

## Search Engine Optimization

## Search Engine Definition

- Search engines help you quickly find information on the internet
- A search engine is a sophisticated program that retrieves a set of links to web site pages which closely match the criteria provided by the user

## Why we need search engines

- The number of web pages is staggering: over 10 billion and growing
- There is no central control over internet content
- Anybody can create a web site
- A web site URL may provide a clue as to its content, but not necessarily

## Why we need search engines

- Google emerged in late 90s to provide a faster, more relevant and more comprehensive way of finding *anything* on the internet
- Google's search engine uses an algorithm that in part, rates your web site based on who links to you
- The more other web sites link to your web site, the higher your ranking

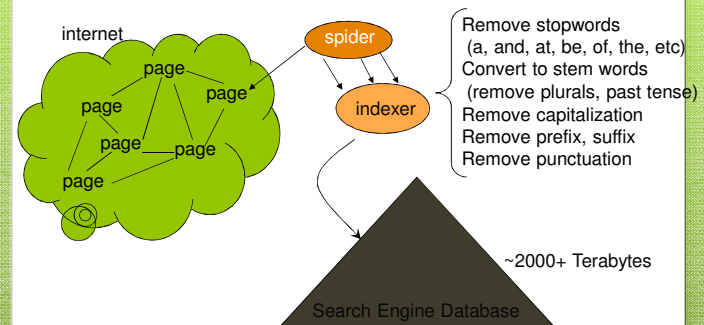
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## How do search engines work?

- Search engines use automated software programs called *spiders* to collect all the web pages they can access
- Each web page is analyzed for its content, text, keywords and added to a search engine index
- When a user enters a term in a search engine, that term is checked in the index and any matches (*hits*) are returned in relevant rank order.
- Redundant links are excluded from the list
- Some, like Google, remove stopwords (a, and, by, for, about, of, in, the, I, me, be, was, while, ....) to improve indexing efficiency

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## How do search engines work?



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## Search engine rankings

- Retrieved web pages are ranked higher on relevancy if
  - a desired search term appears often in a web page, particularly in the first and/or last paragraphs <sup>(3)</sup>
  - two or more search terms found close together
  - many outside links point to a web page (if others consider a web page important, it probably is)
- However, these methods can be used to compromise the search engine into returning undesired web pages

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## Search engine rankings

- Companies can pay the search engine providers to have their products or services appear near the top of the retrieval list or off the side under "sponsored links"
- Advertising
- Most people do not look past the first page of retrieved search results <sup>(4)</sup>

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## Optimization Guidelines

- Some search engines (Altavista, Yahoo) look at the web page <meta> tags between the <head> and </head> section

- Meta tags are not shown by the browser

```
<meta name="description" content="How to
  care for your Labrador Retriever">
```

```
<meta name="keywords" content="dog,
  Labrador Retriever, purebred, pet,
  care, vet, veterinarian">
```

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## Optimization Guidelines

- Search engines' algorithms are all proprietary – they may use hundreds of different factors
- But the following influence a web page's ranking:
  - Make title tag as meaningful as possible
  - Keywords in links pointing to the page
  - Keywords in web page content
  - Link popularity (Google's PageRank system)
  - Provide the alt attribute to all images
  - Use the header tags <h1> <h2>, etc

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## Google today

- Aug, 7 – announced http/ssl ranking signal

<https://www.dpom.co.uk/google-announces-http-ssl-ranking-signal>

There are over 200 ranking decisions that google's search algorithm makes:

<http://backlinko.com/google-ranking-factors>

(Oct. 14, 2014)

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## Google Analytics

- Free to link your site and powerful goal setting and reports products.
- <https://www.google.com/analytics/web>

Twitter/Facebook and most CMS systems have their own analytics.