



How Search Engines Work

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The Googles, Yahoos and Bings of the world are highly motivated to prove that they should be your favorite resource to search for information on the Internet. When you (and millions of others) use their search tool, the volume of resulting users allows these companies to sell ads above and beside the search results they present to you after you have entered your search term, the “key words” that you feel will help deliver the information you are looking for.

To be in a position to offer relevant results, the search engine carries out four primary tasks:

1) Discovery

Automated software programs called “spiders” call on websites (similar to you typing in a website address and clicking on links) and request all information on the webpage, including all links to other web pages, and then repeat the process on each linking page, hence the imagery of a spider traversing a web.

These spider programs only work with text-related elements

- website addresses (URLs=Universal Resource Locators)
- page titles (what you see in the tab of your browser)
- page descriptions (the first set of 20-25 words that appear with the website using your search)
- file names of graphics (with no understanding of what the graphic or photo really is)
- the attribute of the graphic - the Alternative Tag “alt tag”)
- the large font titles that you can read (called headers)
- the actual visible content that is (hopefully) providing you with the information that you seek
- the names of the links to pages inside and outside your site.

2) Indexing

Similar to a library with the Dewey decimal system, or a dictionary, or a thesaurus, or a hard-copy directory like the Yellow Pages or a phone book, the search engine maintains an index of all the information it has gathered.

3) Determining Relevance

The big challenge for the search engines is to ensure that, when someone types in one or more words (a request), that the resulting list of webpages actually reflects what the searcher is looking for. Basically, we are looking for the search engine to interpret our information request and decide what data should be presented on our screen.

In a human, we would consider this thinking about a question and then answering it. In the case of computers and their software, this automated process of understanding (input) and replying (output) is called an algorithm - a mathematical formula that takes into account a number of variables, with each variable assigned some level of importance. Google has over 200 variables in their algorithm.

In 2009 Google implemented over 400 adjustments to their search algorithm without sharing the details of these changes. And Google, along with their competitors, employ many very bright people who spend all day (and night) thinking and planning how to make their respective search algorithms smarter and faster, so as to present accurate results while promoting their ads.

There are many IT professionals making a living reading the tea-leaves of each perceived iteration/change of the behavior of a search engines algorithm.

4) Query

Now we reach the point where a search engine can deliver its service - you type in a word or two, and moments later you are presented with a list of web pages, with each entry having a short summary attached to it.

As a business owner, you are faced with a conundrum. You have competitors in the physical world. You type words into Google that relate to your business and you see thousands of results that don't include your website.

And now, market surveys are reporting that over 70% of buyers do on-line research prior to making a purchase

What can you do to ensure that you can level the playing field and be discovered by potential customers?

Thanks for reading! Other articles on making your website work for you can be found at the [TorontoSmallBusiness.com website](http://TorontoSmallBusiness.com)

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