The (Dirty) Secrets of Search

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> 242.6 million

S Internet Users

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http://visual.ly/yoda-london-your-guide-seo

> 3.7 Trillion

Webpages on the Internet

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> 4 Billion

Google

Searches Daily

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http://visual.ly/yoda-london-your-guide-seo

> 121 Million

per Hour

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http://visual.ly/yoda-london-your-guide-seo

> 2 Million

per Minute

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http://visual.ly/yoda-london-your-guide-seo

> 34,000

per Second

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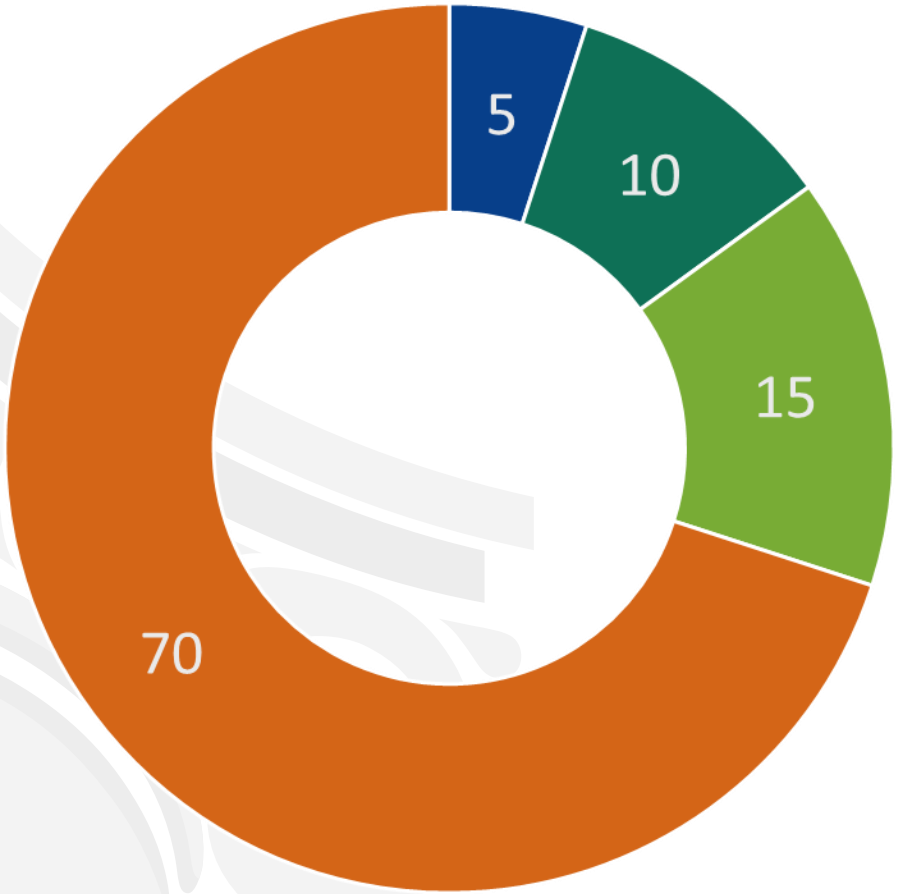
Search is the #1 Driver of Traffic to Sites



- Other
- Bing
- Yahoo
- Google

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Search is used

300%

more than

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93%
of Online
experience
begins with search.

75%
of Users never
scroll passed the
first page.

23%
search the
second
page.

40%
of Users click the
first ranking
site.

70%
of search links
Users click are
organic.

86%
of traffic is
generated
through search.

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Topics

1. The Science of Search
2. Bias
3. Manipulation
4. Research

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The Science of Search

- Web Crawler
- Index
- Meta Tags & Keywords
- Results

Web Crawler

- Search engines use special software robots: Spiders
- Beginning on a popular site, spiders crawl through the web building lists of words found on sites or pages.
- Spiders are looking for two things:
    1. The words within the page
    2. Where the words were found

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http://computer.howstuffworks.com/internet/basics/search-engine.htm

Meta Tags

allow the owner of a page to specify key words and concepts under which the page will be indexed.

Dangers

Meta tagging popular topics that have nothing to do with page content.

Protection

Spiders will correlate meta tags with page content, rejecting meta tags that don't match the page.

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Index

Key components involved in making data accessible:

1. The **information stored with the data**
2. The **method by which the information is indexed**

Hash Tables

A formula is applied to attach a numerical value to each word. The formula is designed to evenly distribute the entries across a predetermined number of divisions. This numerical distribution is different from the distribution of words across the alphabet, and that is the key to a hash table's effectiveness.

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Building a Search

- Boolean Operators
  AND, OR, NOT, FOLLOWED BY, NEAR, “ ”
- Concept-Based Searching
- Natural-Language Queries

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Bias

- Search Engine Optimization
- Personalization
- The Filter Bubble

The Filter Bubble

Search Engines Collect and Personalize for

1. Search History
2. Signed-Out Web History
3. Signed-In Web History

Google uses 'signals' including

- Search history
- Location
- Active browser
- Computer being used
- Language configured

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Pop the Bubble

- Make yourself difficult to stereotype.
- Erase your browser history and cookies regularly.
- Use an incognito window for exploring content.
- Use Twitter instead of Facebook for news.

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Search Engine Optimization

Search engine optimization (SEO) is the process of affecting the visibility of a website or a web page in a search engine's "natural" or un-paid ("organic") search results

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White Hat Techniques

- Key Words
  - Page Titles
  - Section Headers
- Linking to increase Page Rank
  - Link Exchanges

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Manipulations

- Black Hat Optimization
- Link Schemes (JC Penney Scam)

Black Hat Techniques

- Keyword Stuffing
- Page Stuffing
- Selling / Farming Links

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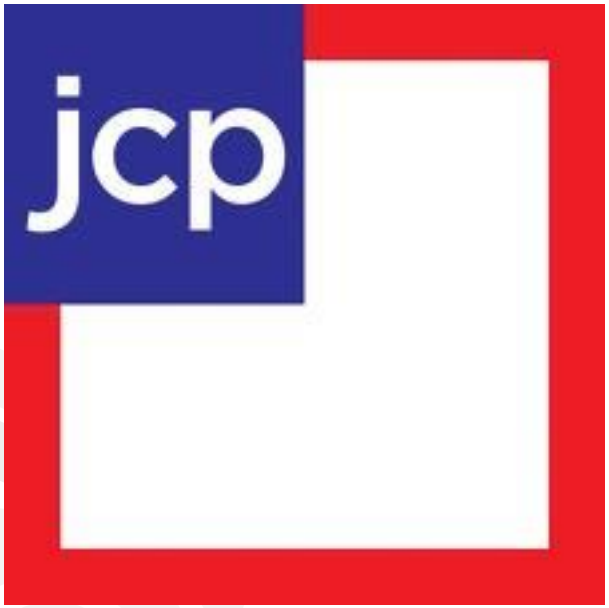
Link Schemes



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Think like a Researcher

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Hard or Soft Research?

- Hard Research
  - Scientific or objective
  - Expectations of data and/or proof
  - Most reliable
- Soft Research
  - Subjective, cultural or opinion-based

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Choose Suitable Online Authorities

- Government Publications
  Google's **Uncle Sam** search
- Government Authorities
  NHTSA
- Non-Government Websites NOT influenced by advertising or sponsorship
  Consumer Watch

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Use Different Search Engines & Keywords

- Start with broad initial researching
  - Internet Public Library
  - DuckDuckGo
  - Clusty
  - Wikipedia
  - Mahalo
- Visible Web Searches
  - Google
  - Ask.com

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Filter & Validate the Content

- Consider the Source and Date of Publication
- Be Suspicious of
  - Amateurish Presentation
  - Scientific or medical pages that display scientific or medical advertising.
  - Any ranting, overstating, overly-positive, or overly-negative commentary.
  - Commercial consumer websites can be good resources, but be skeptical of every comment you read.

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Choose a Research-Friendly Web Browser

- Multiple tab pages open simultaneously.
- Bookmarks/favorites that are fast and easy to manage.
- Page history that is easy to recall.
- Loads pages quickly for your computer's memory size.

2013's Best research browsers are Chrome and Firefox

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