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White Paper

Steps for Dynamic Site Search Engine Optimization

Jeff Carpenter – SEO Specialist

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EXECUTIVE SUMMARY

The purpose of this White Paper is to describe specific guidelines in handling Search Engine Optimization (SEO) for dynamic websites. While there is no secret formula or golden rule to instant ranking success, there are processes that will help improve a dynamic website's performance in any search engine.

INTRODUCTION

These processes were developed and refined in working with dozens of small to large-market companies such as Mitsubishi Electronics, SureFire Flashlights, Oakley, and Toshiba, among others. They have also been utilized by many of the top SEO and online marketing firms today, including MEA Digital, SEO Inc., eTraffic Jams, Net Visibilities and WebAdvantage.net.

AUTHOR BACKGROUND

Jeff Carpenter has been involved in Search Engine Optimization since early 2000. He has completed both instructor lead courses offered by Robin Noble's Academy of Web Specialists and worked for some of the top SEO and web development firms in Southern California and across the country, including the following:

- MEA Digital – SEO Specialist
- eTraffic Jams - Search Engine Optimization Engineer
- WebAdvantage.net - Search Engine Optimization Consultant
- SEO Inc. - Search Engine Optimization Engineer
- San Diego Media - Search Engine Optimization Manager

THE SITUATION

You've decided to convert your website from static to a database driven application. With multiple pages being built from a handful of templates, you'll save time and money whenever it needs to be updated. That's a good idea for your schedule and your budget, but not for your site's traffic. The reason being, with a limited amount of files creating each of its pages and a URL string that includes 2 or 3 variables, your site won't be included in search results. That means consumers won't even see what you're selling, let alone shop for it.

But there's a solution. There are ways to create a fully dynamic website that is also search-engine friendly. Below, you'll read over SEO tips and guidelines that will help improve your site's rankings, utilizing targeted keywords.

Note that this is Part II of a series. Part I, "The Path to Proper On-page Search Engine Optimization", can be viewed here: http://www.meadigital.com/MEADigital-SEO-WP.pdf. Because of the detail provided in that paper, more basic SEO guidelines have been excluded here.

SEARCH ENGINE OPTIMIZATION – PREPERATION PROCESS

Home Page Redirection

Since most dynamic sites are completely enclosed in the CMS (content management system), you'll often need to redirect to the home page. In other words, typing in the domain name will transfer users to the URL of the site's main page. (This must be done server side so the spider doesn't recognize it.) While there are multiple methods to choose from, only one is appropriate: a 301 redirect. These are most effective because they inform spiders that the redirect is permanent and any link weight (internal or external) is transferred to the target page. Other options such as META-REFRESH, JavaScript redirects, and a 302 (a temporary redirect) present problems to search engines.

Variable Based URL Strings

Dynamic websites have the advantage of using only a handful of files to generate thousands of pages. They do this through the variables passed onto the server in the URL string. For example, a server's software receives a request for the following URL:

"http://www.odysseygolf.com/en/product.aspx?pid=2ball"

The software then uses the 'product.aspx' template file and the variable 'pid=2ball' to search the database for the information. Once the system has it, the page is sent to the user.

Larger search engines such as Google, MSN, and Yahoo can index URL's that include a limited number of variables (from 1 to 3). However, smaller search engines do not index them at all. So keep it simple and rewrite your URL to make it easier for all spiders. No engine, large or small, has any issue indexing

static-looking, directory-based URL's.

The tool to rewrite a URL string depends on the platform you host your site on. The two most common servers are Apache and IIS. For an Apache server, the Module 'MOD_rewrite' comes standard (although it may not have been installed). For IIS, the ISAPI filter functions identically to the MOD_Rewrite module. A good resource for the ISAPI filter is www.isapirewrite.com and for the MOD_Rewrite, find the Apache manual at http://httpd.apache.org/docs/1.3/mod/mod_rewrite.html.

While these sites will provide you with all the information you'll need, here is an example:

Your URL looks like this: 'http://www.domain.com/gmq.php?gt=beach'

You want it to look like this: 'http://www.domain.com/gmq-beach/'

In your htaccess file (a server file named '.htaccess' for Apache servers), start the rewrite module with these lines:

```
RewriteEngine on
RewriteBase /
```

Then add the rule that will handle the newly formatted URL:

```
RewriteRule ^gmq-([^.]+) gmq.php?gt=$1 [T=application/x-httpd-php]
```

This will go directly below the rewrite-base line in your file. Once these rules are in place, ensure that all the links throughout your site reference the new format.

Session ID's and Cookie Requirements
Session IDs can create havoc. When a spider visits your site for the first time, they'll read the URL with a unique ID. No problem there, until they return and each of the URL's include a new ID. The spider then registers two different URL's with seemingly duplicate content. This occurs every time your site is indexed; it's like an endless loop of duplicate content on different URLs. Presently, most spiders are programmed to recognize this, so will typically not index sites that include these kinds of variables.

Requiring cookies in navigation can also cause major issues. Search engine spiders have been designed to disengage cookies on every visit. Thus when a spider visits a site that requires a cookie, they'll generally only see a blank page or a dead end. As a result, these sites are not indexed or ranked. Run this little query on Google:
http://www.google.com/search?hl=en&rls=GGLD,GGLD:2004-37,GGLD:en&q=this+site+requires+cookies&spell=1
And click on the cached version of the pages listed. You'll see what a spider sees when visiting a website that requires cookies.

Template Based Site Structure
With only a handful of files generating the pages of your site, you must find a way to optimize each page with unique information. Fortunately, there is a system to do so. Each page of a dynamic website already has space for content – something you should take advantage of. And to further strengthen each page, insert unique titles. These are easily implemented but often overlooked.

To create unique titles for every page of your site, simply add an extra column in the database table where the content is being stored. Once you have space reserved, create a function that pulls the information and assigns it to a variable. With a variable in your template, which represents the title of a page, it can be printed out as a title tag. In addition, create a function that checks for those stored in the database. If title tags are included, print it out. If the database is empty, you can create a simplified, dynamically generated title using other on-page variables. A simple "if else" statement will look like this:

```
<TITLE><?
if ($Meta[titletag] != null){
    print("$Meta[titletag]");
}else{
    print("$Meta[name] available from YourDomain.com");
}
?></TITLE>
```

This very simple, yet effective code checks for a title and plugs it into the page if it exists. If you haven't created a custom title for that particular database entry, then it dynamically creates one for you using the page name (include the parent category if you prefer). This ensures every page of your site has a unique title tag that effectively describes the page to spiders (and users, for that matter). And, it gives you the flexibility to change and manipulate the titles to find those that work best. This method is also effective when creating META keyword and description tags, albeit less important.

Another technique is creating space in the database for a primary and secondary keyword. Since you should never optimize a single page for more than 2 or 3 terms, including up to 3 places for individual keyword storage can be of extra value. In doing so, you can dynamically populate particular HTML elements (such as table summary attributes, href title attributes, and image alt attributes) with keywords, thus including them more often on the page. Remember that you should always use the particular attribute in the ways it was designed. For instance: "$Meta[keyword1] – Home Page", should link back to the home page. Or, for a summary attribute in a table that includes navigation: "$Meta[keyword2] – Navigation Table". Altogether, you'll be using attributes properly as well as including keywords dynamically in each page.

Navigation Systems Are Usually Built Dynamically

A lot of systems that generate pages dynamically also generate link menus dynamically. For example, here is a simple PHP loop:

```
<?
while ($CatList = mysql_fetch_array($CatResult)) {
        print ("<a href=\"http://www.domainname.com/category-$CatList[id].html\" title=\
"$CatList[name]\">$CatList[name]</a><br>");
?>
```

The goal is to create a navigation menu that is HTML based, SEO friendly, and completely dynamic. Utilizing these methods in a fully dynamic website can help you optimize without much editing. In this case, if you add a new category after site-launch and the system will optimize it for you. Note that the above URL is using the structure in the following RewriteRule in the sites .htaccess file:

RewriteRule category-(.*)\.html$ /category\.php?cat=$1

Unique Content on Every Page of the Site
Don't overlook content on the home page of your site. Place content (from 250 to 400 words), on every page of the site. If it's a category page with just a list of products, add a paragraph that describes the products in the particular category. Here, use the more general terms about the line of products rather than any specific product. Here's a visual explanation of proper keyword assignment according to the depth of pages in your site (a quick review before moving on):

Keyword Assignment and Theme Pyramid

#	Keyword Assignment Levels	Site Structure							
1	**General Terms** Broad terms that describe what the over all site offers. Not specific on categories or products.	Home Page (www.oakley.com)							
2	**Category wide terms** Broad terms that cover subcategory terms, not product specific.	Sunglasses				Men's Apparel			
3	**Sub-category terms** More focused then level 2 terms, but still broad enough to cover all products in particular subcategory.	Polarized Sunglasses		Women's Sunglasses		Snow Pants		Long Sleeve Shirts	
4	**Product specific terms** Focused terms that describe particular product. These are the most focused terms on the site, and should generate the highest conversions and sales.	Half Jacket Sunglasses	Juliet Sunglasses	Teaspoon Sunglasses	Fate Sunglasses	Trap Snow Pants	Sector Snow Pants	Mechanic Long Sleeve Shirt	Thermal Bob Long Sleeve Shirt

Your site is a valuable commodity and deserves traffic. So, facilitate that by adding useful content (even if it's obvious what you offer) and get ranked on organic search engines. Remember, spiders don't see images and can't read between the lines, so spell it out. Explain to them in detail, with keywords, what it is you're offering. (This writing style may even increase conversions. Reality is, end users populate sites that make it as easy and obvious as possible.)

Site Map
A site map is a tool used to help users find any page of your site from one location, instead of browsing categories and sub-categories. Aside from layout and design, they usually don't contain any other text besides HTML links. These links are descriptive and direct users to a page that is formatted in readable layout. Sitemaps are usually accessed from the home page, with a simple HTML text link that reads "Sitemap".

Site maps are useful in SEO for the same reasons they're useful to users. Spiders can follow these links, reach any point in the site and index it quickly. And, since most dynamic websites are very large, a sitemap is an effective way for spiders to find every page. Rule of thumb: they should be able to reach all pages within three clicks of the home page. This provides the best possible transfer of page rank to inner pages, as well as helps users find pages on your site quickly.

Brief Summation
Proper search engine optimization is an ongoing process. There are many off-page items (which will be discussed in a later paper), such as link-building, that are a vital component of the search engine optimization process.

The aforementioned guidelines will help begin the optimization of your dynamic website. To that end, some items have been overlooked as they are not suitable for all situations. Furthermore, techniques referred to as “Black Hat” have not been mentioned because they are deemed unethical and may lead to a site being blacklisted and removed from major search engines.

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EXPANDED AUTHOR BACKGROUND

Jeff's career began with San Diego Media, where he rendered the proprietary ecommerce system, MaxEXP, which San Diego Media was developing at the time, 100% search engine friendly. While there, he was witness to the fact that the SEO industry was still in its infancy in how to optimize dynamically generated web pages. With no forums, previous examples, or established protocols, Jeff was able to optimize and release MaxEXP in months. Today, MaxEXP is a web services eBusiness platform that generates entirely dynamic websites with 100% search engine friendliness.

Later, Jeff moved to one of the top SEO firms, SEO Inc., in Carlsbad, California. There, he honed his search engine optimization skills while optimizing many small static websites and larger dynamic sites for a broad range of clients. At SEO Inc., Jeff was one of only two senior engineers with the skills to fully oversee the optimization process for fully dynamic websites.

Today, Jeff makes his home at MEA Digital, a leading online advertising agency in Southern California. As manager of all SEO operations, Jeff routinely brings his considerable talents to bear on unique and ever-changing demands of clients in a variety of industries. From retail, to education, and financial services, Jeff has enhanced the online visibility of a multitude of clients under MEA Digital's management.

ABOUT MEA DIGITAL

MEA Digital is a top fifty interactive marketing strategies and services firm based in San Diego, CA. The agency provides a wide array of interactive marketing services from web development to online advertising and performance marketing for world brands including: Toshiba, Oakley, Mitsubishi, Odyssey, HSBC, Kyocera Wireless, Openwave and Chopra Enterprises. As a division of MEA, San Diego's leading integrated marketing communications firm, MEA Digital is able to provide its clients with a truly integrated approach to marketing. To learn more, visit: www.meadigital.com.

Contact
Jeff Carpenter
MEA Digital
1111 Sixth Avenue, 6th Floor
San Diego, CA 92101
619-308-5494
jcarpenter@meadigital.com
www.meadigital.com

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smart. uncommon. ideas.

1111 SIXTH AVE. | 6th FLOOR
SAN DIEGO | CALIFORNIA | 92101

{TEL} 619.238.8500 {FAX} 619.238.8923
{EMAIL} INFO@MEADIGITAL.COM

MEADIGITAL.COM