

Search Engine Optimization Basics

Introduction

What is *search engine optimization*?

Search engine optimization (SEO) is the process of designing and writing copy for your web site to achieve a high *search engine placement* or *page rank* such that potential visitors can find your web site. It is also known by the term *search engine positioning*.

For the purposes of this white paper, we are only concerned with what is referred to as *natural search* or *organic search* results. Quite simply, these are the search engine results that show up as non-paid results. Our interest is in achieving high page ranks without the ongoing expense of paid advertising, although that is another important aspect of search engine marketing and online marketing.

There are many misconceptions about the most important things to do when optimizing a web site for search engines. Obsolete and inaccurate information appears in various email lists and online marketing newsletters on a regular basis. The field of search engine optimization is constantly changing; giving the search engines what they want requires hitting a moving target.

Finally, this search engine optimization paper focuses solely on driving traffic to your web site. What you do with visitors once they find your site is another set of topics and is not covered here. Also, in limiting the discussion to basics, the paper is more geared towards small to medium sized static sites as opposed to large dynamic sites.

Which Search Engines Matter?

For the purposes of this paper, the one search engine we care most about is Google. While there may be many more search engines for specialized purposes, the fact is that they don't have a lot of traffic. Google is by far the dominant search engine today (2003). Besides providing results to its own number one search site, it provides results to other major search portals such as Yahoo.

Eventually it will probably be necessary once again to optimize sites for more than just one search engine's algorithms. Google won't dominate forever since it has not been lost upon Microsoft and other major players that search engines can produce profits. For now though, it makes the most sense to optimize for the

most popular search engine as the obvious first step.

It's All About Keywords

The basis of search engine optimization is *keywords*. Why? Potential site visitors enter *search terms* (*keywords* and *keyword phrases*) when using search engines, which provide the vast majority of new visitors.

You must choose the **best keywords** and use them in the **most productive places**.

Search engine optimization using keywords is not simply a matter of coming up with every possible keyword or keyword phrase and stuffing them into the keyword *meta tag* in the *head* block of the HTML file. Years ago, that could work, but not today. The most significant search engines, such as Google, do not consider the *keyword meta tag* content at this point.

Choosing Keywords

How do you choose the best keywords? The best keywords are those that both *describe what your site is all about* and also are keywords likely *to be used by potential visitors*.

Choosing keywords that describe your site's business or interest can be challenging. Brainstorm, come up with too many possibilities, and then cut back

to the ones that are more targeted.

Check to see what your competitors are using for keywords. While you want to use keywords that are meaningful to your business, you also may be able to identify less competitive search terms that are still relevant for your business.

Site developers often simply choose keywords they believe are obvious and let it go at that. They also end up with invisible web sites. It is easy to verify that your chosen keywords are indeed ones likely to be used by searchers by using a free tool on the Overture web site

(<http://inventory.overture.com/d/searchinventory/suggestion/>). Other such tools are also available.

For example, we can check Overture for the keyword *marketing*. (This use of Overture was done in August, 2003 and reflects searches done two months earlier.) There are over 140,000 searches reported for *marketing*, with *internet marketing* at over 80,000 and *marketing online* at around 15,000. Assuming these terms are relevant to your web site's interest, you could consider any of them to be far more popular search terms than *marketing company*, at closer to 6,000. Perhaps those first three keywords and keyword phrases were the ones you were considering targeting. Upon

investigation, however, you note that *web site marketing* (over 19,000) and *web marketing* (over 29,000) have significant numbers and might be worth considering. You might also notice *search engine marketing* (12,000 plus) having more searches than *web site marketing strategy* (a more lowly 3,400).

Continuing the example, do these numbers mean you would simply target *marketing* and *internet marketing*? Probably not. Do a search for *internet marketing* on Google and you see over five million results, and it is a safe bet that a lot of effort has been spent on achieving high page rankings for such a term. Choose a battle you can win, or for which you can at least be competitive. There were far less results (1,200) for *web site marketing strategy*, so if that is what you do, it would be an easier target. Of course, the traffic you acquire would also be more specific to your site's interest and you might have a better chance of benefiting from the traffic. Similarly, if your business is really emphasizing a broad range of web site marketing services, you would be wasting your time optimizing for the very competitive *search engine optimization*; despite having 48,000 searches according to Overture, it has over a half million results found by Google.

The points are

- Check to see that your keywords are sufficiently popular.
- Choosing the most popular keywords may not be prudent if the competition is too stiff.
- Being sure to cover more specific keywords can be worthwhile.

How accurate are the Overture numbers? We treat them as approximations that are indicative of relative placement.

Are the same keywords used throughout the site? That depends upon the size of your site. A four page site does not have a lot to work with and should remain focused on a particular set of keywords. A large site, especially one that has various themes, can target a larger set of keyword, with different subsets used within the pages comprising the different themes.

Is it worth targeting misspellings? This was an easier question to answer in the days when it simply implied adding an extra word to the keywords meta tag content. Do you really want the misspelled word in the text your visitors read? Generally you would not, although there are undoubtedly exceptions where the misspelling is commonplace, especially if the business (or site) name is commonly misspelled. There are also some words where

popular usage would make it prudent to consider more than one spelling to be correct, regardless of what your dictionary says. For example, when searching for BBQ some might use the spelling in my dictionary (barbecue) while others use the one that gets three times as many results from Google (barbeque). Another example would be *email* and *e-mail*. In such cases the easy answer is to target more than one spelling.

Where to Use Keywords

Where do you use keywords? Search engines read *text*, so your keywords must appear in text. This text cannot be in an image; it must be in actual HTML text such as paragraphs, headings, etc. All text is not created equal; more benefit is gained when keywords are used in types of text that is seemingly more important. Page titles are currently very important. The more significant headings (h1 and h2) carry more weight

than paragraphs. It is better for keywords to appear earlier rather than later.

Although this may be of little help if you are already committed to a particular **domain name**, it is worth noting that having a keyword in your domain name is very helpful. As an example, it is not surprising that *dictionary.com* ranks well for the keyword *dictionary*.

The page **title** is very important. The title is the set of words that appear in the top of the browser's frame. The title also is used by some search engines when displaying results. Although you might be inclined to start a title with your business name because that is very useful when a site is added to a list of favorites or is bookmarked, for search engine optimization you're more likely to use your most important keywords first.

Different pages should have different titles. Titles should not be too long.

There are a variety of mistakes commonly made on web page titles.

(no title)	Lost opportunity, not even identifying the company.
Home	Again, not identifying the company. Similarly useless for bookmarks.
index.html	There is no benefit to using a file name as a title.
Business Name	Finally a somewhat useful title for bookmarks, but not useful for search engine optimization.
Business Name - Contacts	An improvement for bookmarks and thankfully differentiating this page from other pages, but still not helping search engine optimization
Smith Photography : Portrait and Wedding Photography, About Us	This is an improvement, finally addressing search engine optimization, though the order is not ideal.
Portrait and Wedding Photography: Smith Photography About Us	This is what we want. Keywords are being targeted first.

Headings (h1, h2, perhaps h3) are important places to use keywords. As for titles, earlier placement is better. Other HTML tags that indicate importance, such as boldface (b) are often said to be weighted more than basic text.

Historically some search engines have only indexed part of each page, so getting your keywords near the top was important. Just as in headings and titles,

page authors should strive to use their keywords early in the paragraphs. It is also desirable to get the keywords closer to the beginning of the HTML source file. Doing this implies that scripts should be external or at the end of the file rather than at the end of the *head*. Similarly, significant content should precede navigation.

What about **images**? When your page contains an image with words, those words do not qualify as text for our

purposes. One way of getting around the problem is to replicate those words the *alt* attribute associated with the image. For example,

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In this example we have given the search engines some text to index for the image. If the logo contained words then the *alt* attribute would typically mirror whatever was said. If the image was really a picture then we simply state something relevant, which not surprisingly uses our keywords.

Other Issues with Using Keywords

How many keywords and keyword phrases should be targeted? There is no best answer; it varies. As a rule of thumb you should focus on a limited number of keywords within the pages comprising a *theme* within your website. Generally you would maintain a tight focus for each page but might target different keywords on different pages. Within a given page you would not want to dilute the impact of one keyword by using a synonym if you could simply work that synonym keyword on a different page.

There are differing opinions about the appropriate number of times to use

keywords per page. Do you aim for more uses by having longer pages? Do you aim for greater density instead of absolute numbers? (Is it better to use a keyword 10 times within 200 words of text or 15 times within 400 words of text?) There is no agreed upon answer to these questions. Instead, we recommend designing pages with a reasonable amount of content according to what you perceive to be good web page design. Remember that your content must read as if it was intended for humans, so don't go overboard jamming in keywords everywhere. Still, a page with only a sentence or two is unlikely to be as useful to optimize as one with a full screen of text. At the other extreme, a page having over one and a half to two screens is hard to justify unless it is a news article, white paper, or press release.

Does the number of pages in the site matter? Probably. A site with 100 pages optimized for a set of keywords would be expected to appear ahead of a 5 page site similarly optimized. It is not an exact science; there is no formula that says you need to have a particular number of pages. (If there was, the algorithm could change tomorrow anyway.) Develop your site based upon a reasonable concept of its content.

Meta Tags

Meta tags appear in the *head* of an HTML file. As mentioned earlier, the page's *title* tag is one of the most important places for using your keywords. The *keywords* meta tag cannot be counted on to be of any value with most search engines, including Google, but there's no harm in providing a small list of keywords in case some obscure search engine indexing your site still uses it. Just don't spend much time on the effort.

The *description* meta tag is very important in a peripheral kind of way. Your goal in doing *search engine optimization* is to receive a *search engine placement* (high ranking) such that potential visitors actually see your site in their list of results. You are trying to show up on the first page of results because searchers usually look at only one page and seldom pursue more than three. Your goal when crafting the text for the *description* meta tag is different. You are assuming that the searcher sees that your site exists. You are now providing the *description* to entice the searcher to actually visit your site. The description is typically displayed, at least in part, along with the title and the URL in your search results. We recommend including keywords but striving primarily to make it clear to the potential

visitor why they would want to view your page. You have a couple of lines or a short paragraph to use as your pitch.

The *robots* meta tag can be used to encourage or discourage the search engine spiders (robots) from indexing a given page or following its links to other pages. There is a file, *robots.txt*, that should also be understood if you are concerned about controlling what the robots process. It provides another means of controlling whether or not spiders index files, or even directories of files. It also can be used to tell specific spiders to ignore particular files.

Directories

Getting listed in directories is not search engine optimization as discussed above, but is generally considered to be a related topic.

An alternative to searching via Google or similar search engines is to have listings in directories such as Yahoo. A few years ago a listing in Yahoo was probably more important than it is today. For that matter, if you do a search in Yahoo (August, 2003), the results are powered by Google. Nevertheless, Yahoo still offers listings in its directory. You pay a fee (currently, \$299) and Yahoo considers adding your site to its directory; there is no guarantee that your

site will be listed though Yahoo claims “proper” submissions generally get listed. If you have no other sites linking to your site then it may be worth considering a Yahoo listing.

Getting listed in the Open Directory Project (a.k.a., DMOZ) is more worthwhile and the price is right (it is free). The process can take awhile and the DMOZ site is quite clear that they don’t list every site that is submitted to them. (Getting listed is also problematic if your category lacks an editor.) Nevertheless, we would recommend finding the appropriate category in the DMOZ hierarchy and applying for a listing. If you are unsure of the appropriate category but know who your competitors are, check for them in the DMOZ to see where they are listed.

Niche directories provide alternatives to Yahoo and DMOZ, though they might more properly be considered simply as alternative incoming links. If niche directories exist for your business then they can provide a targeted audience, often for free. Finding niche directories is typically a matter of searching on your chosen keywords and checking to see if any are in the results. Checking competitor’s inbound links is another tried and true solution.

Generally you list your site once in a directory. Some directories, other than

DMOZ, allow multiple listings under some circumstances. Check their posted guidelines if you feel you have sufficiently diverse themes within your site to justify multiple entries (different pages in different sections of the directory). Get your first listing before trying for more.

What About Links?

Google places great importance on having links to your site. You want quality links pointing to your site.

How do you get links to your site? First, consider the directories mentioned above. There may be professional association sites related to your industry. If you have a regional retail business you would look for something local, such as a town or county web site, or perhaps a chamber of commerce web site. Exchanging reciprocal links with partners is a common practice.

Not all links are created equal. If the anchor text for the link to your site contains your keywords, that is a plus. For instance, if you had a retail sporting goods store, you would prefer that the referring page link look like

Sports Supplies for Team Sports – Smith Bros.
rather than

Smith Bros.

or

www.smithbros.com

Similarly, the kind of page matters. While a link to the Smith Bros. sporting goods business on the downtown Oakville business association's web page is a good link to have, the link on a page specializing in sports equipment for school sports teams would be weighted better by the search engine indexing functions.

The importance of a referring page also matters. If your company developed some kind of software, then a link from Microsoft would be of more value than a link from the local pizza restaurant's home page. (Unfortunately, Microsoft likely would not choose to link to your site, but if they did, it would be a plus.)

The density of links on the page referring page also matters. If the Smith Bros. sporting goods business has a link on a page containing links to 300 other sports businesses, then that is of less weighting value than being one of a dozen listings. (Note also the discussion that follows concerning *link farms*, under what not to do.)

What Should Not Be Done?

One of the reasons why some search engine optimization techniques become obsolete is because they serve no purpose other than to trick search engines into giving their page a higher

ranking. As an example, the keywords meta tag was significant years ago, until it was abused.

The goal of search engines in performing natural searches is to provide relevant results. A lot of smart people have put a lot of effort into that goal and you can assume that they're fully aware of techniques being used by people performing search engine optimizations. Hence, we recommend not bothering to try to game the system. The odds are that any given loophole in the current algorithm will be closed in the short term and any advantage will be lost. Worse, the search engines can enforce consequences such as not even listing your site; are you prepared to risk that?

The bottom line is that if you have to ask if a technique is legitimate, it probably isn't. Of course, you can always go to the source and check the search engine's own posted guidelines. Some other search engines also post guidelines, but for our purposes we recommend checking Google's Information for Webmasters

(www.google.com/webmasters/seo.html) to see what it considers to be spam or unacceptable trickery.

What are some explicit examples of bad approaches? At some point keyword loading goes too far and is considered to be *spam*. Using your keywords in

invisible text, or unreasonably small text, is non-productive nowadays and is spam. Although links are important, links from pages known as *link farms* should be avoided. (*Link farms* are web pages whose content is otherwise non-existent or irrelevant and whose sole purpose is to provide links.)

One popular yet frowned upon scam is using *doorway pages* to allow multiple entrance pages to a web site. Generally, each page is tightly focused on one targeted keyword. These pages result in the site having many pages without any extra content and typically result in a site link structure where links go from the doorway pages without any other links back to them. Although there arguably may be legitimate uses for this technique, generally it is a poor technique with a high risk of getting caught and having to face the possibility of being removed from the search engine results. Instead, aim for offering significant content.

Cloaking is another frowned upon technique. Cloaking is the process of serving up a different web page to the search engine spiders than would be served up to a human searcher. Proponents claim it is useful for getting around problems indexing dynamic database driven web sites and problems indexing Flash content. Search engine

guidelines are quite clear that they feel cloaking hurts their chances of delivering relevant results and should thus not be used.

Certainly for the purposes of relatively small, static sites, it would be very difficult to justify using *doorway pages* or *cloaking*. Focus on meaningful content instead.

Other Considerations

When designing your web site there are some features that are particularly unfriendly to search engines. Avoid using *frames*. Avoid using *Flash*. (If you have other design reasons for using those technologies, be aware that you are complicating your search engine optimization task and will require special workarounds.) Assume that URL's containing characters such as the question mark (?), which can be a problem for generated files, probably won't be indexed.

When this paper refers to a *static* web site it refers to a site having fixed pages. This is in contrast to a dynamic site where pages are generated on the fly by a program on the server and is quite possibly database driven. Being a *static* site does not imply that it need not change. Sites with evolving content may be visited more frequently by search engine spiders. Evolving content is

considered advantageous when seeking better search engine results placement. It is also true that search engine optimization is a continual process and that other aspects of your search engine marketing campaign require monitoring, revisiting, and updates to get the best return on your investment

How often do you need to submit your web site to the search engines? Not often. If you have links from other significant sites, including directories such as the DMOZ or Yahoo, the search engines will find you even if you do not submit your site. Generally you should simply submit your site for indexing once. Perhaps you've heard of services that will submit your site countless times to some enormous number of search engines. There is no need for such an effort.

How long does it take for search engine optimization results to take effect? Is resubmission required? The maddening fact of life for search engine optimization is that you may feel that it is a matter of *hurry up and wait*. You hurry to make your changes and then wait for two to six weeks to see results. It makes experimentation a slow, though still necessary, process. The good news is that you need not bother resubmitting your web site each time you make a change. If the search engine spiders

found your site before, they will find it again. For the impatient, *paid inclusion* offers a means of having a specific page submitted, allowing more timely indexing of that particular page.

What is a reasonable goal? Achieving high placement on the search engine result page (SERP) cannot always mean you are top ten or top twenty. After all, there are possibly hundreds of other competitors also optimizing their pages. On the other hand, if your site is not on the three pages, and generally on the first page of search engine results, then the odds of being found by natural search are quite low.

As mentioned earlier, *search engine optimization* is only one aspect of *search engine marketing*. It is essentially the way of gaining traffic without paying for each new visitor. There are alternative methods available in a web site marketing campaign. Paid listings are an obvious alternative. You can pay for inclusion in some search engine's results. Most search engines allow one or more categories of paid ads. Google, for instance, displays one category of paid ad at the top of their results page, a less costly set of ads with frequently more advertisers on the right side of the page, and the *natural results* in the large section on the lower left portion of the page. Most are pay per click, meaning

that you pay when a searcher clicks on the ad to visit your site. The topic of choosing your keywords for these ads and determining appropriate prices to pay for those keywords and tracking bid placements is a separate search engine marketing topic.

Another critical issue to consider is, *what happens once a visitor finds your site?* Remember that search engine optimization, along with some other aspects of search engine marketing such as the use of paid ads, are merely concerned with getting visitors to your site. The visitor probably requires that you have a useable web site with sufficient, appropriate content if you are to achieve your web site's goal.

Typically, that goal would be to convert the visitor to a customer or at least gain contact information. Again, this is an important, complex, and separate topic.

Summary

Pages that are optimized for search engines must support two audiences: human visitors and search engine spiders (robots). Don't lose track of your visitor; the site needs good content above and beyond any changes made for search engine optimization.

- Optimize for the dominant search engine (Google).
- Choose keywords relevant to your site and then check to make sure they are actually the words potential visitors use when searching.
- Use your words early and use them often, without compromising the readability of your content or becoming a spammer. Keywords get the most

benefit when used in titles, headings, and emphasized text. Use in paragraphs is good, use in images is of no benefit (but you can use *alt* attributes to get around that problem).

- Content should be ahead of non-content (navigation, scripts, etc.) on the page.
- Get listed in the DMOZ directory if possible and get links in other relevant sites.
- Avoid unfriendly features such as frames and Flash.
- Don't try to game the system.

Search engine optimization can be a slow process, requiring experimentation and time elapsed waiting to see the results. Be patient.

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