

## Web Search Update 2010

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Chris Sherman  
Executive Editor



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## Overview

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- The blended search (r)evolution
- Seismic changes in search (really!)
- Thoughts on social/real time/image/video search
- Mobile – “Are we there yet?”
- Personalization and targeted advertising



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## A Pervasive Trend

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- “Blended” or “Universal” search results now the norm
- What is it?  
Incorporating results from “non-web” info sources into “normal” web search results
- Also known as “Search 3.0”



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## Search 1.0

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- The first generation search engines
- Primary ranking method was keyword matching & Boolean logic
- For “search marketers,” easy to optimize (meaning easy to push results to the top) – but also easy to spam, opening the door for Google and Search 2.0



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## Search 2.0

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- Google pioneers the idea of link analysis, or “voting by the web” - better results; harder to spam
- Sophisticated SEO (search engine optimization) becomes imperative for search success
- Results are the top 10 links selected from an index of billions of web pages



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## New Types Of Results

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- Search 2.0 also introduced “vertical” search types including images, news, local, shopping and later, video, real-time, etc
- Access to these verticals by tabs or links is overlooked by most searchers
- They are now truly invisible on Google at first!



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## The Problem With Invisible Tabs

- 35% don't use vertical search
- 25% do not recall if they have clicked a vertical search result

Source: iProspect

### **However:**

**The popularity of some types of vertical search is exploding, and should not be neglected, as we shall see**



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## Solution: Blended Results

- Users click "news" results more than twice as much (36%) within blended search results vs. standalone "news search" (17%)
- Also more "image" results (31%) within blended search vs. standalone "image search" (26%)

Source: iProspect



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## Google's Universal Search

- For *some* queries, a *few* non-web sources *cautiously* blended into results – though they're constantly testing
- Google currently scans web, news, video, local, blog, shopping & book search content
- Also pulls in relevant twitter streams
- Bye-bye, pure web search – it's no longer an option at Google!



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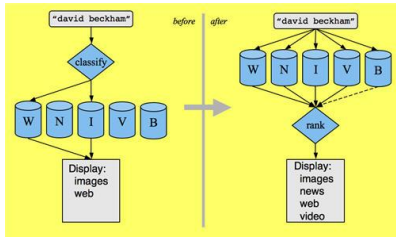
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## Google: Before & After



High precision, low recall      "Speculative," long tail approach



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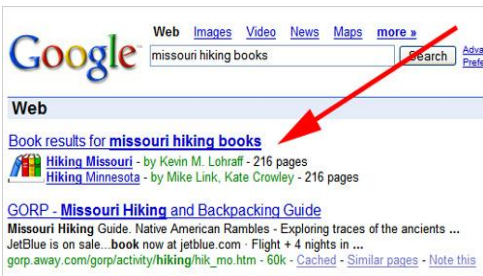
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## The Old Way: "One-Box" Results



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## Local Search: Before & After



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## Image Search Blended Results

**Tiger Woods** - Wikipedia, the free encyclopedia  
Click here for **Tiger Woods** from December 30, 1975 is an American professional golfer whose achievements to date rank him among the most successful golfers ...  
[View image](#) [View image](#) [View image](#) [View image](#) [View image](#) [View image](#)

**Tiger Woods** - TMZ.com  
Apr 30, 2015 - It seems **Tiger Woods** is still prone to getting all hot and bothered below the belt when his wife's cute twin - thanks to temperature in ...  
[www.tmi.com/person/golfer-woods/](#) [Cached](#)

**Image results for tiger woods** [View images](#)

**PGA TOUR.com - Tiger Woods's Official Profile**  
The most complete up-to-date information on **Tiger Woods** Official PGA TOUR stats, video, pictures, results, and career highlights. The Official Site of the ...  
[www.pgatour.com/players/000705/](#) [Cached](#) [Similar](#)

**Tiger Woods** - Golf - ESPN  
Mar 4, 2015 - **Tiger Woods** statistics, tournament results, news and more on ESPN.com.  
[sports.espn.go.com/1/AllSports/Golf/](#) [Cached](#) [Similar](#)

**Jason Sobel: Once out of contention, Tiger Woods mailed it in** - ESPN  
Apr 30, 2015 - Once **Tiger Woods** realized he wasn't going to make the cut at Quail Hollow, the words he 1 player did something he never, ever does ...  
[sports.espn.go.com/golf/story/2015/04/30/tiger\\_woods\\_mail\\_it\\_in/](#) [Cached](#)

[Show more results from sports.espn.go.com](#)



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## Video Search Blended Results

**Web Video** Results 1 - 50 of

**YouTube - Diet Coke & Mentos**  
**Diet Coke & Mentos** human experiment: EXTREME GRAPHIC CONTENT ...  
[Watch video](#) - 2 min 57 sec - [www.youtube.com/watch?v=6tGQD4Wt0AM](#)

**YouTube - Nobody's Watching Diet Coke & Mentos**  
Everybody knows what happens when you mix Diet Coke and ...  
[Watch video](#) - 2 min 3 sec - [www.youtube.com/watch?v=8tUjUj0KJ0](#)

**Eep@Bird.com - Experiment #137 - The Extreme Diet Coke and Mentos ...**  
We've since taken Diet Coke & Mentos madness onto the Late Show with David Letterman, the Ellen Degeneres Show, the Today Show, and performed live around ...  
[www.eep@bird.com/1.html-226/](#) [Cached](#) [Similar pages](#) [More files](#)

**Eep@Bird.com - Entertainment for the Curious Mind**  
What happens when you combine 200 liters of Diet Coke and over 500 Mentos mints? It's amazing and completely insane. This is the video that started it all ...  
[www.eep@bird.com/?206/](#) [Cached](#) [Similar pages](#) [More files](#)

[More results from www.eep@bird.com](#)

**Diet Coke and Mentos reaction**  
SA goes to The Lohan Fairy and filmed this experiment with ...  
[Watch video](#) - 2 min 59 sec - [www.google.com/ideplay?docid=14021572177922792](#)



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## Radical Changes in Web Search

- We now have clearly dominant players
- Specialized search engines still useful, but...
- Unlikely that we'll see any serious challenge to the "big four" any time soon



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## And Then There Were Four...

- The renaissance site
- Proud owner of the Emperor's new clothes
- The assimilator as innovator
- The shiny new disruptor



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## Google

- From upstart to "everything to everybody" in just 10 short years
- Everything changes this year with personalization and "caffeine"
- Major interface change: "Everything"
- Examples



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## Important: Google Dashboard

- Answers the question: 'What information does Google have about me?'
- Displays product-specific data that's associated with your Google account
- Let's you manage, and in some cases, delete personal information



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## Caffeine Update

- The biggest overhaul to Google in more than 5 years
- Primarily aimed at improving performance (< 1 second reduced to < 0.1 second response time)
- Some algorithmic improvements (though Google makes ~300 per year ongoing)



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## Google's Challenges

- Legal woes
- Privacy issues
- China & censorship



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## Google: The "new" evil empire?

- Photographers sue over book deal
- EU antitrust investigation
- Execs convicted of privacy violations in Italy
- Xerox & Quintura sue over patents
- Streetview lawsuits in multiple countries (now including WiFi "data harvesting" issues)
- And the beating goes on...



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## Privacy... What Privacy?

- Google badly bungled the release of Buzz... leading to US regulator to slam the company and potentially investigate the legal issues
- Matt Cutts responds:  
**Google, transparency and our not-so-secret formula**  
[bit.ly/d1d6kn](http://bit.ly/d1d6kn)



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## Dealing With The Great Firewall

- Google moved Google.cn servers to Hong Kong in March
- But China is blocking access to the site from mainland computers
- Excellent analysis: [bit.ly/93pmnY](http://bit.ly/93pmnY)
- Not just China: Google is censoring in other countries as well



23

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## New Transparency

- The Google Government Requests and Removal Tool
- "We're new at this, and we're still learning the best way to collect and present this information. We'll continue to improve this tool and fine-tune the types of data we display."



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## Yahoo

- Proud owner of the Emperor's new clothes
- Microhoo co-opetition: Salvation or sell-out?
  - Microsoft does the heavy search lifting
  - Yahoo sells ads



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## Yahoo's Contention

- "Basically, we've divided the labor: MSFT will innovate in the base result set, but we will innovate on all the rest." - Adam Grossberg, Yahoo
- Translation: We're more interested in what happens before and after search than search itself (e.g. we're going back to our "browse" roots).



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## Yahoo: "We're Not Dead Yet!"

- Yahoo currently serves limited blended search results
- Everything will likely change when the Microsoft integration is complete
- Continued innovation with areas they're good at (answers, business info, sports, entertainment, etc).



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## Microsoft

- The assimilator as innovator
- Microsoft has always pursued acquisition as a key strategy after acquiring DOS in 1981 (total cost \$75,000!)
- Combining home-grown search technology with about a dozen acquisitions...



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## Now Part Of The Collective

- Medstory – Health search
- Tellme – Mobile search
- aQuantive – Search ads
- Jellyfish – “Cash Back”
- Multimap – Local search, maps
- Farecast – Airfare history & prediction
- Fast Search & Transfer – AllTheWeb
- Powerset – Semantic search



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## Bada-Bing!

- “Bing” is arguably a better name than “Live Search,” but what does it mean?
- Like Sony, universally meaningless brand that’s easy to remember & type
- Chinese *bi ying* 必應, which literally means “very certain to answer”



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## Bing: The “Decision Engine”

- From day one, Bing took a blended results approach
- Based on query context, includes web, image, video, news, travel, shopping, health, local and “reference” results
- Categorized results = different result set than Google



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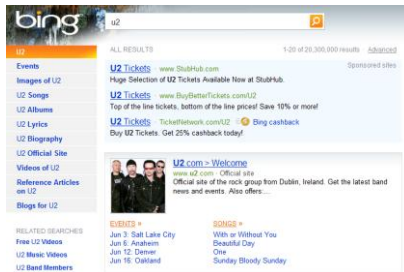
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## Bing: Blended Results



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## Cool Bing Features

- Website previews
- “Reference” category (Powerset version of Wikipedia results)
- Map apps
- Travel – use “flexible dates”
- Celebrity rankings (xRank)



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## Wolfram Alpha

- The shiny new disruptor
- Not a search engine, rather:
  - A constantly expanding collection of data sets
  - An elaborate calculator
  - A natural language interface for queries
- Hmmn... does this sound sorta like Google circa 1999?



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## A "Computational Knowledge Engine"

- Wolfram believes the complex world can be reduced to simple rules, and those rules are computable
- Computational rules then operate on "closed source" data sets - "curated" (i.e. structured, cleaned, vetted) by Wolfram employees



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## Deeper Into Wolfram Alpha

- Wolfram|Alpha contains 10+ trillion pieces of data, 50,000+ types of algorithms and models, and linguistic capabilities for 1000+ knowledge domains
- Some examples



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## Problem

- How can you “calculate” answers to ambiguous questions?
  - Is laughter the best medicine?
  - Is Draco Malfoy a terrorist?
  - Who’s the fairest of them all?
  - When will I die?
  - (Who thinks up these questions, anyway?)



37

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## Other Dominant Regional Players

- In a few countries, Google doesn’t dominate
- Yahoo in Japan
- 百度 (Baidu) in China
- Яндекс (Yandex) in Russia
- 네이버 (Naver) in South Korea



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## Social Media

- Love it or hate it, social media is huge
- How big?
- Globally, 1 billion+ users ~~wasting~~ spending 2 billion minutes/month
- Share of global online time:
  - Facebook 16%
  - YouTube 9%
  - Google 5%

Source: Morgan Stanley



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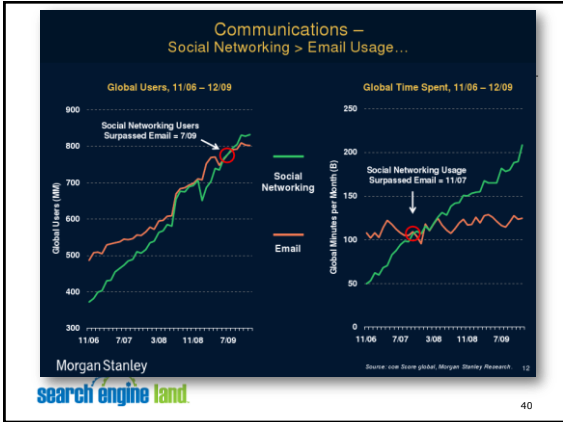
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### Twitter

- Believe it or not, Twitter has actually grown up into a “real” search engine
  - Google: 88 billion queries per month
  - Twitter: 19 billion per month
  - Yahoo: 9.4 billion per month
  - Bing: 4.1 billion per month

*Source: comScore; Twitter*
- Caveat: These are “apples” to “oranges” comparisons

search engine land

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### Twitter Ads

- The official program: “Promoted Tweets” - first in Twitter search results
- Based on keyword bids, ads are displayed at top of search results
- “Resonance” required (think Quality Score), based on retweets, replies, hashtags, clicked links, etc

search engine land

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## Third-Party Distribution

- Twitter plans to expand program to its partners, and at that point the program will massively expand
- 75% of Twitter traffic is via APIs
- Other options: TweetUp – contextual sponsored tweets displayed on publisher sites, using a CPM model now with cost-per-click & cost-per-new-follower later



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## Facebook

- If Facebook were a country, it would be the third largest in the world
- Not a search engine, even though Facebook search is huge
- Good resources for info pros and academics, though be careful



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## Great Facebook Resources

- Insidefacebook.com
- Allfacebook.com
- Both feature news, stats and more
- Want interesting insights into how people are marketing on Facebook?

Facebook.com/marketing



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## Real-Time Search

- Real-time search engines aggregate Twitter, Facebook and other social media results
- Both Google and Bing offer it for some queries
- Others include OneRiot, Scoopler, Collecta, Crowdeye, Topsy



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## Personalization

- Personalization is also affecting search results
- For text results, not much you can do about it
- Problem: If personalization goes too far, searchers will miss relevant content that's too far outside of their "interest areas"



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## Mobile - "Are We There Yet?"

- Mobile advertising is the new "point of sale"
- 5.8 billion mobile subscribers worldwide by 2013; 30% will be smartphone users (Portio Research)
- Mobile ad spend 2015: \$4 billion, up from \$200M today (Borrell)
- 25% of Facebook users are on mobile



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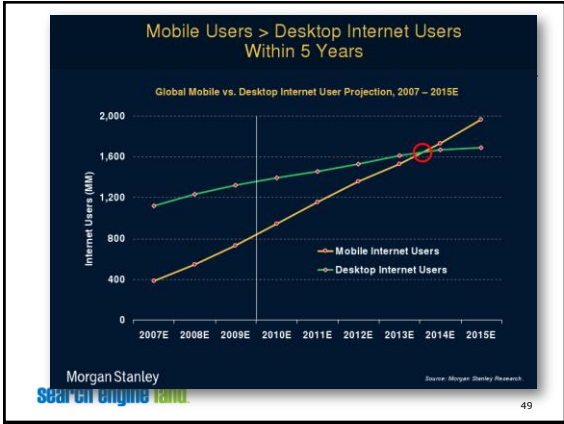
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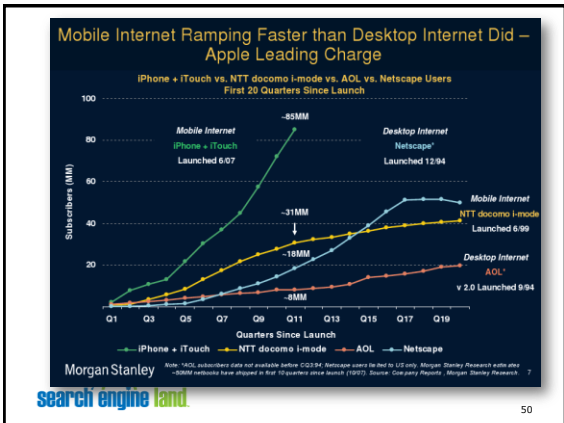
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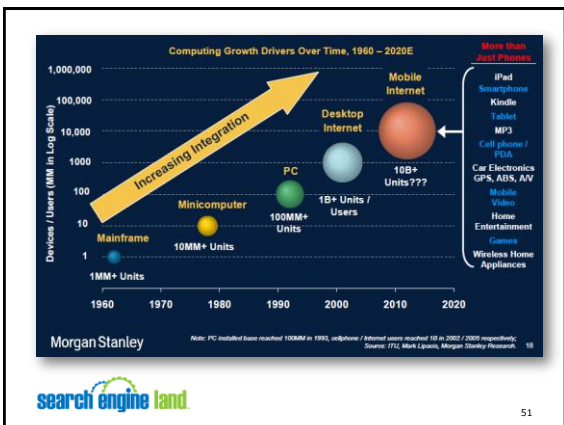
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## Location, Location, Location

- Location-based social networking is hot
  - Foursquare (created by Xogglers)
  - Gowalla
- The future: ads everywhere
- “Geofencing” from Placecast detects user location and can place ads on a variety of devices



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## Think Outside The [search] Box

- *“On a mobile device search hasn’t happened. Search is not where it’s at, people are not searching on a mobile device like they do on the desktop.”*  
*Steve Jobs, March 2010*
- True or not, people **are** using apps to search on phones



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## Image Search

- Google landmarks, Image swirl
- Bing visual search
- TinEye
- Behold.cc



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## Video Search

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- YouTube is now the second largest search engine by traffic (comScore)
- Video will amount to nearly 70% of global mobile data traffic by 2014 (Cisco)
- Video will increasingly become higher quality and a valuable resource to serious searchers



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## Video Search

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- Video search is roughly where web search was 15 years ago, with a few exceptions
- Heavily reliant on titles and metadata
- Also OK with non-fiction conversion of speech to text
- Nearly worthless with dramas, or videos that include things like humor, irony or body language



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## Video Search

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- Video Surf – “cracking the code”
- Ramp – creating tools for “video search optimization”
- Blinkx
- Bing Video – useful but be careful about autoplay previews!



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## A Huge Trend: Targeting



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## Targeting

- Types of targeting:
  - Device
  - Geographic
  - Demographic
  - Behavioral
- Capturing millions of new data points was a key rationale behind the Binghoo deal

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## Device Targeting

- Google, Microsoft, Yahoo
- Device platform targeting allows you to target your text and image ads either to computers or to iPhones and similar mobile devices that use full (HTML) browsers
- Fairly benign – used primarily to target ads where immediate action is the goal

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## Geographic & Language Targeting

- Google, Microsoft, Yahoo
- Language targeting usually occurs at the country level
- Location targeting by countries, territories, regions or cities; around a radius or within a custom shape on a map
- Also benign – used to reach specific groups and exclude all others



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## Demographic Targeting

- Microsoft (full), Yahoo (partial); Google “exploring options”
- Targeting ads based on factors like age, gender, income, etc.
- Similar to direct mail tactics, but uses data from accounts where user has volunteered info
- Can be problematic, especially on shared computers



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## Behavioral Targeting

- Microsoft, Yahoo; Google content ads only, not search or Gmail (yet)
- Ads targeted specifically based on your online behavior (sites visited, time on site, products purchased, search behavior, query keywords, etc)
- Benefit: Ads match your interest more closely
- Concern: Privacy? What privacy?



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## Merging Online & Offline Data

- Companies like Exelate & Aperture pull data from Experian, Acxiom & Nielsen & combine it with search behavior, email addresses & other online data
- The result? A cookie that represents a real consumer (though with personally identifiable info stripped out)



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## Opting Out Of Targeted Ads

- The big three allow a certain degree of control over how/whether targeted ads are served
- To opt out, search for:
  - "Google Ads Preferences"
  - "Personalized Advertising from Microsoft"
  - "Yahoo Ad Interest Manager"
- Really paranoid? Opt-out web wide:
  - [www.networkadvertising.org/](http://www.networkadvertising.org/)



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## Bonus: A Few More Searchy Tools

- Factual – The "Wikipedia" of structured data, from ex-Googlers
- Kerosene And A Match – "Doh" approach to multimedia search
- Xobni – Find your email contacts
- Siri for iPhone – Virtually a "personal assistant"
- For fun: Facesaerch, Jinni, Spotify (when available)



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## Conclusion

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- Web search has consolidated into a few major players – and it's likely to stay that way
- Good news: Competition among the majors has also increased, which should drive innovation
- Counterintuitive: Advertising may **decrease** as search engines continue to refine targeting options



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