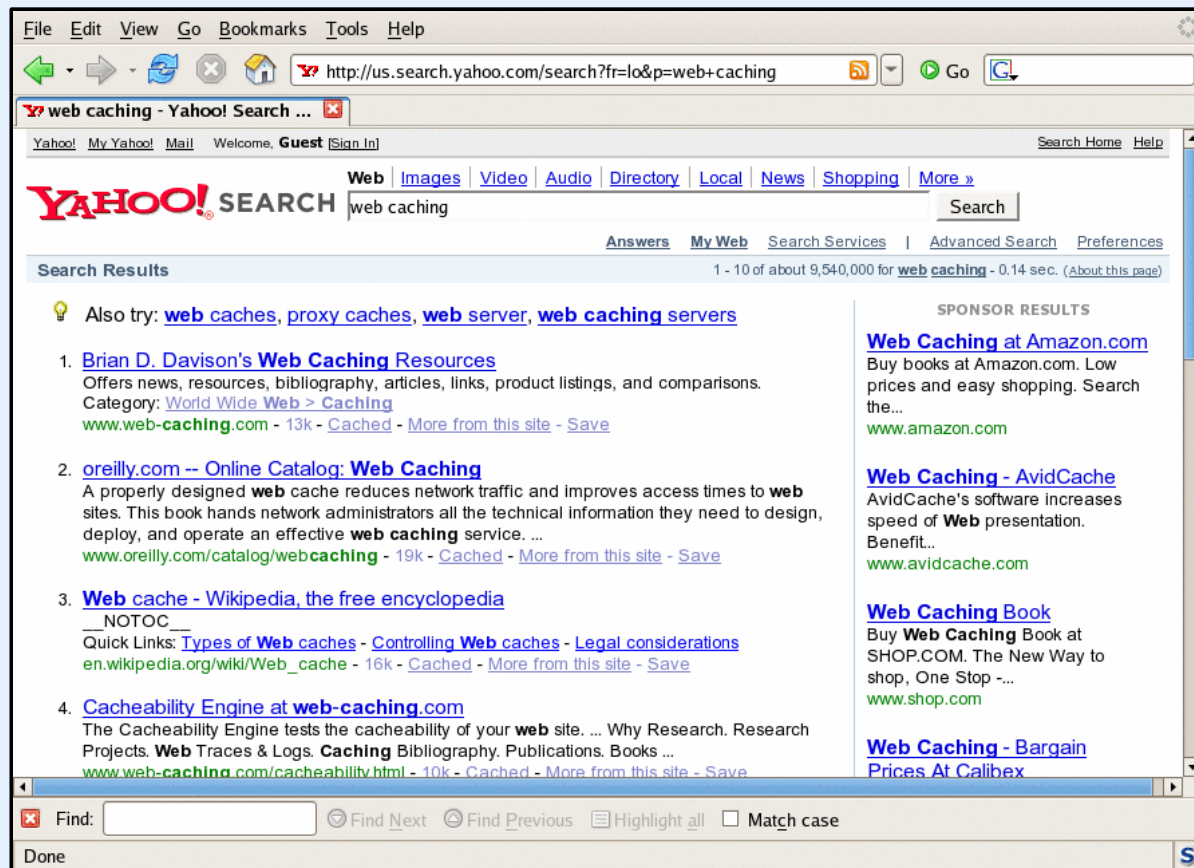
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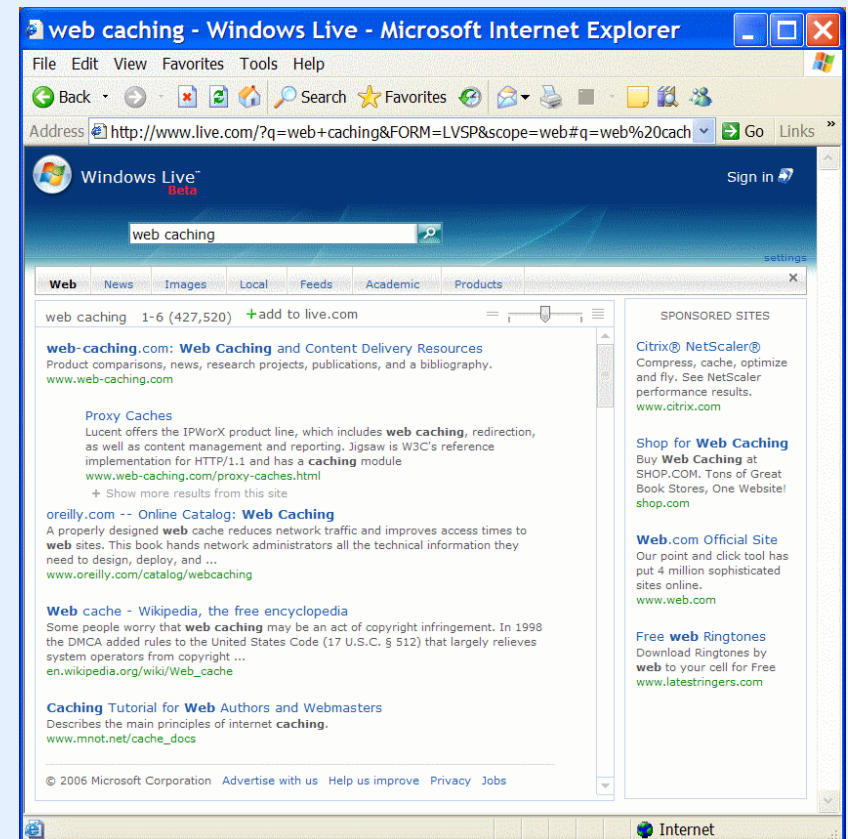
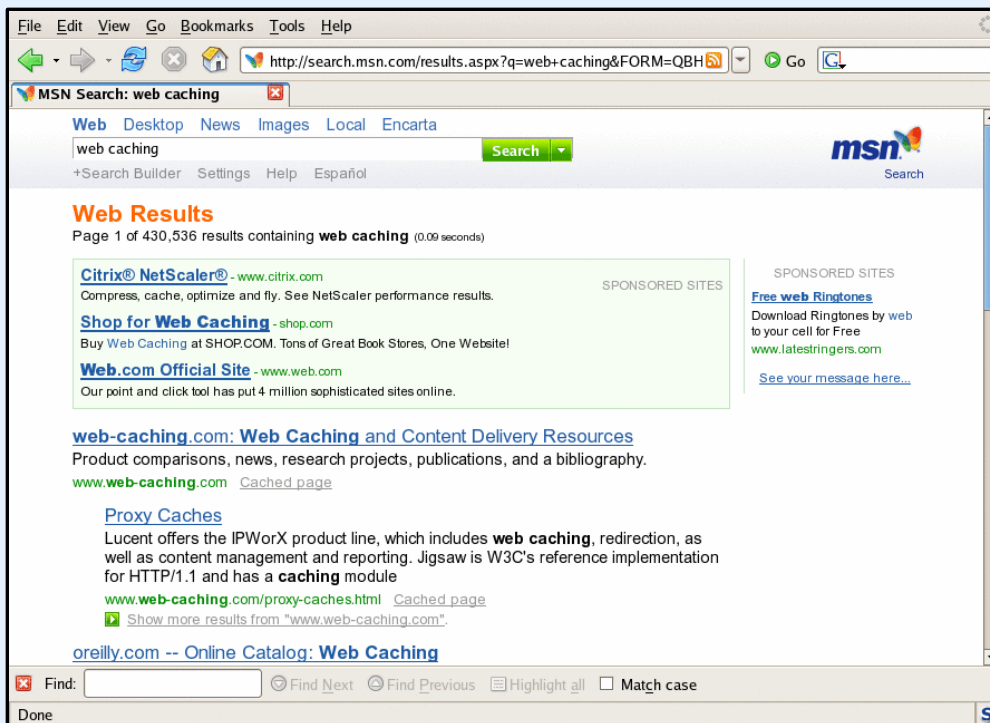
Yahoo! Search

- Second most popular search engine (25% of searches)
- Originally outsourced search to Inktomi, then Google
- In recent years, purchased a number of search engines
 - Inktomi, AltaVista, AllTheWeb, Overture (2005)
- Now has its own search technology



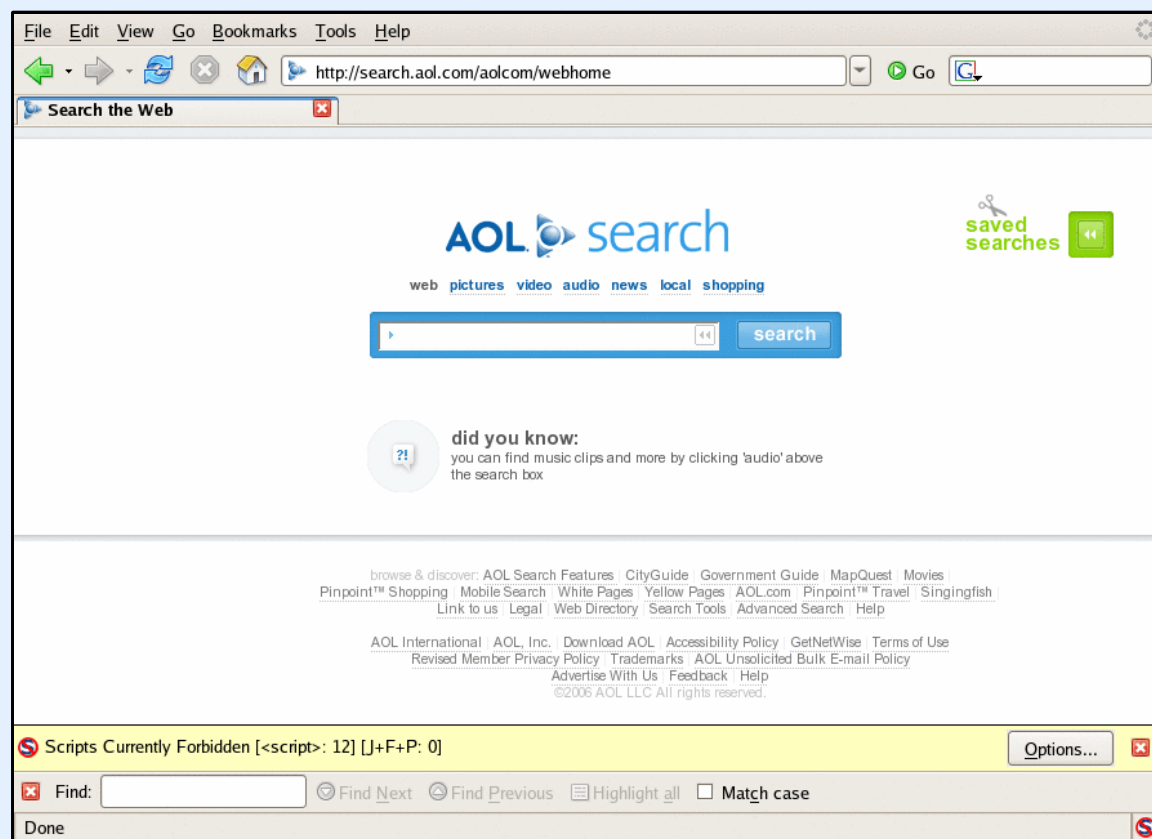
MSN Search / Windows Live Search

- Originally part of the Microsoft Network
- Previously outsourced search to Yahoo
- Built new search engine



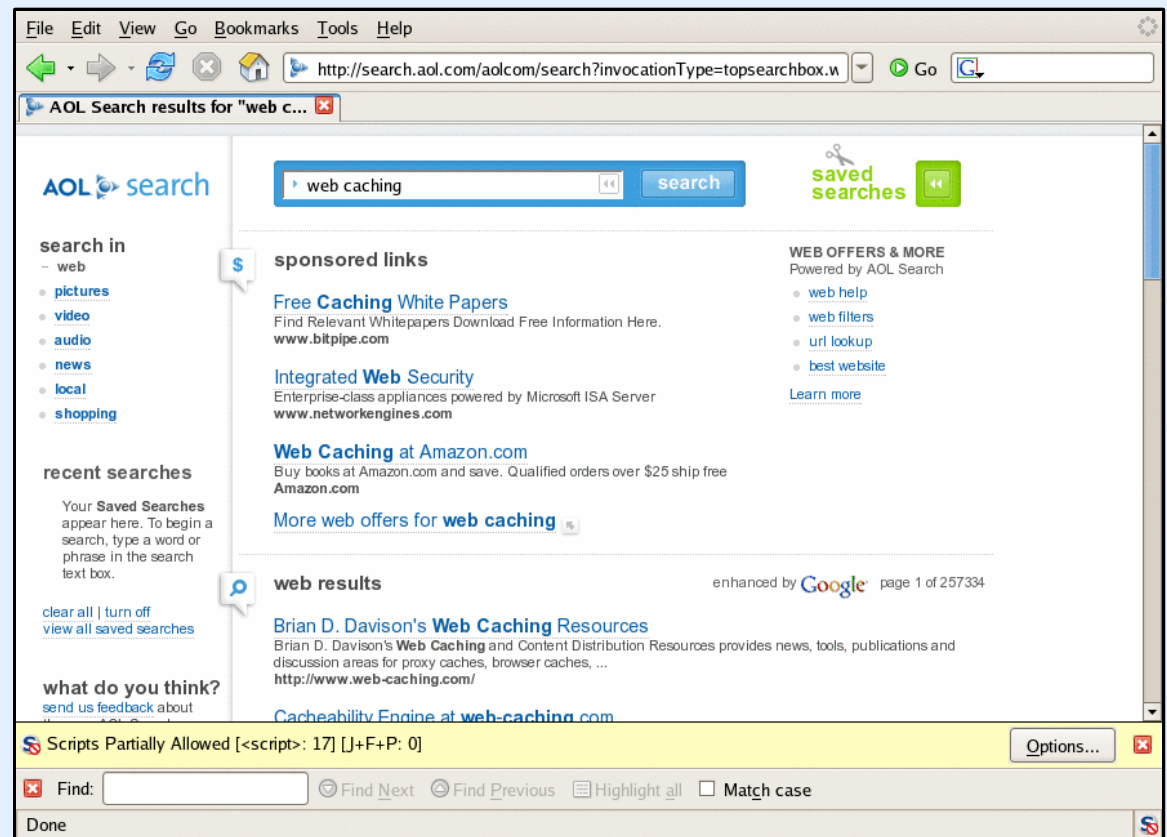
AOL Search

- Part of Time Warner
- Used primarily by AOL users
 - But open to everyone
- Google provides main results
 - Both organic and paid search



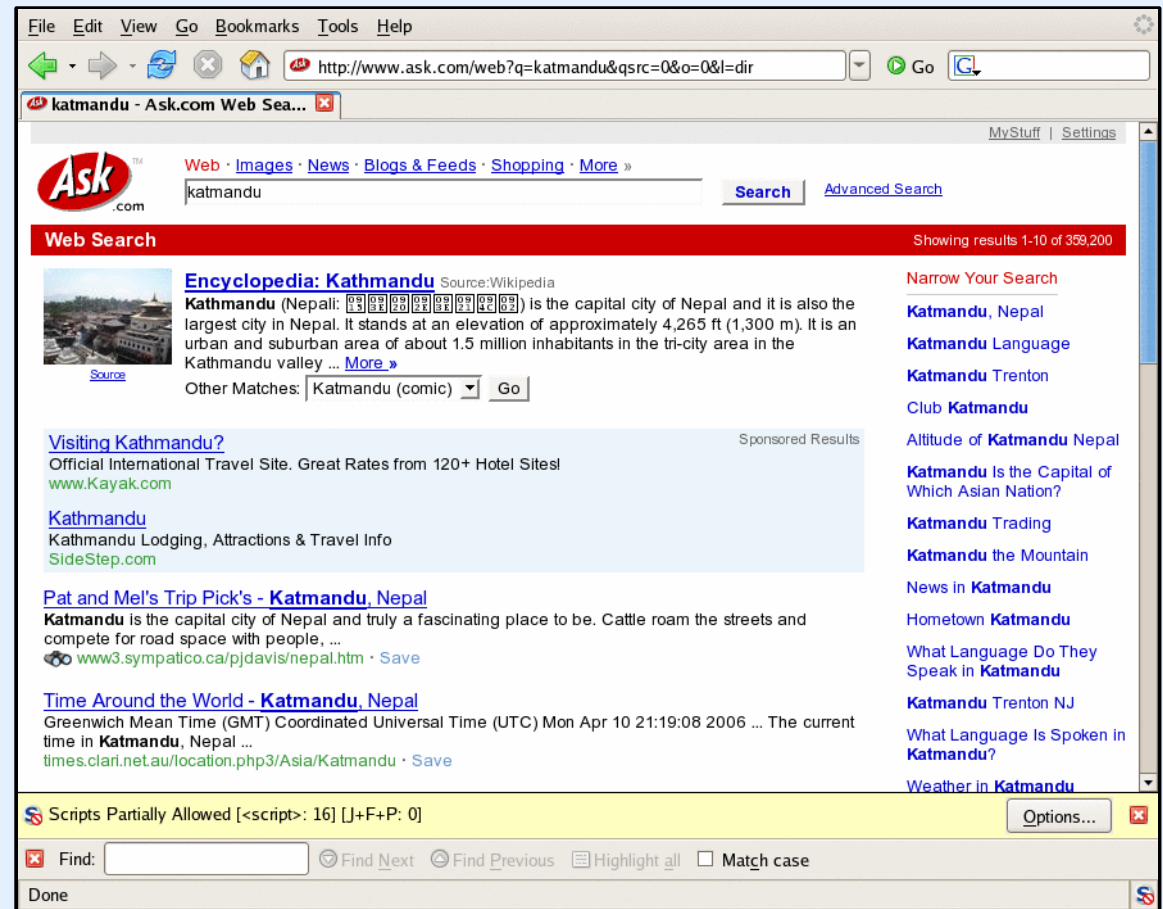
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Ask.com

- Created in 1996
- No longer a 'natural language' search engine
- Respected tech; novel features
- Acquired DirectHit (2000), Teoma (2001), Excite (2004)

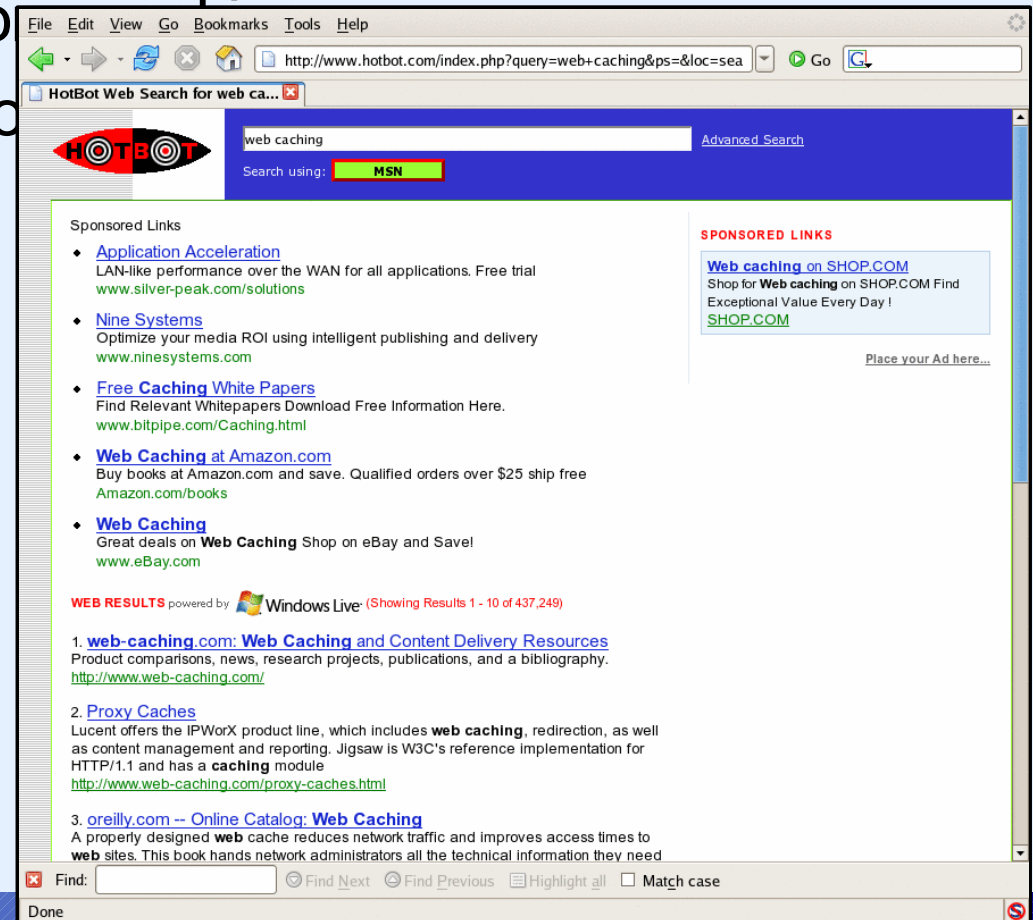


Metasearch Engines

- A metasearch engine does not have its own index
- Instead, it sends the query to one or more other search engines and displays the results
 - Sometimes combining or reranking
 - Useful when you want to search multiple sites simultaneously
- Not a large user base

Metasearch Engines

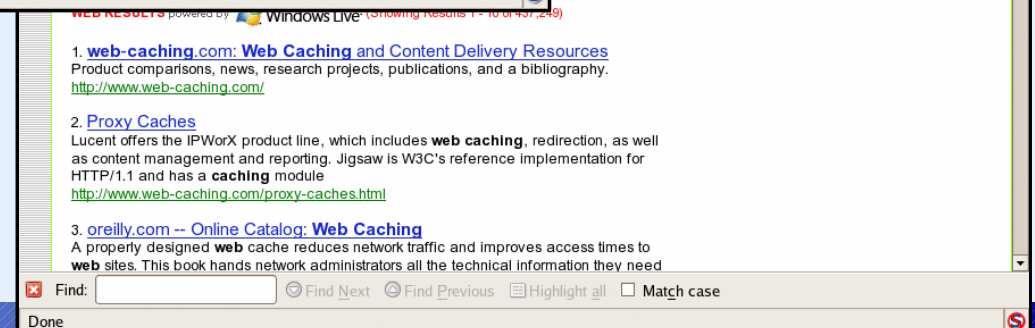
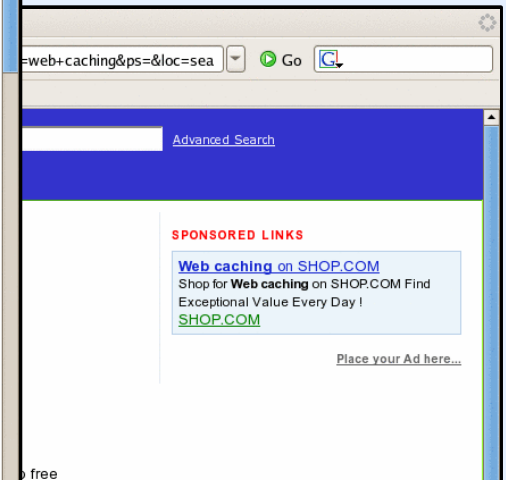
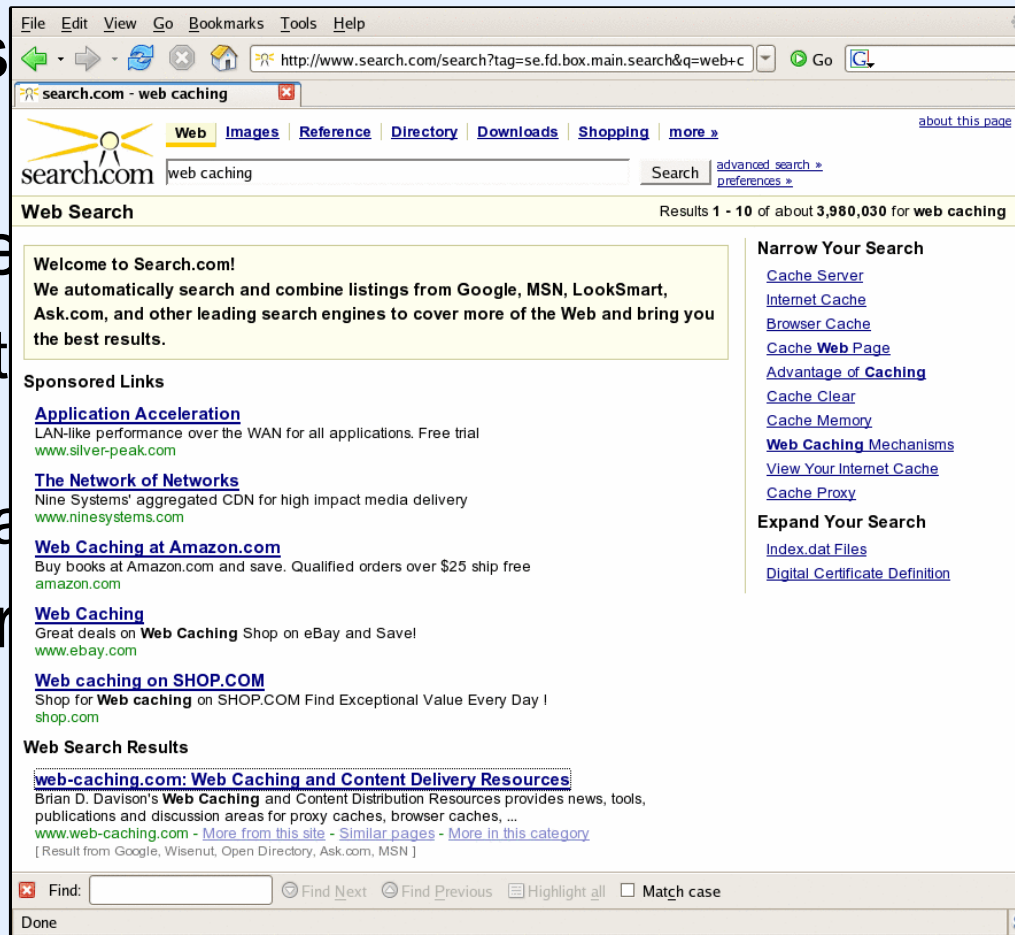
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Metasearch Engines

- A metas
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The image displays three overlapping browser windows illustrating metasearch engines. The top window shows a search.com page for 'web caching' with 3,980,030 results. The middle window shows a metacrawler.com search for 'web caching' with a list of search results. The bottom window shows a search engine page with a sponsored link for 'Web caching on SHOP.COM'.

Search.com - web caching
Results 1 - 10 of about 3,980,030 for web caching

metacrawler.com
Web Search Results for "web caching"
View Results From: All Search Engines | Google | Yahoo! Search | msn Search | All Search Engines | View Demo

Search Engine Results for "web caching"

- Application Acceleration**
LAN-like performance over the WAN for all applications. Free trial
Sponsored by: www.silver-peak.com/solutions/ [Found on Ads by Google]
- Web caching**
Find Relevant Whitepapers Download Free Information Here.
Sponsored by: www.bitpipe.com/ [Found on Ads by Google]
- Brian D. Davison's Web Caching Resources**
Brian D. Davison's **Web Caching** and Content Distribution Resources provides news, tools, publications and discussion areas for proxy caches, browser caches, ...
www.web-caching.com/ [Found on Google, MSN Search, Ask.com]
- Caching Tutorial for Web Authors and Webmasters**
Covers the how's and why's of **Web caching** for people who publish on the Web. With FAQs.
www.mnot.net/cache_docs/ [Found on Google, MSN Search, Ask.com]
- Integrated Web Security**
Enterprise-class appliances powered by Microsoft ISA Server
Sponsored by: www.networkengines.com/ [Found on Ads by Google]
- Web cache - Wikipedia, the free encyclopedia**
Ari Luotonen, **Web Proxy Servers** (Prentice Hall, 1997) ISBN 0136806120; Duane Wessels, **Web Caching** (O'Reilly and Associates, 2001). ...
en.wikipedia.org/wiki/Web_cache [Found on Google, MSN Search, Yahoo! Search]

SPONSORED LINKS

Web caching on SHOP.COM
Shop for **Web caching** on SHOP.COM Find Exceptional Value Every Day!
SHOP.COM

Local search engines

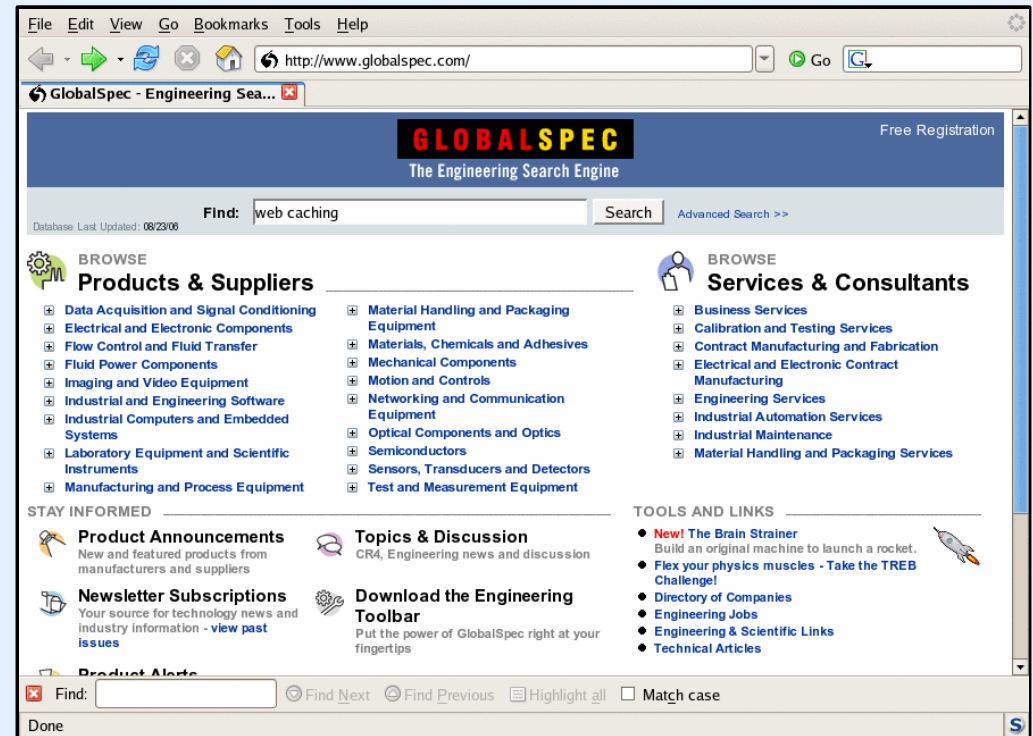
- Contain content or use an interface that is specialized for a particular country or region
 - e.g., www.search.ch
- But big engines also build country-specific sites
 - e.g., www.google.co.uk
- “Local search” refers to search with a targeted location
 - “hotels in NYC”, “home appliances” (to buy in your local area)
 - Most major engines are working on local search
 - Also includes yellow pages sites (e.g. www.superpages.com)
 - 55% of Internet users use search engines to find info about local firms [[Kelsey Group](#), 2005]

Shopping search engines

- Shopping search services simultaneously compare products, pricing, features, etc.
- Visitors already know what they are looking for
 - Often ready to purchase
- Top sites:
 - [Yahoo! Shopping](#), [Shopping.com](#)
- Many others:
 - [NexTag](#), [PriceGrabber](#), [Froogle](#), [PriceWatch](#)

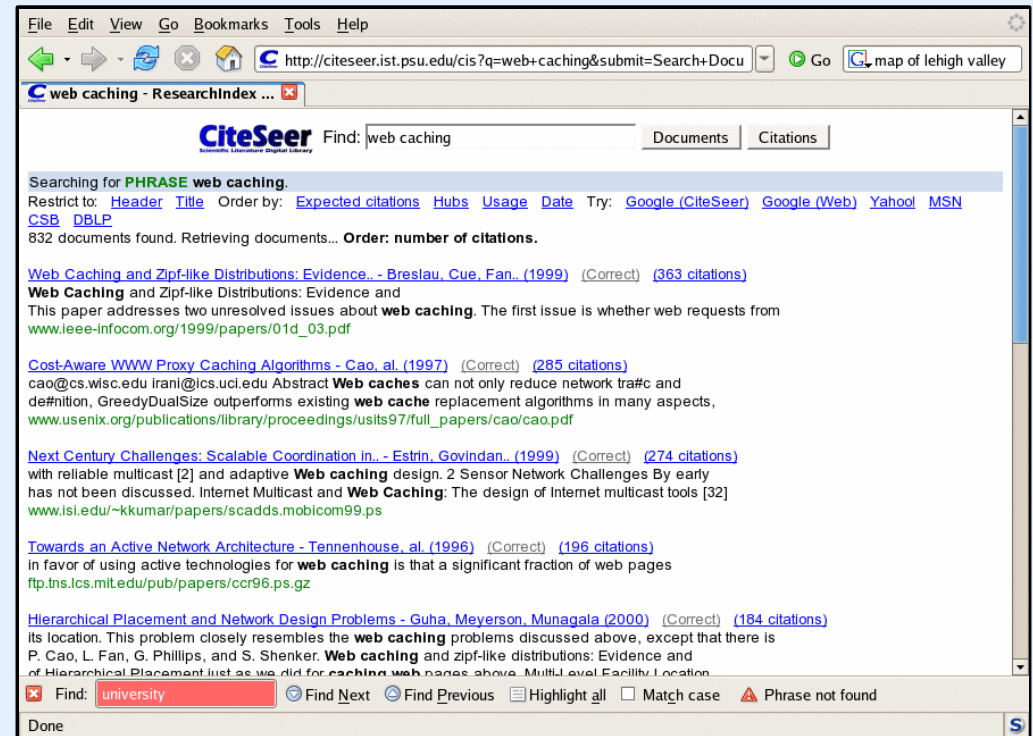
Specialty search engines

- More focused domain
- Engineering
 - www.globalspec.com
- Academic papers
 - CiteSeer, Google Scholar
- Information technology
 - IT.com



Specialty search engines

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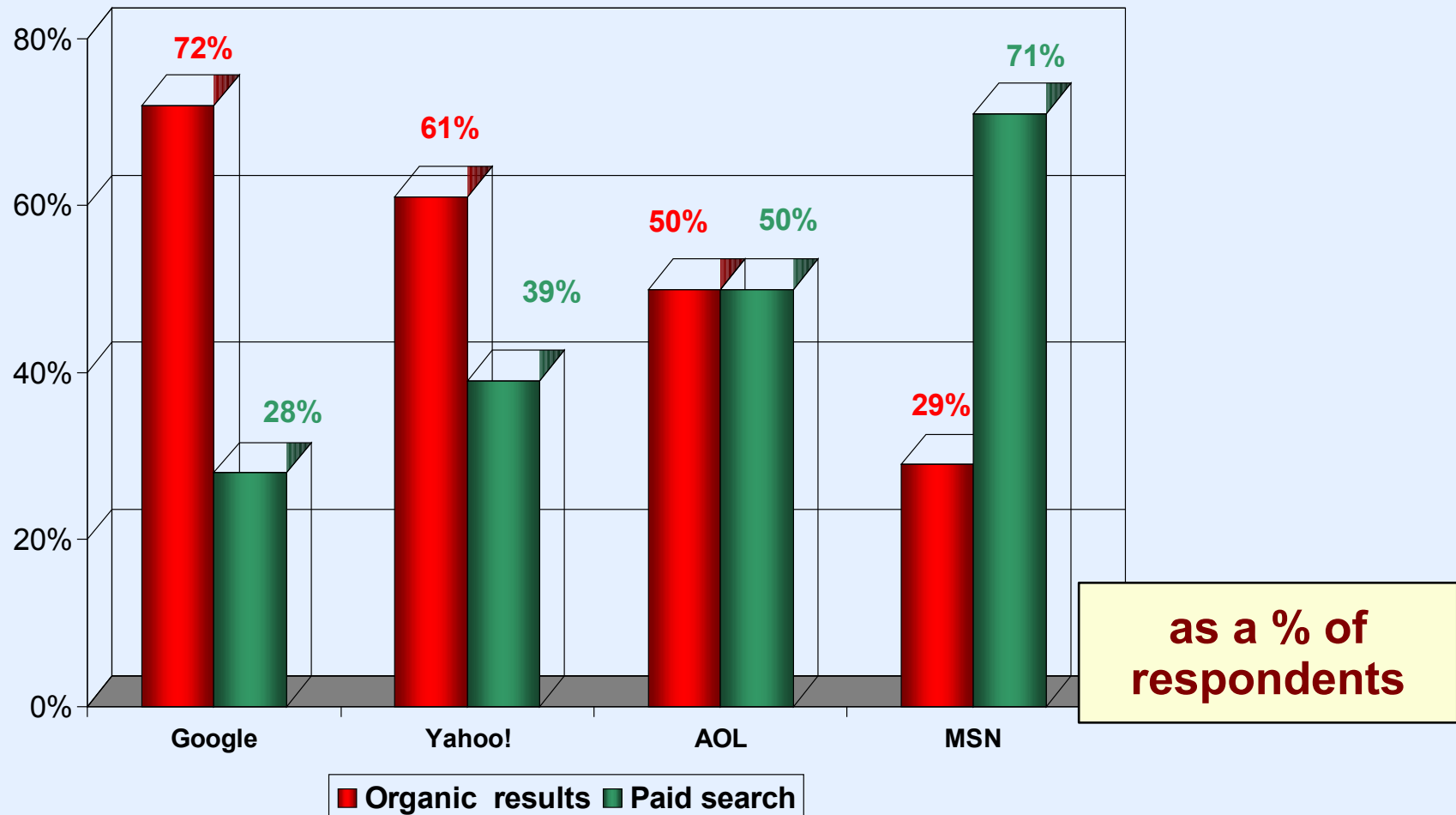
Search and Your Marketing Mix

- We've seen that...
 - There is lots of searching happening online
 - There are many search services
- Search marketing should be part of your marketing budget
 - Competitor's mix might include paid search
 - Organic efforts sometimes funded from marketing
 - Search marketing is growing worldwide

Prospective customers use search

- 33% of web searchers are shopping
- 87% of consumers research products online, buy offline [[BIGresearch](#), 2006], perhaps providing search marketing its biggest ROI [[comScore](#), 2006]
- Total Internet users over 1 billion
 - 200M+ from US [[Internet World Stats](#)]
- People now search for your product, or your competitor, or the generic product category
- If your site is not near the top, it is not part of the customer's consideration set
- Searchers are more qualified than banner ad clickers

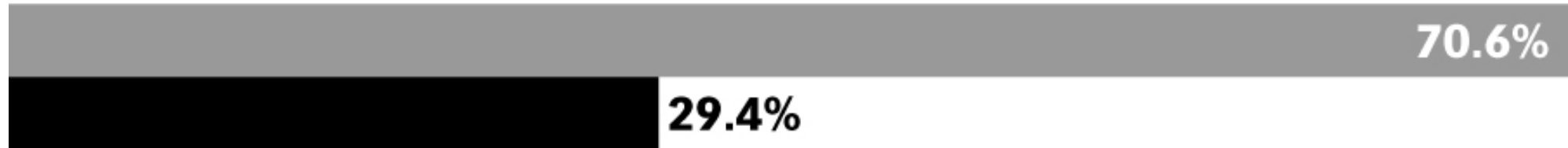
Type of Search Results that US Internet Users Cite as **Most Relevant**, 2004



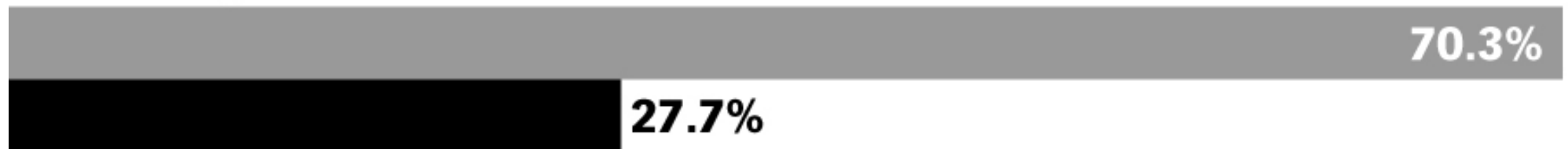
Source: iProspect, May 2004

Willingness to Click on Sponsored Search Links, by North American Google Users vs. Non-Google Users, 2004 (as a % of respondents)

Google users



Non-Google users



■ Yes, if looked relevant ■ No

Note: n=425; 74% of respondents had 5 or more years of Internet experience

Source: Enquiro, April 2004

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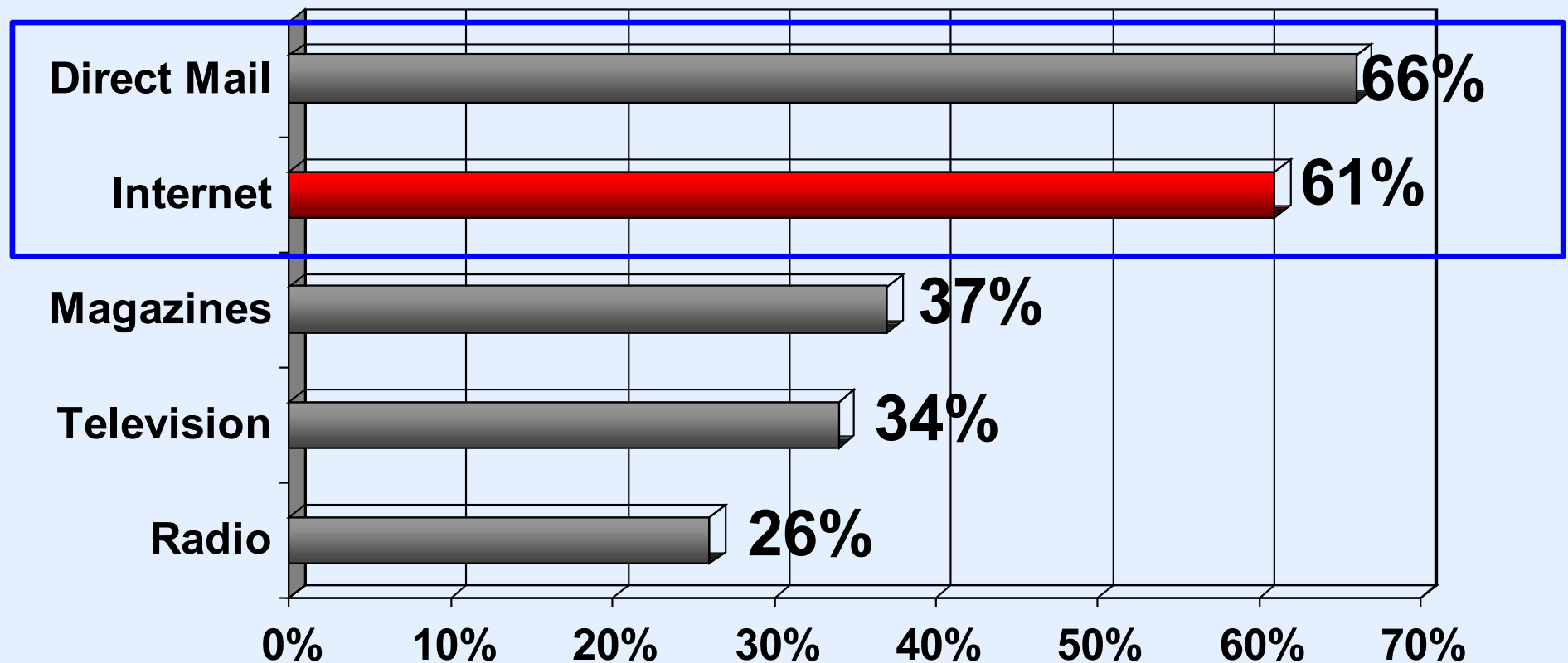
www.eMarketer.com

Source: Enquiro, April 2004

Search marketing is cost-effective

- Search marketing has lowest cost-per-lead
 - (about $1/3^{\text{rd}}$ of yellow page advertising and $1/20^{\text{th}}$ of direct mail)
- Can argue for reduced budget of other forms of advertising

Marketer's opinions regarding the effectiveness of media for providing measurable ROI

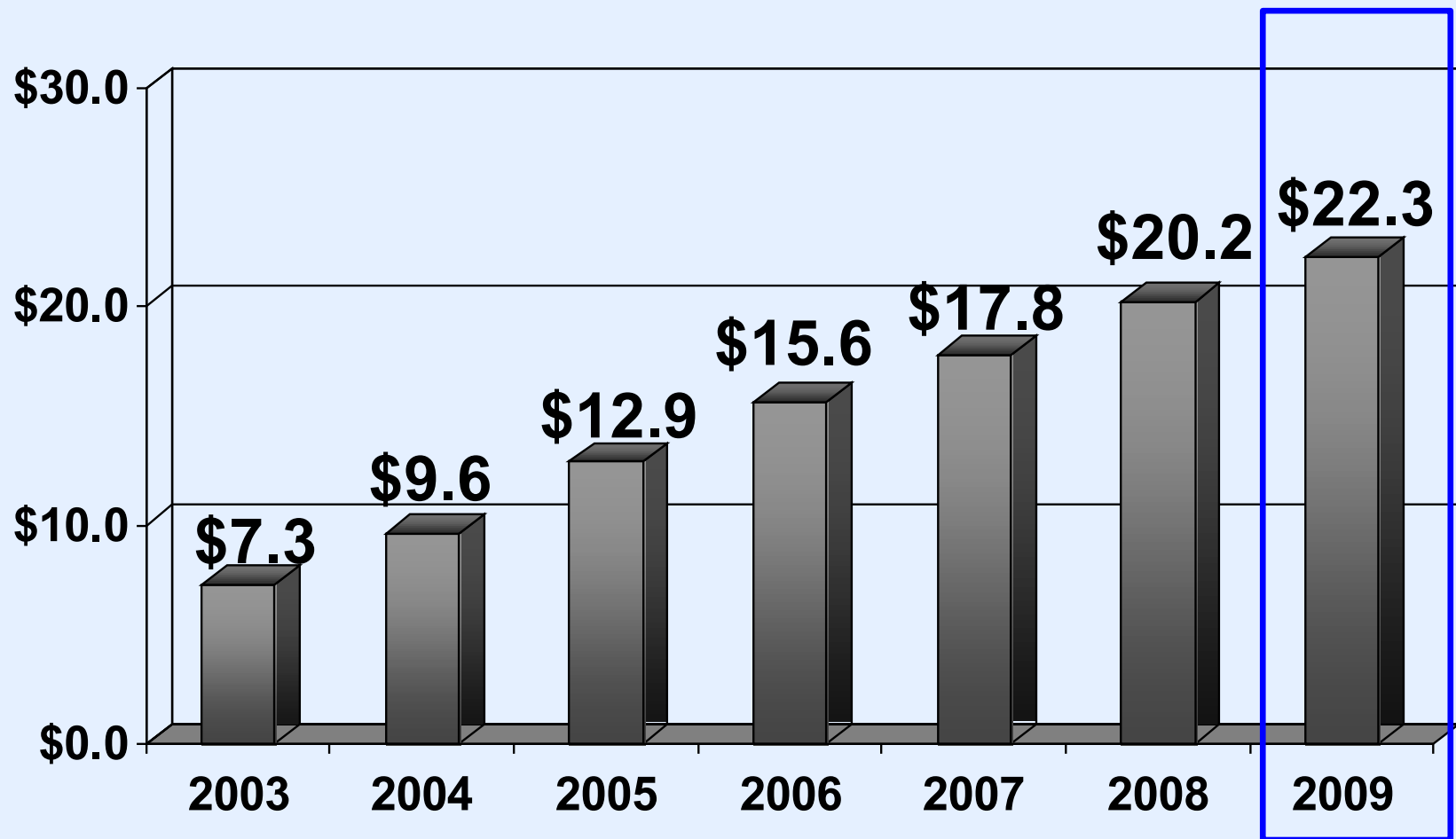


Source: Millward Brown, Advertising.com, Sept, 2004

Search marketing is big business!

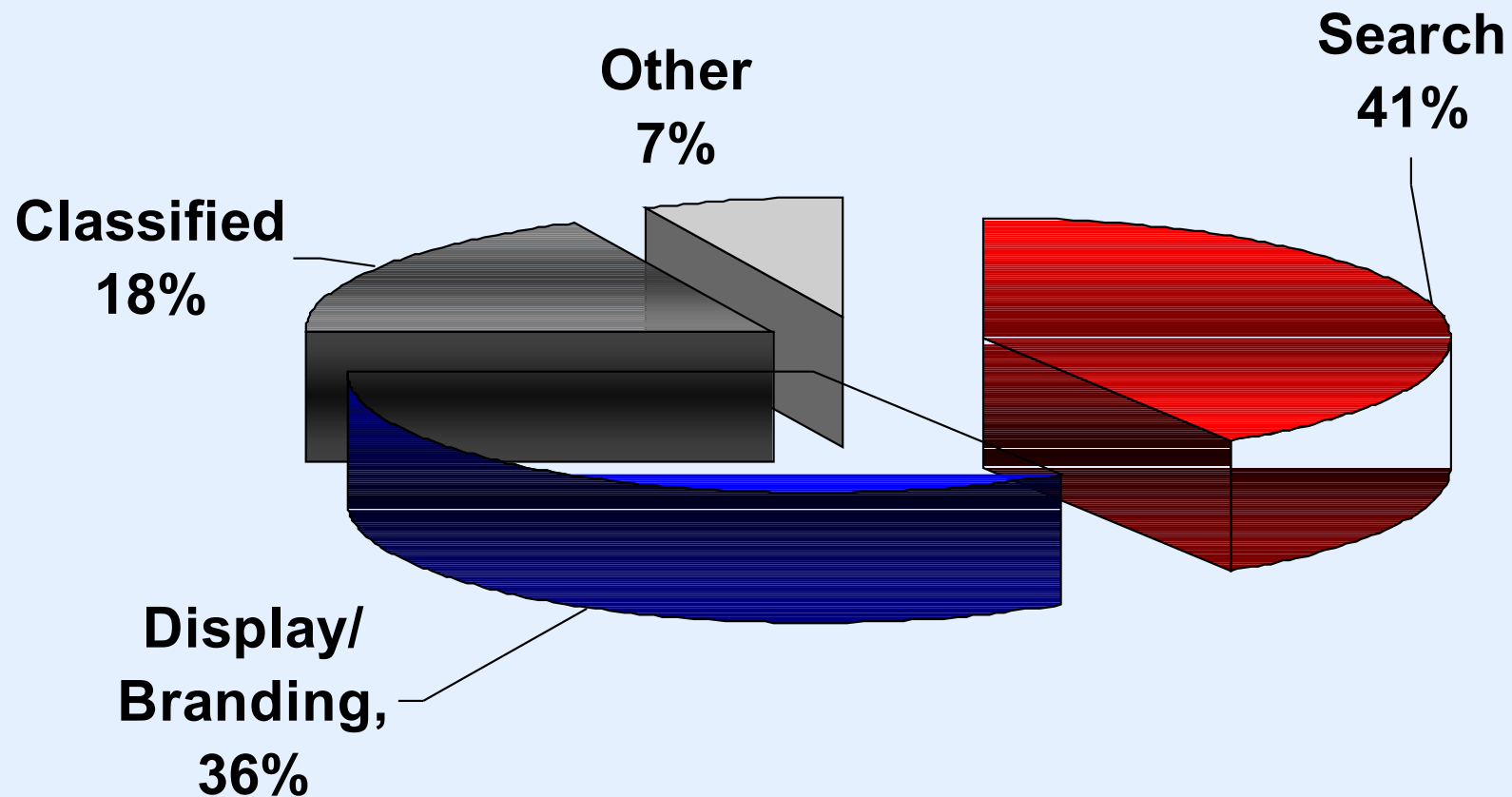
- Many companies involved
 - Search consultants: SEO/SEM consultants do search marketing but nothing else
 - Traditional advertising agencies: Web ads (including search marketing) in addition to TV, radio, print
 - Might do SEO for organic search as well
 - Interactive advertising agencies: handling anything online
- Internet advertising in US was \$12.5B in 2005 [IAB report]

US Online advertising spending, in \$B



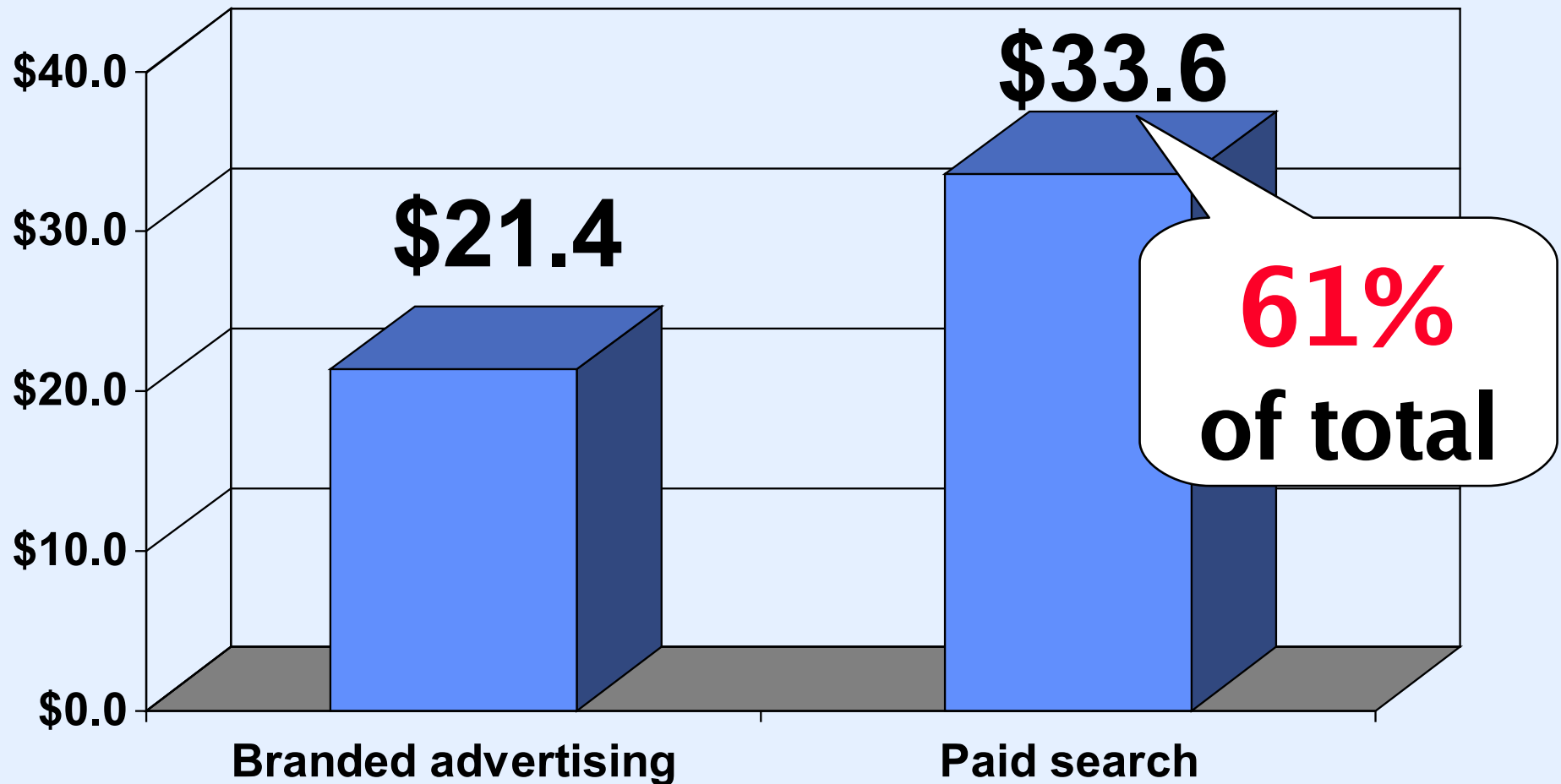
Source: eMarketer, 2005

US online ad spending, by format, 2005



Source: eMarketer, Feb., 2006

\$55 billion global online ad market projected for 2010



Source: Piper Jaffray, December, 2005

The challenges of online success

- Multiple specialized web development teams
 - Webmasters, programmers, copywriters, graphics
- Multiple product sites
 - Separate brand names (competing!)
- Multiple audiences (interests, markets, etc.)
- Multiple countries (and cultures, languages)
 - Also true for search engines
- Multiple technologies
 - Web servers, content management, personalization

The challenge of search marketing

- Attracting searchers is harder than many expect
- The larger your website, the more difficult
- The rest of this course will cover the issues and processes for successful search marketing