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Generating online sales for small businesses through search engines

Dallas Neil

The University of Montana

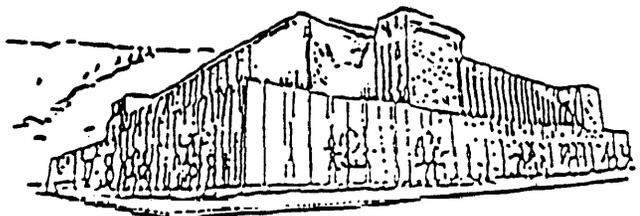
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**Generating Online Sales for Small Businesses
Through Search Engines**

By

Dallas Neil

The University of Montana, 1999

Presented in partial fulfillment of the requirements

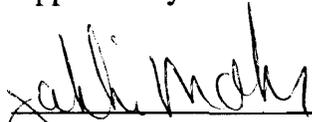
For the degree of

Masters of Business Administration

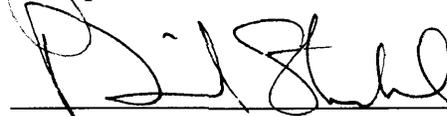
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2000

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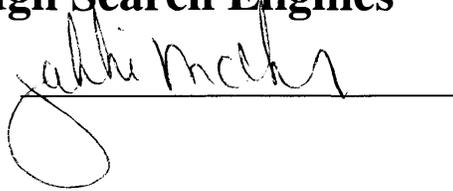
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Generating Online Sales for Small Businesses Through Search Engines

Director: Jakki Mohr, Ph. D



The creation, commercialization, and proliferation of the Internet may well be the most significant innovation the world has ever seen. It has evolved into a formidable business tool that impacts all aspects of our lives.

Forester Research – “Study predicts online shopping to triple by 2002”

Price Waterhouse – “44% of companies expect to implement Internet selling within the next 2 years”

Many businesses feel the pressure to “get an online presence”. The investment made in creating a web site and engaging in e-commerce can be overwhelming for a small business. The reality of the Internet is that **real commercial success stories are few in number**, although they are growing every day. There are no guidelines for success or special recipes.

One underutilized aspect of online selling is a search engine. These are familiar sites such as www.yahoo.com and www.altavista.com that offer keyword searches of the World Wide Web. The results of the keyword search are a list of links to other web sites. The goal of many businesses is to be in the top ten list of results for a specific keyword search.

The study for this project will be conducted on a local startup software business. SnapApps.com already has a commerce enabled web site, but the structure and design of the web site will be modified to maximize search engine traffic. The success of the search engine friendly site will be evaluated by using the referrer log from Internet Information Server and extracting it through a statistical package called Web Trends.

The online business world is complex and overwhelming, but making a small investment in improving search engine results is the key to long-term success on the Web. The techniques are simple. Small businesses do not need to spend thousands of dollars to get a web site that sells online. The intimidating subject of search engine placement will be made simple throughout this paper. Furthermore, this paper will outline what a small business really needs to engage in online selling.

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Introduction

The Internet currently contains billions of web pages and the number of websites is growing at an astounding rate. Search engines sites such as Altavista, AOLNetfind, Infoseek, and Excite evolved to give web surfers the ability to search for a specific topic of interest. The search engines filter through the billions of pages on the Internet and in a matter of seconds, a numbered list of results for the search appears. How does the search engine look through billions of pages in a matter of seconds? Even more important, how does a search engine decide which page shows up at the top of list of results?

A study done by the Graphic, Visualization & Usability Center (GVU) at the Georgia Institute of Technology showed that 84.8% of people use search engines to find new web sites. Since approximately 85% of Internet surfers use search engines to find new websites, online marketers and businesses with websites should understand how web pages get to the top of search engine results. Business managers now need to understand the new opportunities search engines create in online marketing and how they can leverage their resources to take advantage of the opportunity. The strategies and concepts of search engine ranking will be explained in detail throughout this paper. The focus of this paper is on small businesses and how they can use search engines to drive targeted customers to their web site and ultimately, increase sales. The intimidating and complicated subject of search engine placement, which is usually left to web developers, will be made simple and useful for marketers and business managers not accustomed to technical terms.

The first main concept addressed is understanding how people search the web. Understanding how people search the web is similar to studying the target market before deciding on a strategy for marketing to them. By learning the consumer behavior of web surfers, these concepts will lay a foundation for understanding the details of search engine positioning.

The next section of this paper offers a conceptual overview of the key issues and strategies to engage in successful search engine positioning. The distinct advantages for small businesses will be discussed in detail as well as a thorough understanding of how search engines work. Once a foundation of the basics of search engine positioning

has been established, the next section focuses on techniques to improve the ranking of any website. The “how to” approach in this section of the paper will be a valuable reference for creating strategies for search engine positioning. A practical approach to implementing these strategies is explained in detail. Numerous marketing tools to help automate the search engine positioning process will be discussed as well as the importance of tracking the progress and success of search engine positioning.

Truly understanding search engine positioning only comes through actually implementing these strategies. The research and practical application of search engine positioning was accomplished at snapApps.com. snapApp.com is a startup software company in Missoula, MT, that focuses on creating easy to use software for digital cameras, scanners, e-mail communication, and simple personal information management tools. The project applied the strategies in this paper to their current website, www.snapapps.com, in order to accomplish these four goals:

1. Create search engine friendly pages for snapApps.com’s website
2. Submit the pages to the top search engines and directories
3. Increase the number of visitors to snapApps.com’s website
4. Increase the sales of snapApps.com’s software

These four key goals are documented meticulously so readers will understand the actual effort needed to accomplish successful search engine positioning. The research offers a practical view of the advantages and disadvantages of search engine positioning. The effort can be measured in actual direct labor dollars and will be used to contrast the advantage and disadvantages of outsourcing the search engine positioning to a third party.

I. Understanding How People Search the Web

Most consumers typically do not use a search engine to find a popular and well-known site such as Amazon.com. Instead, they simply type www.amazon.com into their web browser. However, to find information that cannot be accessed easily by typing in a web address (URL)¹, people use search engines.

A study done by the Graphic, Visualization & Usability Center (GVU) at the Georgia Institute of Technology showed that 84.8% of people use search engines to find new web sites.² As shown in Exhibit 1, search engines are one of the most popular means of finding web sites, second only to following links on web pages. Since approximately 85% of Internet surfers use search engines to find new websites, online marketers and businesses with websites should understand how web pages get to the top of search engine results. The strategies and concepts of search engine ranking will be explained in detail throughout this paper.

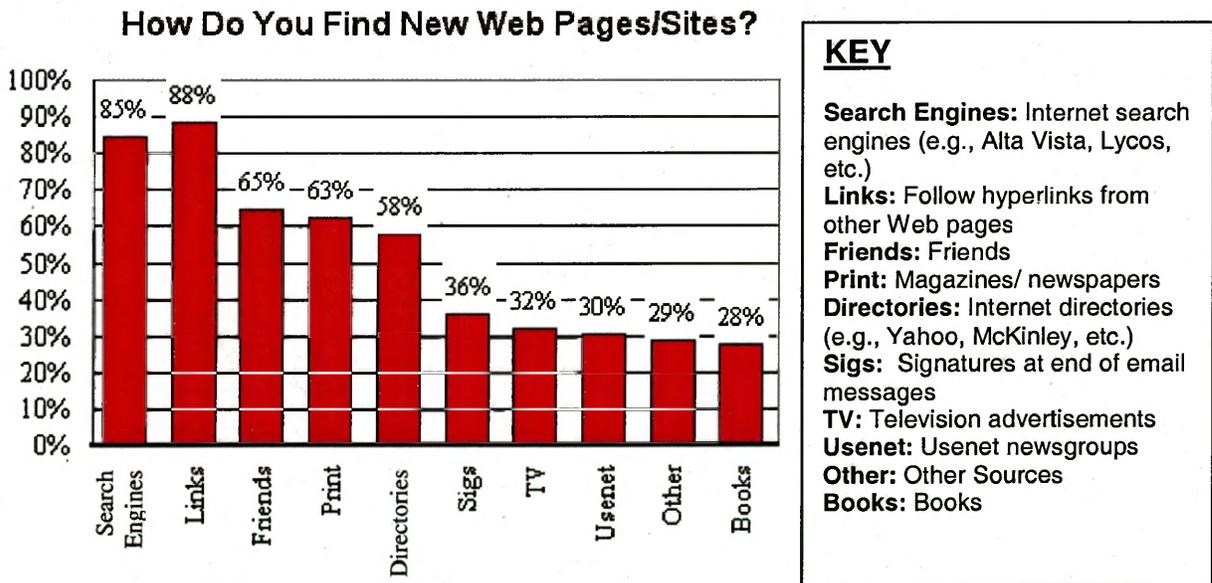


Exhibit 1: GVU's 10th WWW User Survey indicates that Search Engines are the second most popular means of finding websites.

¹ **Uniform Resource Locator (URL)**, The global address of documents and other resources on the World Wide Web. The first part of the address indicates what protocol to use, and the second part specifies the IP address or the domain name where the resource is located (www.webopedia.internet.com).

² GVU's 10th WWW User Survey Oct-Dec, 1999

People Search in Phrases

It is important to understand the actual words and phrases that people enter into search engines. The main reason for this knowledge is so these words and phrases can be used to help generate keywords³ for implementing search engine strategies for a website. Keywords will be discussed in detail in the next section. A competitive advantage can be obtained in any business by understanding consumer behaviors and using that knowledge as leverage in the marketplace.

WebCrawler Search Voyager monitors the WebCrawler Search Engine and displays a sample of recent searches. Exhibit 2 shows the recent words and phrases that web surfers entered into the search text box at www.webcrawler.com. The WebCrawler Search Display is a live view of actual searches done by web surfers at www.webcrawler.com. The list can be updated instantaneously by using the Refresh button in any web browser.

As shown in Exhibit 2, people tend to enter more than one word into a search engine. People do not search for an individual word such as “volcano” because it is not descriptive enough, and the results of the search are usually not as accurate. People **generally search in phrases** like “volcanoes in Pennsylvania” to receive more accurate results.

Results from the WebCrawler Search Voyeur Display show that people generally search with lower case letters and usually pose phrases in the form of a question. Furthermore, quite often people will misspell the search inquiries such as the word “begginer” in Exhibit 2. It is important to understand the search phrases used by potential customers and other web searching behaviors such as misspellings. Web developers and marketers can use this knowledge to effectively attract people to a website.

WebCrawler Search Voyeur Display <http://webcrawler.com/cgi-bin/SearchTicker>

Results – Sample

how do i find lost military friends
How does mold attract flies?
information about state representative bob brown
How do i grow marijuana indoor?
where can i find the t.v. show malcolm in the middle?
Indiana high school sectional scores
where should a **begginer** get his skateboard?
Where can I find mtv?
Where to find good plastic surgeon?
what is th url for nova scotia power and light?
Are there any volcanoes in Pennsylvania?

Exhibit 2 – WebCrawler Search Voyager monitors the WebCrawler Search Engine and displays a sample of recent searches. Clicking “Refresh” on the browser will show new results.

³ **Keyword** – Specific words or phrases that are entered into the HTML code of a web page. The keywords used in a web page are chosen specifically to help search engines and directories rank the web site based on the word or phrase entered by the web surfer into the “Search” text box at a search engine’s website.

Another useful tool to help understand what people search for is the Lycos Top 50⁴. By entering this URL into a web browser, <http://50.lycos.com/>, the top 50 words or phrases searched for by web surfers using the Lycos search engine are displayed. These top fifty phrases are updated weekly and generally tend to follow the latest newsworthy events.

Consumer Fit

People conducting web searches are often looking for products or information with certain features that will deliver certain benefits. For example, a cyber-customer searches for “Blue-eyed parrot.” The list of results is filled with information about blue-eyed parrots. In evaluating this list, the cyber customer is likely to think less about who is actually selling the product and more about which product (Parrot) fits the buyer’s needs. By extension, it probably doesn’t matter as much which website offers the information, as it does whether the information fits the consumer’s needs in a credible manner.

Being listed higher on the search engine can be vitally important to attracting potential customers. As consumers look through the list of results, they begin at the top of the list because these results offer the highest relevance for the search. To continue with the example of the blue-eyed parrot, if a company sells high quality blue-eyed parrots for a reasonable price, but their product never shows up in the top 30 listings of search engine results, it essentially means that the potential customer is unlikely to be aware of the company’s existence. These potential sales may be lost to competitors. Because of this, the website must be tailored to fit the consumer’s needs. The value of a business increases when consumers can search and find the products and information they need on the web.

⁴ <http://50.lycos.com> - The Lycos search engine analyzes and displays the top 50 keywords used by web surfers weekly.

II. Search Engine Strategy

Search Engine Advantages

How many times has a consumer heard or seen an ad for a special offer such as the one shown in Exhibit 3? Many print media ads such as this one result in wasted coverage.

Learn to Double your Reading Speed in less than an hour!!
YOU can do it at home with this special offer.
Call (505) 894-7700
SpeedRead America. Inc.

Wasted coverage refers to the number of people who view the ad, but are not in the target market.

Exhibit 3 – Advertisement using print media

Now imagine the same consumer wants to

learn to read faster. This person conducts an Internet search at www.altavista.com. The consumer types “speedreading” into Altavista Search Engine like in Exhibit 4.

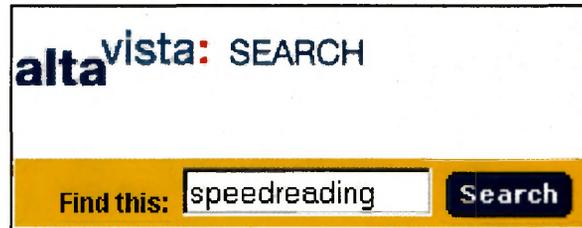


Exhibit 4 - Sample search at www.Altavista.com

As shown in Exhibit 5, SpeedRead America, Inc. is at the top of the search engine results. This is the same company

that used print media in the advertisement above. Since the person on the web was searching for speed reading, odds are they are a motivated, targeted customer who is likely to be ready to purchase. The amount of wasted coverage from attracting consumers through search engines is typically less than for traditional print media.

WEB PAGES ▶ 549 pages found.

International Users, [take our quick survey!](#) **ALTAVISTA**

- 1. Speedread America**
SPEEDREADING IN ONE HOUR is a quick read book of evaluations, exercises and techniques. you how to double...
URL: www.speedread.org/
Last modified on: 4-Feb-2000 - 12K bytes - In English
[[Translate](#)] [[More pages from this site](#)] [ [Related pages](#)]
- 2. Speedreading - Double Your Reading Speed In 11 Minutes!**
Speedreading exercises, tips, and tricks to dramatically improve your speed and comprehension
URL: www.11minutes.com/speedreading_e.html
Last modified on: 6-Nov-1999 - 4K bytes - In English

Exhibit 5 – Results from the search for “speedreading” at www.altavista.com

Every potential customer who finds a speed-reading site other than Speedread America can be considered lost coverage and revenue to competitors. It is cost effective, therefore, to concentrate the efforts of online marketing to making sure these targeted customers find the appropriate website.

Advantages for Small Businesses

Consumers who are searching on the web for well-known companies with strong brand equity usually can find the company's web site easily. These companies have high brand recognition and consumers can gain access to these websites by typing in the name of the company directly into the web browser. For example, a consumer looking for a Dell computer could simply type www.dell.com, or more simply "Dell", into their web browser.

On the other hand, a small business that sells a quality computer similar to Dell's continuously struggles to attract new customers. Small businesses generally do not have the resources to spend a large amount of money on advertising and building brand awareness. Building traffic through search engines can be a very time-efficient and cash-efficient way to attract targeted customers, especially for small businesses; this can be accomplished by making certain that the small business is first on the results list when the phrase "where can I buy a computer?" is entered into a search engine.

Five main reasons why small businesses should spend the time and money to engage in online sales and search engine positioning include:

1. Setting up a web site is becoming less expensive daily. Many companies are now offering to build web sites for small businesses for free. One of the many companies building free websites is Bigstep.com, (See Exhibit 6). These companies often generate revenue by offering advanced web services in the future.

www.Bigstep.com

Build your own ebusiness -- for free!

What's an ebusiness? Whatever you create through Bigstep.com! Use our **free services** to maintain a unique, professional ebusiness Web site, send email newsletters, sell products, display artwork, promote your services, market your business, engage in ecommerce, and more!

Exhibit 6 – Bigstep.com is one of the many businesses offering to create websites for free.

2. Conducting online transactions is becoming an acceptable way of doing business. The **Electronic Data Interchange**^{Def} market is expected to grow from \$937 million in 1996 to \$2 billion in 2000.⁵
3. Customers are looking for what they want in a timely fashion. Searching the web with a search engine is an easy way for consumers to find what they want, quickly and conveniently.
4. Engaging in unethical marketing techniques, such as e-mail spam^{Def} have been extremely detrimental to a company's image. A network of ISP administrators found RealNetworks on July 21, 1999, as a problematic source of unsolicited email.⁶ A company that spends time and money building a corporate image can be tarnished very quickly if unethical online marketing tactics are used. Surfing the web with a search engine is completely permission-based. When consumers search the web, they are actively seeking information, products, and services. Search Engines help people find what they are looking for, and are not considered unethical by the vast majority of consumers.

^{Definition} (**Electronic Data Interchange**) The electronic communication of business transactions, such as orders, confirmations and invoices between organizations (www.techweb.com).

⁵ DataQuest

^{Definition} Spam - Electronic junk mail. People define spam even more generally as any unsolicited e-mail. Spam is generally e-mail advertising for some product sent unauthorized to many people via e-mail. (Webopedia.internet.com).

⁶ <http://www.wired.com/news/politics/0,1283,20675,00.html>, Wired

E-Commerce Forecast			
Category	1999	2004	%
Leisure Travel	7,798	32,097	12
Apparel	1,620	27,128	9
Food&Beverage	513	16,863	3
Automobiles	0	16,567	4
Computer	1,964	12,541	40
Consumer	1,206	11,670	10
Health & Beauty	509	10,335	5
Tools & Garden	177	7,156	5
Appliances	446	5,908	9
Total	14,233	140,265	

Exhibit 7 – Sep 1999 Forrester Research: The results show a rapid increase in the number of businesses engaging in e-commerce. The “%” column refers to the percentage of revenue generate by that category.

- As shown in Exhibit 7, Forrester Research estimates that over 140,000 businesses will have **Electronic Commerce^{Def}** enabled websites by 2004. In 1999, there were only a small number of businesses in each category. By 2004, however, the number of businesses will increase almost 10 times. Each category will become more crowded, with many businesses offering similar services for a competitive price. Businesses must find a way to differentiate themselves. Search engine ranking will become even more important as competition increases.

Definition (**Electronic Commerce**) Doing business online, typically via the Web. It may also refer to electronic data interchange (**EDI**), in which one company's computer queries and transplants purchase orders to another company's computer (www.techweb.com).

Search Engine Placement

Search engines change rapidly. Their algorithms change. They form and dissolve partnerships and alliances daily. How can a business know how a search engine is going to rank a web site? The first step is to understand how search engines work.

How Search Engines Work

The term "search engine" is often used generically to describe both search engines and directories. They both contain a wealth of information gathered from billions of web pages throughout the Internet. Search engines and directories are different mainly in how each compiles its database of information.

Directories. A directory such as the Open Directory, www.dmoz.org, *depends on people for compiling its information.* People from around the world submit their website URLs, such as <http://www.mywebsite.com>, to the Open Directory Add URL text box with a brief description of the content. Volunteer editors view the website and decide whether it is appropriate for the Open Directory and then place it in a category. Web surfers who visit the Open Directory, www.dmoz.org, can either browse through the categories to find what they want or conduct a keyword search.

Search Engines. A search engine such as Altavista.com *compiles its information automatically.* No human interaction takes place with the web sites submitted. Search engines have three major elements.

1. **The Spider** (Also called the crawler):

The spider visits a web page, reads it, and then follows links to other pages within the site. This is what it means when someone refers to a site being "spidered" or "crawled." The spider returns to the site on a regular basis, such as every month or two, to look for changes.

2. **The Index** (Also called a catalog):

Everything the spider finds goes into the second part of a search engine, the index. The index is like a giant digital book containing a copy of every web page that the spider finds. If a web page changes, then this book is updated with new information. Sometimes there is a time lag for new web pages to enter the index; a web page may have been "spidered" but not yet "indexed." Until a web page is added to the index, it is not available to those searching with the search engine.

3. **The Software:**

Search engine software is the third part of a search engine. This is the program that sifts through the millions of pages recorded in the index to find matches to a search and rank them in order of what the specific search engine deems most relevant.

Examples: Excite.com, Google.com

Hybrid Search Engines. Many search engines maintain a directory **and** have search engine results for keywords that are not in the directory. This may seem confusing, but think of typing the word “nuclear missile” into a hybrid search engine. First, the hybrid search engine will look in its directory for the page under one of the many categories. If no page is found in the listing, then the hybrid search engine will default to the index (catalog) of a large search engine.

One of the most popular default search engines is the Inktomi database. **Inktomi** is a technology-based company; one of its main products is the Inktomi search engine. The Inktomi database does not have a web page that someone can search; instead it sells the use of its index to other search engines, such as Yahoo. Inktomi licenses its search engine out to other companies that want their own search engines without having to build them from scratch. HotBot, launched in May 1996 and owned by Wired Ventures at the time, was Inktomi's first customer. Inktomi now also powers MSN Search and other search engines, and it provides supplementary results to Yahoo, Snap, GoTo.com and other search services.⁷

Example: Go(Infoseek) lists sites primarily in two ways. It has a directory where human editors have organized sites into categories. It also has a search engine component, where its spider crawls the web to build an index of web pages. Formerly known as Infoseek, the service was officially rebranded Go in May 1999.

Other Examples: Yahoo.com, snap.com, lycos.com, America Online

Specialty Search Engines. In general, search engines, directories, and hybrid search engines generate the majority of the search engine traffic. New models for search engines are being continually developed. Many websites have the ability to search through just the information located on their website. One example is

⁷ Searchenginewatch.com, *How Inktomi Works*

www.microsoft.com, which offers search capabilities of just Microsoft information.

Community portals are also becoming popular. Portals are websites that are tailored to a specific theme or target market. For example, the search capabilities for these web sites are tailored to specific topic of interest.

Another unique model for a directory is **Goto.com**. Goto.com offers a unique way of developing their index. Companies submit URLs and associate a specific page (URL) to a keyword. For example, if a consumer types in “digital camera software” into www.goto.com, snapAlbum 2000 shows up third on the page, as shown in Exhibit 8. Every time a web surfer clicks on that URL, [Easy To Use Digital Camera Software](#), the company is charged \$0.08. This cost to the advertiser is referred to as the cost per click for that advertisement. When a keyword is searched for, the resulting pages are ranked by the highest cost per click instead of by what is actually on the page. This can be an effective tool in driving targeted customers to specific pages in a website. Goto.com is also one of the highest revenue-generating directories due to this cost per click model.

 <input data-bbox="365 1014 576 1056" type="text" value="digital camera softw"/> Search made simple.™	<p>3. Easy To Use Digital Camera Software snapAlbum2000 – Captures all digital camera photos, scanner images, an pictures from your hard drive. <i>commerce.snapapps.com</i> (Cost to advertiser: \$0.08)</p>
<p>Exhibit 8 – Goto.com uses a cost per click search engine as a way to produce revenue.</p>	

What “spiders” look for when they crawl a website

Imagine typing “digital camera” into a search engine. The search engine will check its index of pages and find the web page with the highest relevance. How does the “spider” decide which page is the most relevant? This is a very important step in the success of the search engine positioning.

When a “spider” searches a page, it generally looks for items referred to as HTML^{Def} tags; refer to Exhibits 9 and 10 on the next pages. The relationship between what the

Def **Hyper Text Markup Language(HTML)** - the authoring language used to create documents on the World Wide Web. HTML defines the structure and layout of a Web document by using a variety of tags and attributes. The correct structure for an HTML document starts with <HTML><HEAD>(enter here what document is about)</HEAD><BODY> and ends with </BODY></HTML> (Webopedia.internet.com).

user actually sees (Exhibit 9- Web Page) and the HTML code that creates it (Exhibit 10– HTML Code) will be explained here:

1. **Title Tag – <Title>Inexpensive Digital Camera Software</Title>**
 - a. This tag is often used as the title in the search engine results. Often the text is transparent to the user viewing the page. It is highlighted in the red text in the HTML Code and denoted by the <Title> tag.
2. **Meta Tags - Meta Tags are invisible to those who view the web page. They are written in the HTML code right after the Title and are used for providing keywords that describe the page contents. Search Engines often use Meta Tags to sort and rank web pages according to the keywords entered into the HTML code.**
 - a. **Keyword Meta Tags – META NAME = “keywords” content =**
 - i. These keywords are chosen to replicate what a user would enter into a search engine to find that particular site.
 - b. **Description Meta Tags - <META NAME="description" content=**
 - i. Usually this description is located right underneath the title on search engine results and offers an explanation of what the website contains.
3. **Link Tags - href="http://www.snapapps.com"**
 - a. Links Tags are URL addresses to other websites. One of the Link Tags on this page is to www.snapapps.com, snapApps homepage. Many search engines follow the links to other pages and find out how many times the keyword comes up on the corresponding web pages. By following the hyperlinks to other pages, search engines can ensure that the website’s content is devoted to the specific keyword that is entered into the search engine.
4. **ALT Tags - ALT="Digital Cameras"**
 - a. An ALT Tag is the description of an image. Each image on the web page can have one ALT Tag. The ALT Tag tells browser software to show specified text (ALT Tag) while the images are loading, or the text will be used as an alternative to the image if a person’s browser has “Graphics turned off.”
5. **Comment Tag - <!--This is a comment and can not be seen by users -->**

- a. HTML notes that the developer can see, but are not shown to the user viewing the HTML page. The Comment Tag is denoted by an exclamation mark in the HTML code.

6. **Headline Tags - <h1 align="center">**

- a. Web pages can have different size text. These are referred to as Heading Tags. Most search engines give a higher relevance to larger headings. H1 is the largest heading and the size decreases with H2, H3, and H4.
 - i. Example (H1) – Refer to the web page and the text “Finally, easy to use Digital Camera Software.” This can be found in the HTML Code as **<h1 align="center"> Finally, easy to use Digital Camera Software</center></h1>**

Determining Ranking. When a consumer enters a word or phrase into the search engine, he or she wants only relevant information. For a web page to show up at the top of the search results, the specific web page must rank highly on that keyword entered into the search engine. The quest for keyword-focused pages is the **common denominator** that all search engines look for.

Keyword density is one way search engines decide which web pages are most relevant to a particular keyword search. The keyword density is calculated by dividing the total number of words on the page by the number of keywords on the page (“digital camera” in this case). The total words for the web page shown on Exhibit 9 is 320; the number of times “digital camera” is used in the page is 14. By dividing these numbers, a **“keyword density”** of 22.9 is calculated for the search.

The search engine then uses a specific algorithm that takes the keyword density for each HTML tag (the six HTML Tags were explained in detail above) and gives the page an overall **percentage of relevance** for “digital camera.” The higher the percentage of relevance for the page, the higher the ranking on the search engine. All search engines use a different, secret algorithm to weight each HTML tag. These various weighting techniques are the main reason why the same page may be ranked different by various search engines.



Exhibit 9 – Sample keyword focused web page for “digital camera.”

```

<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.0 Transitional//EN">
<html>
<head>
<title>Inexpensive Digital Camera Software</title>
<META NAME = "keywords" content = "digital cameras, DIGITAL CAMERA, cameras, digital
photos, digital camera software">
<META NAME="description" content="snapAlbum 2000 works like a digital photo Album and
stores pictures from any digital camera.">
</head>
<body leftmargin=0 topmargin=0>
<map name="buttons">
<area shape="rect" coords="2,3,141,16" href="http://www.snapapps.com">
<area shape="rect" coords="2,23,141,36"
href="https://commerce.snapapps.com/index.cfm?page=store</map>
<table cellspacing="0" cellpadding="0" border="0">
<br>
<!-------This is where the body text goes----->
<!-- -----This is a comment and cannot be seen by users: note the exclamation mark----->

<h1 align="center"> This a heading tag and carries the most weight compared to h2, h3
<br>Finally, easy to use Digital Camera Software</center></h1>
<h2 align="center"><font color="#000080">snapAlbum 2000</font></h2>
<!-------More content for the page and then the final link at the bottom----->
href="https://commerce.snapapps.com/index.cfm?page=detail&ProductID=16&x=45&y
=30" target="_top">LEARN More about snapAlbum</a>...</b></p>
</body>
</html>

```

Exhibit 10 – The HTML code for the web page above

Exhibit 11 below summarizes the most popular search engines scoring strategies as of February 2, 2000.

www.SearchEngineWatch.com		
Indexing	Yes	No
Full Body Text	All	None
Meta Description	All but...	FAST, Google, Lycos, NLight
Meta Keywords	All but...	Excite, FAST, Google, Lycos, NLight
ALT text	AltaVista, Go, Lycos	Excite, FAST, Google, Inktomi, NLight
Comments	Inktomi	ALL Others
Ranking	Yes	No
Meta Tags Boost Ranking	Go, Inktomi	AltaVista, Excite, FAST, Google, Lycos, NLight
Link Popularity Boosts Ranking	AltaVista, Excite, FAST, Google, Go, Inktomi, NLight	Lycos

Exhibit 11 – This chart displays general knowledge about what type of HTML tags are important to each search engine. The exact weight of each of these tags is unknown.

Key to Exhibit 8

This exhibit covers the crawler-based portions (index not directory) of AltaVista, Excite, FAST Search, Go (Infoseek), Google, Lycos and Northern Light. It also covers the Inktomi results that form portions of AOL Search, HotBot and MSN Search. Excite covers portions of Excite-owned Magellan and WebCrawler.

Full Body Text – All major search engines say they index the full visible body text of a web page.

Meta Description and Keywords – These engines in the “No” column use other criteria (HTML Tags) than Meta tags for relevancy

ALT Text and Comments – These engines in the “Yes” column use ALT Tags and comment tags in determining ranking.

Meta Tags Boost Rankings – These engines in the “Yes” column put a large amount of weight on the Meta Tags
Link Popularity Boosts Rankings – These engines in the “Yes” column put more relevance on pages that have many other web pages linking to them.

III. How to Make a Site Search Engine Friendly

Once a company is armed with the knowledge of what spiders are looking for and how people search the web, a company can decide what keywords are crucial to driving traffic to its website. As discussed in the previous sections, the main factors for search engine ranking are the frequency and relevance of the HTML tags in reference to the keyword searched. The first step in preparing a site for high search engine positioning is to find the appropriate keywords upon which to focus the web page description. Once this list of keywords is compiled and refined, a web developer can implement these words into the various HTML Tags in the web page.

Choosing the keywords for the web page focus takes research. It is similar to conducting a target market study before the start of a new marketing campaign. If a website does not appropriately pick the right keywords, the customers who find the web site through search engines will likely not be targeted customers.

Prior to choosing the keywords for web pages, the company should realize that some keywords, because of their common usage, are more competitive for ranking than others. A company can boost its success in search engine positioning by focusing on more distinctive words. For a company to appear at the top of the search engine results for the word "savesaver" is much more difficult than using the phrase "Montana Screensavers." By choosing words and phrases that are more specific, companies will increase the likelihood of success at search engine positioning.

How to Generate Keywords and Meta Tag Keywords

Generating keywords can be accomplished by, but is not limited to, the following:

1. **Competitors**

Generate a list of all known competitors in the online environment. See which of their sites continually show up high in search engine positioning. As shown in Exhibit 12, go to the web pages of the highest ranked competitor sites and **click View | Source** in the **menu bar of your web browser** (Internet Explorer or Netscape).

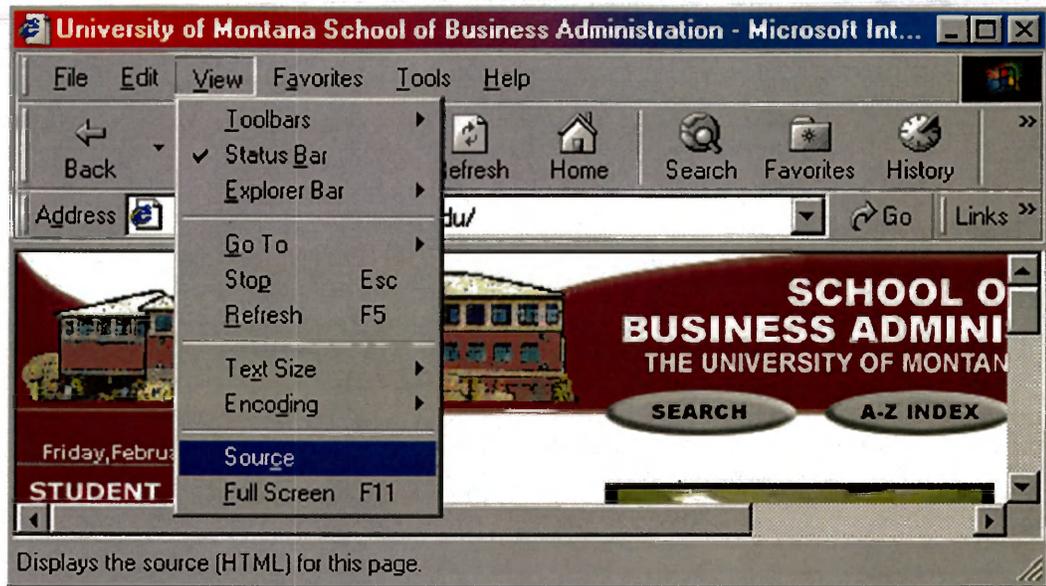


Exhibit 12 – Example of using the View | Source feature within Internet Explorer to view the HTML code

This shows the HTML code for that home page. Check all the keywords in the **Title Tag** and **Meta Tag** portion of the document. (Refer to Exhibit 12 for a sample of the where the tags are located.) Make note of these words and phrases for use as possible keywords. View the source code for each product or product line also.

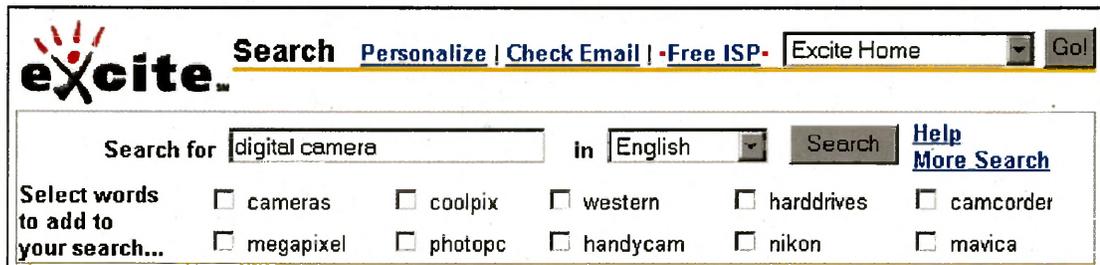
2. Survey the consumer’s perspective

Generate a customer profile of how the target market searches the web. For example, if consumers are children, then the keywords in the HTML pages will be much different than if the market is comprised of brain surgeons. Try to anticipate what the user is going to type in the search engine. Use these five “tips” as a starting point:

- Features of the product or information they are looking for
- Benefits gained from the product or information
- Phrases and questions possibly asked
- Common misspellings of popular words
- Trade name and common name

3. Use Search Engines

Many of the search engines offer helpful hints to narrow peoples' searches. When a person searches by keyword on Excite, the search engine provides the user with suggestions of other words to refine the search. In Exhibit 13, the search was for "digital camera". Excite offered 10 other words to narrow the search (such as megapixel, handycam, and Nikon). Make note of these keywords, but only if the information is relevant to the web site being developed.



The screenshot shows the Excite search engine interface. At the top left is the Excite logo. To its right are links for "Search", "Personalize", "Check Email", and "-Free ISP-". There is a dropdown menu for "Excite Home" and a "Go!" button. Below this is a search bar with the text "Search for digital camera" and a dropdown menu for "in English". To the right of the search bar is a "Search" button and links for "Help" and "More Search". Below the search bar is a section titled "Select words to add to your search..." with ten checkboxes and corresponding keywords: cameras, coolpix, western, harddrives, camcorder, megapixel, photopc, handycam, nikon, and mavica.

Exhibit 13 – Excite offers suggestions of other words that might be added to the search term to narrow the focus of the search.

Creating a Search-Engine Friendly Page

Once a list of keywords has been developed, the general design of the site can be established. Even if a company already has a web site, these keywords should be added into those existing pages. However, for the web pages to be consistently at the top of search engines, the company must deliver valuable content based on the keyword that was added to the pages. For example, simply placing the keyword "parrot" in the HTML tags may boost search engine rankings for people searching for parrots. However, if the page is about pornography or a topic other than parrots, this is considered to be **search engine spamming or spamdexing**^{Def}. These unethical web pages are not detected electronically; instead web surfers will notice an unusual site at the top of a search engine results list. The web surfer can e-mail the webmaster of the

Definition **Spamdexing**

The alteration or creation of a document with intent to deceive an electronic catalog or filing system. Any technique that increases the potential position of a site at the expense of the quality of the search engine's database can also be regarded as spamdexing - also known as **spamming** or **spoofing**. (http://www.cadenza.org/search_engine_terms/srchs2.htm#set_spamdexing)

search engine who will then remove the page from the index indefinitely. Many businesses competing for a top position on search engine results will e-mail webmasters to complain about irrelevant pages and unethical behaviors.

Many web developers believe that placing a large variety of keywords on a specific page increases its odds of being ranked highly. On the contrary, each keyword should be focused on the topic of an individual web page. If a web page is using many different keywords throughout the same page, the percentage of relevance for one individual keyword is diluted by the other words. If a company has twenty different keywords **on the same page**, they simply cannot score well with the search engines. This is why each web page needs have keywords focused on relevant content.

Some web developers try to hide hundreds of the same keywords on the same web page. This is considered to be **spamdexing** and is considered unethical by all search engines. Furthermore, a specific keyword may be overused on a web page. Search engines test pages for reasonable length and reasonable speech. This essentially means if the keyword density for the page is too high, the search engine will know that it is not a normal page and give it a lower ranking.

So what is an engine-optimized page? No one can really create an engine-optimized page for all search engines because each search engine has different criteria. The criteria are kept secret by each search engine. The solution to this problem is to understand the HTML tags the “spiders” are looking for. The majority of the time, distributing the keywords into the HTML tags will ensure a fairly high ranking. The key to getting to the #1 ranking is tweaking various HTML tags and adjusting the frequency of keywords.

WebPosition Gold, www.webposition.com, has an understanding of what the various search engines are looking for. The WebPosition Gold software offers a function called the Page Critic. The Page Critic knows each search

engine's unique personality and how to optimize pages for a top ranking without spamming or abusing the search engines. WebPosition Gold's Page Critic (See Exhibit 14) accomplishes this task by critically analyzing the top pages of thousands of different keywords at each search engine. From this data, the Page Critic can generate the tendencies of each search engine and explain why the pages ranked highly.

Addendum A shows the HTML page in Exhibit 9 analyzed by the Page Critic for the keyword “digital camera” on the Altavista search engine. From this wealth of data,



Exhibit 14 - WebPosition

modifications to the page can be made to improve search engine ranking. In the analysis in Addendum A, the Page Critic found that highly ranked pages at AltaVista had an average keyword frequency of one. The page shown in Exhibit 9 has a keyword frequency of three in the Meta tag for keywords. Although the page in Exhibit 9 was keyword focused for digital camera, it would not have ranked highly on the Altavista search engine due to AltaVista's preference for the keyword frequency of one.

For many companies, simply understanding what keywords the pages will be focused on is sufficient. Search engine-positioning companies will take those keywords and make the proper modifications for the web pages to receive a higher ranking. Incorporating these techniques into the web page is the first step to higher search engine ranking. After making the site search-engine friendly, the next step is to submit these web pages to the appropriate search engines and directories.

Submitting Web Pages to Search Engines

Search engines and directories do not automatically know that a new page has been created on the web. The web pages must be submitted before they can be "spidered" and "indexed." Submitting the appropriate pages to search engines and directories is a time-consuming, yet essential, part of search engine positioning. There are thousands of search engines and directories on the web that allow web page submissions. Individually submitting each page in a web site to thousands of search engines is a daunting task. Instead, most developers focus on the search engines and directories that are the most popular.

Media Metrics publishes monthly statistics on Internet usage. Exhibit 15 shows the 10 most popular search sites as of January 4, 2000.

Rank	Top 10 Search Sites	Unique Visitors Per Month (000s)
1	Yahoo.com	43,338
2	Go.com	20,334
3	Lycos.com	17,926
4	Excite	14,060
5	AltaVista Search Services	12,697
6	Snap.com Search & Services	10,719
7	Looksmart.com	8,920
8	Goto.com	6,899
9	Iwon.com	6,330
10	AskJeeves.com	6,264

Exhibit 15 – www.mediametrics.com

It has been estimated by web marketers that the majority of all search engine traffic originates from the top ten search engines and directories. It is much more effective to focus the majority of the time submitting web pages to these popular search engines than to try to rank high on the multitude of other search engines. However, if a company finds that a specialty search engines fits the consumer's needs better and attracts targeted customers, then it should be included.

To submit a web page, go to the desired search engine or directory where the page is to be submitted. Each search engine and directory has a link from its home page that is characterized as "Add URL" or something very similar. This link will lead the user to a page where the information can be submitted. A sample directory submission at www.msn.com, the Microsoft Network, is shown in Exhibit 16. For most search engines, all the information needed to make a submission is a URL. However, many directories and a few search engines require various other types of information. For example, the MSN submission in Exhibit 16 required not only the URL, but a category, an e-mail address, a title and description of the web page being submitted.

Web page to add:

http://www.snapapps.com

Category:

-Software

Your e-mail address:

dneil@snapapps.com

Title of the Web page:

snapApps.com - Easy to Use Software

Description of the Web page:

Simply speaking, our software is a snap to use. We've worked hard to make things like scanners and digital cameras fun to use. We've unraveled the confusion of email.

Submit

[Delete URL](#)



Submitted URLs are subject to editorial review, and submitting a URL does not guarantee acceptance by MSN Search. Your e-mail address will only be used to contact you regarding your submission.

Exhibit 16 – <http://search.msn.com/addurl.asp?q=&RS=CHECKED&co=20> - Sample web page submission to MSN (Microsoft)

How often to submit pages. A very important issue in search engine positioning is the frequency of submission. Some search engines consider more than one submission per day unethical, while others have no limits on the number of page submissions. Exhibit 17 shows general submission guidelines for the different search engines and directories. Two caveats apply to relying on the guidelines shown in Exhibit 17. First, submission guidelines are likely to change in the future. Secondly, not all of the search engines and directories are listed in the table.

Search Engine	Submit more than Home Page	Submit Limit	Submitted Pages Appear In	Non-Submitted Pages Appear in	Overall Freshness
AltaVista	Yes	About 5 pages per day	1 to 2 days	About 1 month	1 day to 1 month
Excite	No	25 pages per week	Within 2 weeks	Up to 6 weeks	1 day to 3 weeks
Google	No	No limit, but only sub a few pages per site	4 to 6 weeks	4 to 6 weeks	1 day to 6 weeks
HotBot	Yes	50 pages per day	Within 2 months	Within 2 months	1 day to 2 month
Go (Infoseek)	No	1 page per day	Within 6 weeks	Within 6 weeks	1 day to 6 weeks
Lycos (web index)	Yes	No limit, but stay below 50/day to be safe	3 to 6 weeks	3 to 6 weeks	1 day to 6 weeks
Northern Light	No	No limit, but only sub a few pages per site	2 to 4 weeks	2 to 4 weeks	1 day to 1 month

Exhibit 17 – www.searchenginewatch.com - General Submission Guidelines, as of December 4, 1999

A solution to the complexity of the submission process is through a web site submission tool. One effective tool that automates search engine submission is AddWeb, shown in Exhibit 18. Instead of entering submission information many times at each search engine and directory, AddWeb creates the ability to enter the information into AddWeb only once. Once the information is gathered by AddWeb, it automates the process of submitting to almost 2,500 search engines through what is called **browser emulation**. Some search engines cannot receive submissions unless they can recognize the web browser that is doing the submission. So, for example, if they don't see that Internet Explorer or Netscape Navigator submitted, they won't receive the submission. AddWeb and other tools have the ability to emulate these browsers when they submit web pages so that the search engine recognizes the submission as being browser generated. Furthermore, AddWeb and similar tools automatically check to see how often the pages can be submitted to each search engine. This process of checks

and balances helps to avoid search engine spamming.

The screenshot displays the AddWeb 3.2 interface. At the top, it shows 'Engines Selected for Submission' with 'Total # selected: 13' and 'Never Submitted: 1'. Below this is the 'Current Highlighted Engine Statistics' section, which includes: 'Times Posted: 9', 'Times Succeeded: 6', 'Times Failed: 1', 'Max Desc (Chars): 0', 'Can Submit every: 30 days', 'Max Submissions: 0 times', 'Autodelete after: 60 failures', and 'Max Desc: 0 words'. Further down, it states 'Submissions are posted: Within one week'. At the bottom, there are status indicators for 'Personal: OK', 'Commercial: OK', 'Adult: OK', and 'MLM: OK', along with a warning: 'Do not submit more than one page from your website to Alta Vista'.

AddWeb 3.2

This software not only automates the submission process, but also gives valuable information on how often to submit pages, how long till pages are posted, and how many pages from the site should be submitted.

Exhibit 18 – AddWeb is one of the many search submission tools that automates the process of submitting web pages to search engines and directories.

Tracking the success of the web page submissions

The whole process of (re)designing the web site and (re)engineering the pages so that they are keyword focused is a time-consuming process. Furthermore, web page submissions take a significant amount of time. After the pages have been submitted to an engine, the pages must be frequently checked to see if they have been indexed. Based on the research completed on snapApps.com, the in-house process of submitting web pages to the appropriate search engines takes approximately 4 hours initially and an additional 8 hours a week of maintenance. This process must be done by a technically competent web developer or marketer.

The two easiest ways to track the success of the web site submissions is through checking the submission status at each of the search engines or generating web site statistics through log files.

Checking submission status. The search engines and directories offer a simple way for checking the status of the web site. For example, at Altavista.com, just type the URL of the page to be checked into the search box. If the web page shows on the search results, the page has been indexed. Many people expect that the web pages will appear within a few days. However, as shown in Exhibit 17 above, some search engines may take as long as six weeks

to index pages. Furthermore, some of the submissions at the search engines and directories never are indexed. This is due to the overwhelming amount of web pages submitted daily. Search engines have been known to shut down the submissions area of the web site for periods of time due to the overload of pages to be processed.

Checking the status of all the pages on all the search engines can be an overwhelming task. There are many third-party tools on the web that make this process easier. These various tools save a considerable amount of time. WebPosition Gold and AddWeb, two software programs discussed previously, show how high the web pages rank on the top search engines and directories.

Using log files to generate statistics. Many companies want to know the actual traffic that these search engine rankings are generating for the web site. Web servers, the computers that host web sites, maintain log files that catalog every request made to the web server. The log files catalog hundreds of website statistics, but the data is stored in a format that is difficult for people to understand. Log file analyzers take the raw log file data and make it useful marketing information. With log file analysis software, it's possible to generate a good idea of where visitors are coming from, what term they used in the search engine, how often they return to the website, and hundreds of other useful statistics.

Often, the Internet Service Provider (ISP) that hosts the web site will generate these statistics from the log files for a small fee. If the Internet Service Provider does not provide comprehensive statistics, a few web companies have created log file analyzers that are extremely easy to use and accessible on the web for all authenticated employees to see. For example, WebSTAT.Com is a free web-based service for analyzing traffic to a particular website. Through a series of convenient and easy-to-read graphs and tables, people can track the performance of their web site over time. A sample of the information generated by Webstat.com is shown in Exhibit 19.

Webstat.com offers **detailed** statistics on the following:

- Total Weekly/Daily Hits to your website
- Total Weekly/Daily Unique Visitors to your website
- Highest Number of Hits in one day
- Top 30 Visited Pages (WebSTAT.Com will track multiple pages!)
- Top 30 Referring URLs (sites with a link to your site)
- Search Engine Breakdown (i.e. Infoseek, Yahoo, Alta Vista, etc.)
- Top 30 Key Words per Search Engine
- Top 30 Web Browsers (i.e. Netscape 4.0, 5.0, IE 5.0, etc.)
- Visitors' Operating Systems (i.e. Windows 95, 98, NT, Linux)
- Visitors' Screen Resolution (i.e. 640x480, 800x600, etc.)
- Visitors' Screen Colors (i.e. 256, HiColor, TrueColor)
- Visiting Countries/Domains
- Visiting Organizations/Service Providers
- Hourly Breakdown on traffic to your site
- Daily Breakdown on traffic to your site
- Monthly Trends for a Full Year!

Exhibit 19 – WebStat.com is one of the Internet companies specializing in analyzing log files from specific web sites.

IV. snapApps.com – Practical Application

The experience snapApps.com is a practical application of the previous section on “How to Make a Site Search Engine Friendly”. SnapApps.com wanted to create search engine friendly pages for snapApps.com’s website and submit the pages to the top search engines and directories in order to:

1. Increase the number of visitors to snapApps.com’s website
2. Increase the sales of snapApps.com’s software

The process of creating search engine friendly pages and submitting are documented meticulously so readers will understand the actual effort needed to accomplish successful search engine positioning. The effort can be measured in actual direct labor dollars relative to traffic and sales generated. This data will be used to contrast the advantages and disadvantages of outsourcing the search engine positioning to a third party.

snapApps.com – Overview

Dedicating considerable engineering expertise to the development of simple, intuitive software applications, snapApps.com, Inc. is streamlining the way people think about technology. Devoted to the premise that users are frustrated with today’s overwhelming software applications, snapApps.com creates clean, focused products that offer both simplicity and ease of use. The newest advances in both digital imaging and electronic communication have bewildered the average PC user. SnapApps.com simplifies this technology, making it accessible to all users, regardless of their expertise.

A few samples of the software snapApps.com offers are as follows:

snapAlbum: Organizes and tracks digital images. Pictures can be downloaded directly from scanners and digital cameras and be placed into customized categories. Users can easily e-mail photos with the click of a button. SnapAlbum also offers an array of printing options that permit the user to conservatively use expensive photographic printer paper.

snapSafe: Organizes and maintains personal passwords, account information and PINs in one simple application. User information is stored and displayed, permitting the user to protect all personal information with a single PIN. SnapSafe allows multiple users to share one snapSafe installation, with each user maintaining a private, protected list of accounts.

Customers. Built primarily with the novice PC user in mind, snapApps.com software products are marketed toward the entry-level computer user. SnapApps.com also offers its products as bundled software to the OEM industry. As peripheral devices become more readily available to the public, it is imperative to distinguish the differential advantage of both peripheral devices and software. The easy, intuitive software solutions offered by snapApps.com can accomplish this positioning with a refreshingly simple angle.

Current Marketing and Sales. The website for snapApps.com was enabled for secure online transactions at the same time the web pages were submitted to the search engines. No other marketing campaigns were currently in progress. Prior to reengineering the website to be optimized for search engines, total online sales for snapApps.com was zero. The website has been used mainly to generate interest, allow customers to access product information, and purchase the software via a secure credit card transaction or through a toll free number.

Process and Results

Creating Search Engine Friendly Pages. On January 4, 2000, the project for snapApps.com search engine optimization began. Initially, the project was focused on creating search engine friendly pages. Before the pages could be created, a considerable amount of time was spent understanding consumer behavior. What would a potential customer type into a search engine if they were looking for snapApps.com? Since snapApps.com is a new business and unfamiliar to customers, this question had to be refined. What would a potential customer type into a search engine if they were looking for a software solution similar to what snapApps.com offers? The answers were very product specific.

SnapAlbum is a program that stores pictures from digital cameras and scanners and makes them easily available in a digital photo album. The keywords that were most relevant and would attract potential customers were as follows:

- Scanner
- Digital Camera
- Photo Album

One keyword-focused page was developed for each keyword. (A sample of one of the keyword focused pages for “digital camera” was shown in Exhibit 9.) The keywords were placed appropriately into the various HTML tags. A total of 15 keyword-focused pages were created.

Overall, the time spent creating the pages was 31 hours. The majority of the time spent was setting up a template for the pages. Once the template was finished, the majority of the time was spent on the wording of the content to fit the preference of the search engines. I have no HTML programming experience, but have an extensive technical background in information systems. An HTML programmer would likely have taken less time, but the advantage of having a marketer involved is the knowledge a marketer has of customer behavior and understanding what a consumer might type into a search engine.

Submitting the Pages. All of snapApps.com’s web pages were submitted manually to the top ten search engines on February 3, 2000. All major search engines state that the pages will be indexed in less than 6 weeks. By the end of February, only Yahoo, Altavista, GoTo, and Snap had indexed the web pages according to WebTrends Executive Summary Report in Exhibit 20. By the end of March, only LookSmart was added to the list of search engines that had indexed the website. Six other search engines had failed to index the web site after this eight-week period.

Top Search Engines			
	Engines	Searches	% of Total
1	Yahoo	26	66.66%
2	AltaVista	7	17.94%
3	GoTo	5	12.82%
4	Snap	1	2.56%
Total of Searches for the Engines Above		39	100%
Total of Searches for the Log File		39	100%

Exhibit 20 – WebTrends February Statistics – This chart indicates that only 4 search engines had indexed the website.

Traffic Generated. A primary goal of this project was to increase the number of unique visitors to snapApps.com’s website. It is important to count only unique visitors. Many web companies brag about the number of hits their web sites generate. A “hit” is a single access request made to the server for either a text file or a graphic. These “hits” occur anywhere from a couple times to hundreds of times per visit to the website. Using

“hits” as a counter overstates the actual number of people that viewed the website. The number of “hits” a site generates does not correlate well with the actual number of people that visited the web site.

Log file analyzers, such as WebTrends or HitBox, will calculate the number of unique visitors to the website. If one person is accessing the website many times on various days, they will be counted only once. SnapApps.com used WebTrends as their choice for a log file analysis software.

As shown in Exhibit 21, in February the number of unique visitors increased from approximately 30 visitors to over 219. This increase was mainly due to the company’s initial presence on the Yahoo directory and AltaVista search engine resulting from the web page submission. Over the course of next month, the number of visitors to snapApps.com more than doubled. By March, the number of unique visitors was up to 577. Over 10% of the user sessions were international in origin. As shown in Exhibit 22 on the next page, the most active country was the United States, but another 70 unique user sessions were initiated in nine other countries such as Spain, Canada, Croatia, and Australia.

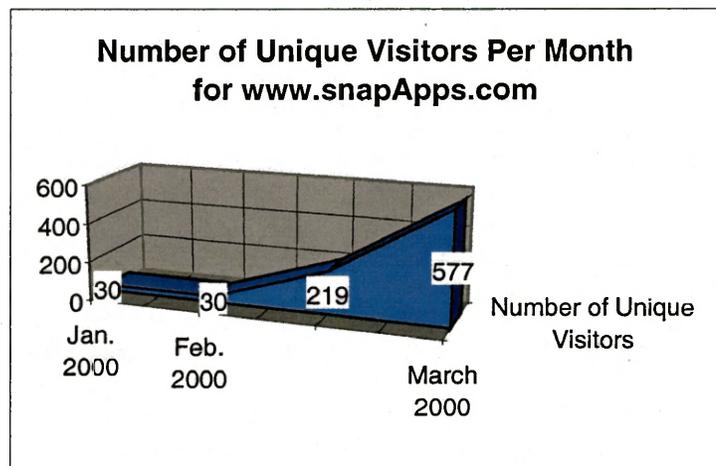


Exhibit 21 – Number of Unique visitors per month according to WebTrends statistical log file analysis

Most Active Countries		
	Countries	User Sessions
1	United States	553
2	PR	23
3	UK	10
4	Australia	9
5	Canada	8
6	Netherlands	6
7	Italy	5
8	Spain	3
9	Croatia (Hrvatska)	3
10	South Africa	3
	Total	623

Exhibit 22 – WebTrends March Statistics – Web surfers from ten different countries visited snapApps website

Additional Refinements. At the beginning of March, snapApps.com purchased AddWeb submission software and WebPosition Gold to automate and improve the process of submitting and refining the web pages. Initially, when AddWeb was purchased, snapApps.com submitted all the web pages to over 1000 search engines and directories. Although the focus of the search engine submissions was on the top ten search engines, submitting to all the other engines one time was easy with the automated submission of AddWeb. The drawback to submitting to many search engines is that the pages cannot be tailored to each search engine. The Page Critic, by WebPosition Gold, analyzes the web page according to only the top ten or so search engines.

Approximately every three weeks, the pages were refined using WebPosition Gold's Page Critic. AddWeb was used to automate the submission process. This process took approximately 6-8 hours per week to accomplish with the submission software and closer to 12 hours per week without the software.

As shown in Exhibit 23, the top search phrase that attracted web surfers from the search engines was "photo album software" followed by "digital camera software." The search phrases detected by WebTrends are critically important to snapApps.com. By understanding that web surfers are more attracted by the phrase "digital photo album" than any other keyword, snapApps.com can tailor their specific web pages to take advantage of this specific consumer behavior.

Top Search Phrases			
	Phrases	Phrases found	% of Total
1	photo album software	95	50.53%
2	digital camera software	18	9.57%
3	Password	12	6.38%

Exhibit 23 – WebTrends March Statistics – Top phrases web surfers used to find snapApps website

Even though the number of unique user sessions had increased, the top ranking web page was 35th on AltaVista in a search done for “digital camera software”. This was checked manually by going to the various websites and performing sample searches. The desire to get into the top ten of the search engine results was never accomplished. Even with the low search engine rankings, the number of user sessions was increasing. The lower ranking could be explained by a glitch in one of the HTML tags that was not noticed until after the pages were submitted. This mistake offered a valuable lesson; check the pages meticulously before submitting to the search engines because there is no opportunity to (un)submit them.

Impact on Sales. The increase in the number of visitors to snapApps.com’s web site did accomplish the 2nd goal of the project. The most important goal to snapApps.com was to increase the sales of the software products online. With a total of over 800 unique visitors over the course of two months, there had been only one online sale. Although previously there was no online sales, the conversion rate^{Def} for snapApps.com’s website was only 0.13% or about a one-tenth of one percent.

SnapApps.com was definitely targeting customers interested in digital photo albums. They offered snapAlbum, a digital photo album software; however, the low conversion rate could be explained by a number of factors including:

1. Customer resistance to purchasing online
2. The sales presentation and marketing of the product on the web site could need improvement. Simply attracting consumers to a website was fairly easy, but actually convincing the buyer to purchase was difficult.
3. The latest trend in software purchasing is a “Try and Buy” sales technique. This deal offers the consumer the option of trying the software for free for a certain

^{Definition} **Conversion Rate:** Number of people that actually purchase from a website compared to those that viewed the advertisement, or website in this case.

period of time, after which the consumer has the option to purchase the product at regular price. SnapApps.com is currently testing this sales technique.

4. snapApps.com currently is a new software company trying to establish an identity and develop brand equity. Consumers may still have resistance buying from a company that they do not know much about.

Any single one of these explanations or a combination of all of them may have caused the low conversion rate for snapApps.com's website. The key point to understand is that attracting visitors to the web site will not necessarily translate into increased sales.

Lessons Learned

Even though search engine positioning offers many advantages, there are some limitations. The first and foremost limitation is understanding that attracting consumers to a web site does not necessarily mean they are going to purchase anything. The traditional tools of promotion, advertisement placement, and a convincing message are still very important. An excellent source for understanding online selling can be found at www.sitesell.com. This digital book outlines the key essentials for uneducated marketers on how to not only increase the number of visitors, but also increase sales.

The second limitation of search engine positioning can be classified as uninformed vs. informed consumers. How does a company target a person that doesn't know the correct word to type in to find the appropriate website? For example, snapApps.com sells a product that organizes usernames and passwords in a simple computer software application. This product, called snapSafe, is an excellent product, but very difficult to sell through search engine positioning. People don't generally search for a product to organize their passwords. Finding interested customers means using keywords that are not directly associated with the product, such as the keyword "web surfer". Web surfers generally access many different web sites and therefore, would need to store many usernames and passwords. If on one hand, snapApp.com focuses their web page on generating traffic from the keyword "web surfers" and if on the other hand, its web page is about organizing passwords, that could be characterized as **spamdexing**.

Search engine positioning is generally limited to consumers that are informed rather than uninformed about the product offering. Uninformed consumers need to be reached in other environments and advertising media.

Cost/Benefit Analysis – In-house vs. Outsourcing

What is the economic value of search engine positioning? According to the project done with snapApps.com, the costs are mainly based in direct labor. As shown in

Exhibit 24, the costs associated with search engine positioning are \$544.00 based on the labor at \$8 per hour. The labor must be technically competent. The process requires the close coordination between web developers and marketers. In addition to the initial costs, the maintenance costs are at least eight hours per week to maintain the

Search Engine Positioning Costs		
Initial Costs	Direct Labor	Cost
Consumer Research	11 hours x \$8/hr	\$88.00
Creating 15 Web pages	31 hours x \$8/hr	\$248.00
WebPosition Gold Software		\$149.00
AddWeb Submission		\$59.00
TOTAL	41 hours x \$8/hr	\$544.00
On-going Costs	Direct Labor	Cost
Maintenance	8 hours/week	\$64/week

Exhibit 24 – The approximate cost of doing an in-house search engine positioning strategy

high search engine listings. The costs of search engine positioning can be significant for a small business if they have many keywords or a very high direct labor rate.

The other option for search engine positioning is through a third-party vendor. Morevisibility.com offers search engine positioning for \$1200 per keyword per year. The company has had success in maintaining high rankings. For snapApps.com, using Morevisibility.com would cost \$3600 for the keywords: (1) scanner, (2) digital camera, and (3) photo album.

To compare the cost of outsourcing to a third-party, with performing the operation in-house at snapApps.com, search engine positioning for one-year in-house totals \$4,416 at \$8 per hour. The difference in price is just one factor that would affect the decision.

Morevisibility.com and similar companies are full-time search engine positioning specialists. The quality of service and adaptability to the changing online environment are two important factors that must be addressed. When snapApps.com did the process in-house, the highest ranking achieved on the various search engines was 35th on AltaVista for digital camera software. The process of continually trying to adapt to the changing algorithms of the search engines was also a time-consuming and almost overwhelming process. A third party, such as Morevisibility.com, can usually deliver rankings in the top ten for each keyword and is accustomed to understanding how the online environment for search engines are changing.

The benefits derived from search engine positioning can also be determined. As shown in Exhibit 25, a company with an average sale of \$40, a conversion rate of 1%, and a gross profit of 15% can generate substantial profits weekly.

Visitors per week	Number of Sales	Revenue	Gross Profit
500	5	\$200	\$30
1000	10	\$400	\$60
5000	50	\$2000	\$300
10,000	100	\$4,000	\$600
50,000	500	\$20,000	\$3,000

Exhibit 25 – The economic benefits of search engine positioning

The bottom line for a small business is they must make an educated decision based on the factors presented in this paper. A company with a few, distinctive keywords could effectively perform search engine positioning in-house and be very successful. On the other hand, a company that is basing its business on web-site visitors and online sales should probably outsource the activity to a professional search engine specialist. Whatever a small business chooses, one advantage of search engine positioning over other marketing techniques is it can be economically measured in detail. Through a cost/benefit analysis and data gathered by the log files, a decision maker has plenty of useful data upon which to make an educated decision.

V. Conclusion

Throughout this paper the value and importance of search engine positioning has been addressed. The focus of this paper was on the small business advantages in search engine positioning such as low capital investment, access to a large, targeted audience, and the ability to differentiate the business through high search engine rankings.

It is important to understand the actual words and phrases that people enter into search engines. The main reason for this knowledge is so these words and phrases can be used to help generate keywords for implementing search engine strategies for a website.

Search engines automate the process of gathering and filtering the billions of pages on the Internet. The Spider (Crawler), the Index (Catalog), and the Software (Algorithms and Ranking) work in combination to produce instantaneous search engine results without web surfers ever knowing they exist. A directory, such as dmoz.org, gathers information through human compilation of submitted web sites and organizes them into organized Internet catalogs. Hybrid search engines, Yahoo.com, and Specialty search engines, GoTo.com, were also highlighted.

To understand how search engines decide which web pages rank the highest on the search engine results, the work of the Spider was covered in depth. The focus was on the frequency and style of the various HTML Tags and how they affect search engine rankings. The unique structure of each search engines was captured in the weight or importance given to the various HTML Tags to determine rankings.

Once a conceptual foundation of search engine positioning was laid, the concepts of how to make a web site search engine friendly was discussed. This section showed how to generate keywords and Meta Tags from competitors, consumers, and search engine tools. The practical knowledge was captured in the process of creating a keyword-focused page manually or with the help of tools such as WebPosition Gold's Page Critic. Once the web pages were created, the General Submission Guidelines were exhibited along with the process of tracking the success of web page submissions.

Log file analysis tools such as webstat.com offered vast amounts of valuable information for marketers and business decision makers.

The practical application to the various search engine positioning concepts was accomplished at snapApps.com. The startup software company in Missoula, MT, reengineered their website to be search engine friendly in the hopes of not only attracting more visitors to the web site, but also increasing sales. Over the course of two months, unique visitors at the web sit increased by a total of 766 visitors from 10 different countries. Although the number of visitors the website increased, sales amounted to only one sale for that period of time. Search engine positioning has the ability to increase visitors to a web site, but selling a product online still is a challenge.

To study the economic feasibility of search engine positioning, a cost/benefit analysis was calculated. Over the course of one year, the cost of outsourcing the search engine process was cheaper than using the inexpensive software tools available on the market and doing the process in-house.

The potential value of high rankings on search engines makes engaging in search engine positioning difficult to ignore. The value of successful search engine positioning is hard to dispute, but the process to get to the top of search engine rankings is not a simple process. The various techniques used to perform effective search engine positioning were explored in detail through out this paper. There are a plethora of variables to making a business decision. The goal of this paper was to present a conceptual and practical overview of search engine positioning in an easily understandable format. This paper has also helped marketers and business decision makers understand the concepts and processes associated with search engine positioning that will aid in making an educated and informed decision.

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In order of Footnote

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Addendum A

WebPosition Page Critic

 Page Critic

Keyword: digital camera

Partial matching disabled, Non-Exact Search, Non-Case Sensitive

Report created by WebPosition Gold version 1.30.9

[\[Page Critic\]](#) [\[Analysis Detail\]](#) [\[Page Properties\]](#)

Analysis Date: Saturday, March 25, 2000 at 6:13:56 PM

Main Page: <E:\Program Files\WebPosition\PageCriticDownLoads\snapappscom\wwwsnapappscomalbum-digitalcamera.htm>

Engine: [AltaVista](#)

Page Critic

[Click Here for Page Critic Help.](#)

Page Critic - Based on the Analyzed data and the current rules in my [knowledge base](#), here are my suggestions for improving the ranking of your page on AltaVista:**

[Suggestions for making your page conform closer to the statistical averages for top ranking pages:](#)

* The keyword frequencies suggested below are based on the number of times ANY of the words in your keyword phrase "digital camera" appear on the page, DIVIDED by the number of words in the phrase.

- A [word count](#) from 5 to 10 is suggested for the [Title](#) area. Your word count is 4 right now so you might consider increasing your word count in the [Title](#).
- A [keyword frequency](#) of 1 is suggested for the [Meta Keywords](#) area. Your frequency is 3.0 right now so you might consider decreasing your [Keyword](#) count in the [Meta Keywords](#).
- A [word count](#) from 5 to 14 is suggested for the [Meta Description](#) area. Your word count is 15 right now so you might consider decreasing your word count in the

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Meta Description.

- A keyword frequency from 1 to 4 is suggested for the Link Text area. Your frequency is 0.0 right now so you might consider increasing your Keyword count in the Link Text.
- A keyword frequency from 1 to 6 is suggested for the Hyperlink Url area. Your frequency is 0.0 right now so you might consider increasing your Keyword count in the Hyperlink Url.
- A keyword frequency of 1 is suggested for the Alt area. Your frequency is 2.5 right now so you might consider decreasing your Keyword count in the Alt.
- A word count from 405 to 599 is suggested for the Body Text area. Your word count is 116 right now so you might consider increasing your word count in the Body Text.
- A total word count from 656 to 688 is suggested for the page as a whole. Your total word count is 183 now, so you might consider increasing your word count.

Suggestions based on the analysis of your page for AltaVista for keywords 'digital camera' for non-exact match phrase searches:

- In general, home pages will rank higher than sub-pages, all other things being equal. Therefore, if you are looking for an additional advantage, consider purchasing additional domains named after the most important Keywords you wish to optimize, and then optimize the home page for each domain for a different Keyword. A home page is defined as a page name with the root ending in "home.", "index.", or "default." such as "index.htm", "default.asp", or "myhome.html". For example, an ideal Url would be "http://www.mykeyword.com/index.htm". To check the availability of a domain or to purchase a domain name, click here.
- You listed a Keyword 2 times in a row. AltaVista is known to penalize for this. Separate keywords with other words to avoid penalties.

General Suggestions for AltaVista:

- It's thought that AltaVista is more likely to reindex your page after changes are made if you change the size of the file by 50 to 75 bytes (characters) since your last submission. You could do this by simply adding or subtracting spaces at the bottom of the page as needed. The logic is that the engine may skip pages that it thinks have not changed much.
- **IMPORTANT:** As of December 4th, 1999 up to 67 character domain names can now be purchased versus 23 character domains. This can significantly increase the number of Keywords you can include in a domain name and thereby increase your rankings for those Keywords. Click here to learn more. To check the availability of a domain or to purchase a domain name, click here.
- Link popularity score: The more links from other Web sites you have, the more it can help improve your rankings. For tips on improving link popularity, click here.
- Your ranking and the ranking of other sites may be influenced by the link "popularity" of the site. This is determined by how many OTHER Web sites link to

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your own. The more sites that you can get to link to you, the better!

[\[View Main Page Popularity\]](#)

- You can improve your score if you allow your doorway pages to be spidered by AltaVista rather than submitting them directly.
- Consider creating pages with varying Keyword weights for AltaVista. [Click here to learn more.](#)
- Obtaining a domain name with your Keyword in it may significantly affect your score on AltaVista. Including the Keyword in a sub-directory name or page name can also help, although not as much. Separate multiple words by dashes, underscores, or slashes in the case of sub-directories. Consider purchasing a secondary domain name for this purpose if ranking well on AltaVista is important to you. [To check the availability of a domain or to purchase a domain name, click here.](#)
- Along with using your Keyword at the top of the page, you might consider using your Keyword at least once near the bottom of your page in the Body area. This can help convey an overall "theme" to the page and may improve your score. [Click here to learn why.](#) Only make this change if it doesn't conflict with the current recommended prominence suggestion.
- Since plurals are not recognized as being synonymous by AltaVista, try to use the plural form of the Keyword in addition to the singular form when possible to capture more potential traffic.
- AltaVista is believed to be case sensitive. If you are not already doing so, consider [using upper, lower, and proper case versions](#) of your most important Keywords to increase traffic.
- For additional help in improving your rankings, [click here](#), or [see the Page Analysis](#).
- If you have any comments, suggestions, or questions about the above advice, e-mail us at help@webposition.com.

**Disclaimer: Since search engine algorithms are not made public and can change often, the above advice is meant only to be a strong starting point to helping you move your page toward the top of the list. For further tips, study the results of the Page Analysis below for detailed insights into how to emulate a top ranking page.

Page Analysis

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Follow the advice ABOVE first and re-submit! If your rankings still need improvement:

1. [Click here to review the Page Analysis Help.](#)
2. Then try to make your statistics below EMULATE or MATCH those of your competitors.

<u>Area - Detail Not Shown</u>	<u>Frequency</u>	<u>Words</u>	<u>Weight</u>	<u>Average Prominence</u>
Head				
<u>Main Page Title Summary</u> (1 Total Title, 1 w/keywords)	1.0	4.0	50.0%	60.0%
AltaVista <u>Top Averages for Title:*</u>	0.6	7.5	16.0%	58.8%
<u>Main Page Meta Keywords Summary</u> (1 Total Meta, 1 w/keywords)	3.0	10.0	60.0%	59.0%
AltaVista <u>Top Averages for Meta Keywords:*</u>	0.6	16.2	7.0%	54.7%
<u>Main Page Meta Description Summary</u> (1 Total Meta, 1 w/keywords)	1.5	15.0	20.0%	25.6%
AltaVista <u>Top Averages for Meta Description:*</u>	0.3	9.7	5.4%	58.4%
Body				
<u>Main Page Heading Summary</u> (2 Total Heading Texts, 1 w/keywords)	1.0	9.0	22.2%	27.3%
AltaVista <u>Top Averages for Heading:*</u>	0.2	7.1	4.5%	61.4%
<u>Main Page Link Text Summary</u> (2 Total Links, 0 w/keywords)	0.0	7.0	0.0%	0.0%
AltaVista <u>Top Averages for Link Text:*</u>	1.2	106.7	2.2%	59.2%
<u>Main Page Hyperlink Url Summary</u> (4 Total Hyperlink Urls, 0 w/keywords)	None			
AltaVista <u>Top Averages for Hyperlink Url:*</u>	1.8	N/A	N/A	N/A
<u>Main Page Alt Summary</u> (3 Total Alts, 3 w/keywords)	2.5	7.0	71.4%	100.0%
AltaVista <u>Top Averages for Alt:*</u>	0.4	21.3	3.9%	60.7%
<u>Main Page Comment Summary</u> (2 Total Comments, 0 w/keywords)	0.0	15.0	0.0%	0.0%
AltaVista <u>Top Averages for Comment:*</u>	0.2	32.8	1.0%	52.4%
<u>Main Page Body Text Summary</u> (1 Total Body Text, 1 w/keywords)	3.5	116.0	6.0%	44.1%
AltaVista <u>Top Averages for Body Text:*</u>	3.1	502.1	1.2%	76.9%
Overall Main Page (17 Total Areas, 8 w/keywords)	12.5	183.0	13.7%	39.5%

The overall totals above are only your overall averages for frequency, words, weight, and prominence. The average prominence is NOT a percentage indicator of the "correctness" or overall score for your page. [Click here for help on understanding this chart!](#)

*Top Averages for AltaVista are based on the average scores of the top 5 pages for dozens of keyword searches conducted by FirstPlace Software.

**Need more information? De-select "Summarize Analysis Data" checkbox on Page Critic screen and re-analyze to display area detail lines.

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Page Properties

[Click Here for Page Properties Help.](#)

Page Properties	Main Page
Most times keyword repeated in a row:	2
Has same color text used as the background:	No
Has Hidden Input area:	No
Uses Meta Refresh:	No
Uses frames:	No
Uses controls:	No
Uses Java Script:	Yes
Uses VBScript:	No

[\[Page Critic\]](#) [\[Analysis Detail\]](#) [\[Page Properties\]](#) [\[Back to Top\]](#)

Page Critic Config Version 26
Page Critic Knowledge Base Version 61 - 3/17/00
Search Engine Knowledge Base Version 58 - 3/11/00
Knowledge Base Expiration: 5/20/00



File created Saturday, March 25, 2000 by [WebPosition](http://www.webpositiongold.com), Version 1.30.9. <http://www.webpositiongold.com>.
The WebPosition Gold report *designs* are copyright © 1998 by [FirstPlace Software](#)
PO Box 3774, Joplin MO, 64803, USA 800-962-4855 (U.S. and Canada) or 417-781-3282

Executive Summary Report

snapapps.com - February

General Statistics

The User Profile by Regions graph identifies the general location of the visitors to your Web site. The General Statistics table includes statistics on the total activity for this web site during the designated time frame.



General Statistics	
Date & Time This Report was Generated	Friday March 10, 2000 - 11:19:22
Timeframe	01/31/00 17:54:06 - 02/29/00 16:56:42
Number of Hits for Home Page	128
Number of Successful Hits for Entire Site	1,985
Number of Page Views (Impressions)	884
Number of Document Views	884
Number of User Sessions	247
User Sessions from United States	74.49%
International User Sessions	8.5%
User Sessions of Unknown Origin	17%
Average Number of Hits Per Day	68
Average Number of Page Views Per Day	30
Average Number of User Sessions Per Day	8
Average User Session Length	00:07:29
Number of Unique Users	219
Number of Users Who Visited Once	195
Number of Users Who Visited More Than Once	24

Addendum B – WebTrends Log File Statistics for February 2000

Most Requested Pages

This section identifies the most popular web site pages and how often they were accessed. The average time a user spends viewing a page is also indicated in the table.

Most Requested Pages					
	Pages	Views	% of Total Views	User Sessions	Avg. Time Viewed
1	snapApps.com http://www.snapapps.com/	128	14.47%	107	00:00:20
2	snapApps.com http://www.snapapps.com/snapvman.htm	98	11.08%	88	00:00:09
3	snapApps.com http://www.snapapps.com/main_fs.htm	90	10.18%	81	00:00:13
4	snapApps.com http://www.snapapps.com/main.htm	90	10.18%	82	00:00:57
5	snapApps.com http://www.snapapps.com/masthead_main.htm	88	9.95%	80	00:01:11
6	snapAlbum 2000 - Photo Album Software http://www.snapapps.com/Album-photoalbum.htm	34	3.84%	34	00:01:51
7	Inexpensive Digital Camera Software http://www.snapapps.com/Album-digitalcamera.htm	28	3.16%	27	00:00:23
8	snapApps.com http://www.snapapps.com/news_fs.htm	16	1.8%	16	00:00:26
9	snapCopier: Makes a photocopier out of your scanner http://www.snapapps.com/Copier-photocopiers.htm	16	1.8%	16	00:01:23
10	snapCopier: Makes your Scanner a Copier http://www.snapapps.com/copier-scanner.htm	15	1.69%	15	00:02:54
	Sub Total For the Page Views Above	603	68.21%	N/A	N/A
	Total For the Log File	884	100%	N/A	N/A

Most Accessed Directories

This section analyzes accesses to the directories of the site. This information can be useful in determining the types of data most often requested.

Most Accessed Directories						
	Path to Directory	Hits	% of Total Hits	Non Cached %	Non Cached K Xferred	User Sessions
1	http://www.snapapps.com/images	1,045	52.64%	84.11%	0	180
2	http://www.snapapps.com/	870	43.82%	85.51%	0	205
3	http://www.snapapps.com/	43	2.16%	100%	0	1

Addendum B – WebTrends Log File Statistics for February 2000

	web_stats					
4	http://www.snapapps.com/ grizSaver	12	0.6%	75%	0	4
5	http://www.snapapps.com/ BigSkySaver	6	0.3%	100%	0	4
6	http://www.snapapps.com/ fastq.idq?CiRestriction=snapmailer& CiScope=	2	0.1%	100%	0	1
7	http://www.snapapps.com/ fastq.idq?CiRestriction="free+ software"&CiScope=	2	0.1%	100%	0	1
8	http://www.snapapps.com/ fastq.idq?CiRestriction=dartmouth+ university&CiScope=	1	0.05%	100%	0	1
9	http://www.snapapps.com/ fastq.idq?CiRestriction=jobs& CiScope=	1	0.05%	100%	0	1
10	http://www.snapapps.com/ fastq.idq?CiRestriction=freewares& CiScope=	1	0.05%	100%	0	1

Most Downloaded File Types

This section identifies the accessed file types and the total kilobytes downloaded for each file type. Cached requests and erred hits are excluded from the totals.

Most Downloaded File Types			
	File type	Files	K Bytes Transferred
1	gif	918	0
2	htm	748	0
3	swf	12	0
4	idq	9	0
5	jpg	3	0
Total Files & K Bytes Transferred		1,690	0

Most Active Countries

This section identifies the top locations of the visitors to the site by country. The country of the user is determined by the suffix of their domain name. Use this information carefully because this information is based on where the domain name of the visitor is registered, and may not always be an accurate identifier of the actual geographic location of this visitor. For example, while a vast

Addendum B – WebTrends Log File Statistics for February 2000

majority of .com domain names are from the United States, there is a small minority of domain names that exist outside of the United States.

Most Active Countries		
	Countries	User Sessions
1	United States	184
2	UK	9
3	New Zealand (Aotearoa)	3
4	Canada	2
5	Germany	2
6	Philippines	2
7	Malaysia	1
8	Peru	1
9	Australia	1
	Total	205

North American States and Provinces

This section breaks down web site activity to show which of the North American States and Provinces were the most active on the site. This information is based on where the domain name of the visitor is registered, and may not always be an accurate representation of the actual geographic location of this visitor. This information can only be displayed if reverse DNS lookups have been performed.

North American States & Provinces		
	State	User Sessions
1	Virginia	44
2	Washington	5
3	Kansas	4
4	Oregon	3
5	Idaho	1
6	California	1
7	Ontario	1
	Total For the States Above	59

Most Active Cities

This section further breaks down the site's activity to show which cities were the most active on the site. This information is based on where the domain name of the visitor is registered, and may not always be an accurate representation of the actual geographic location of this visitor. This information can only be displayed if reverse DNS lookups have been performed.

Addendum B – WebTrends Log File Statistics for February 2000

Most Active Cities		
	City, State	User Sessions
1	Vienna, Virginia, United States	41
2	Seattle, Washington, United States	5
3	Wichita, Kansas, United States	4
4	Medofrd, Oregon, United States	3
5	Falls Church, Virginia, United States	3
6	San Francisco, California, United States	1
7	Coeur D' Alene, Idaho, United States	1
Total For the Cities Above		58

Most Active Organizations

This section identifies the companies or organizations that accessed the site the most often.

Most Active Organizations				
	Organizations	Hits	% of Total Hits	User Sessions
1	bigsky.net	236	11.88%	15
2	umt.edu	97	4.88%	6
3	America Online aol.com	66	3.32%	41
4	bestnetpc.com	65	3.27%	4
5	in-tch.com	59	2.97%	4
6	montana.com	53	2.67%	3
7	webtop.com	41	2.06%	2
8	Unet Technologies Inc. uu.net	37	1.86%	3
9	wcom.net	37	1.86%	1
10	dialsprint.net	36	1.81%	4
Sub Total For Companies Above		727	36.62%	83
Total For the Log File		1,985	100%	247

Summary of Activity for Report Period

This section outlines general server activity, comparing the level of activity on weekdays and weekends. The Average Number of Users and Hits on Weekdays are the averages for each individual week day. The Average Number of Users and Hits for Weekends groups Saturday and Sunday together. Values in the table do not include erred hits.

Addendum B – WebTrends Log File Statistics for February 2000

Summary of Activity for Report Period	
Average Number of <i>Users</i> per day on Weekdays	14
Average Number of <i>Hits</i> per day on Weekdays	108
Average Number of <i>Users</i> for the entire Weekend	24
Average Number of <i>Hits</i> for the entire Weekend	232
Most Active Day of the Week	Tue
Least Active Day of the Week	Sun
Most Active Day Ever	February 01, 2000
Number of Hits on Most Active Day	240
Least Active Day Ever	February 03, 2000
Number of Hits on Least Active Day	25
Most Active Hour of the Day	15:00-15:59
Least Active Hour of the Day	03:00-03:59

Activity Level by Day of the Week

This section shows the activity for each day of the week for the report period (i.e. if there are two Mondays in the report period, the value presented is the sum of all hits for both Mondays.) Values in the table do not include erred hits.

Activity Level by Day of the Week				
	Day	Hits	% of Total Hits	User Sessions
1	Sun	203	10.22%	29
2	Mon	238	11.98%	35
3	Tue	511	25.74%	63
4	Wed	316	15.91%	42
5	Thu	235	11.83%	29
6	Fri	221	11.13%	29
7	Sat	261	13.14%	20
	Total Weekdays	1,521	76.62%	198
	Total Weekend	464	23.37%	49

Activity Level by Hour of the Day

This section shows the most and the least active hour of the day for the report period. The second table breaks down activity for the given report period to show the average activity for each individual hour of the day (if there are several days in the report period, the value presented is the sum of all hits during that period of time for all days). All times are referenced to the location of the system running the analysis.

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Activity Level by Hours Details			
Hour	# of Hits	% of Total Hits	# of User Sessions
00:00-00:59	18	0.9%	5
01:00-01:59	30	1.51%	6
02:00-02:59	24	1.2%	2
03:00-03:59	16	0.8%	3
04:00-04:59	21	1.05%	1
05:00-05:59	25	1.25%	7
06:00-06:59	56	2.82%	18
07:00-07:59	85	4.28%	13
08:00-08:59	85	4.28%	9
09:00-09:59	96	4.83%	11
10:00-10:59	102	5.13%	8
11:00-11:59	85	4.28%	13
12:00-12:59	96	4.83%	11
13:00-13:59	128	6.44%	16
14:00-14:59	180	9.06%	13
15:00-15:59	213	10.73%	23
16:00-16:59	115	5.79%	10
17:00-17:59	87	4.38%	13
18:00-18:59	82	4.13%	12
19:00-19:59	213	10.73%	14
20:00-20:59	70	3.52%	22
21:00-21:59	77	3.87%	9
22:00-22:59	45	2.26%	4
23:00-23:59	36	1.81%	4
Total Users during Work Hours (8:00am-5:00pm)	1,100	55.41%	114
Total Users during After Hours (5:01pm-7:59am)	885	44.58%	133

Technical Statistics and Analysis

This table shows the total number of hits for the site, how many were successful, how many failed, and calculates the percentage of hits that failed. It may help you in determining the reliability of the site.

Technical Statistics and Analysis	
Total Hits	2,083

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Successful Hits	1,985
Failed Hits	98
Failed Hits as Percent	4.7%
Cached Hits	295
Cached Hits as Percent	14.16%

Top Referring Sites

This section identifies the domain names or numeric IP addresses with links to the site. This information will only be displayed if your server is logging this information.

Top Referring Sites		
	Site	User Sessions
1	No Referrer	115
2	http://www.snapapps.com/	43
3	http://ink.yahoo.com/	25
4	http://www.bigsky.net/	22
5	http://snapapps.com/	8
6	http://www.altavista.com/	7
7	http://search.iwon.com/	3
8	http://www.goto.com/	3
9	http://search.msn.com/	2
10	http://www.netcraft.com/	2
Sub Total for the Referring Sites Above		230
Total for the Log File		247

Top Referring URLs

This section provides the full URLs of the sites with links to the site. This information will only be displayed if your server is logging the referrer information.

Top Referring URLs		
	URL	User Sessions
1	No Referrer	115
2	http://www.snapapps.com/Album-photoalbum.htm	26

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3	http://www.bigsky.net/directory/webdev.htm	7
4	http://www.bigsky.net/directory/business.htm	7
5	http://www.snapapps.com/	5
6	http://www.bigsky.net/design/	4
7	http://www.snapapps.com/BigSkySaver-Montana.htm	4
8	http://snapapps.com/masthead_main.htm	3
9	http://www.snapapps.com/masthead_main.htm	3
10	http://www.bigsky.net/main/missoula_index.shtml	3
Sub Total for the Referrers Above		177
Total for the Log File		247

Top Search Engines

The graphic illustrates the new user sessions initiated by searches from each search engine. The first table identifies which search engines referred visitors to the site the most often. Note that each search may contain several keywords. The second table identifies the main keywords for each search engine.



Top Search Engines			
	Engines	Searches	% of Total
1	Yahoo	26	66.66%
2	AltaVista	7	17.94%
3	GoTo	5	12.82%
4	Snap	1	2.56%
Total of Searches for the Engines Above		39	100%
Total of Searches for the Log File		39	100%

Top Search Phrases

The first table identifies Phrases which led the most visitors to the site (regardless of the search engine). The second table identifies, for each phrase, which search engines led visitors to the site.



Top Search Phrases			
	Phrases	Phrases found	% of Total
1	photo album software	9	23.07%
2	digital camera software	7	17.94%
3	montana screensavors	2	5.12%

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4	scanner software	2	5.12%
5	free photo album software	2	5.12%
6	digital photo album	2	5.12%
7	photocopier	1	2.56%
8	digital camera album software	1	2.56%
9	camera software	1	2.56%
10	powerpoint photo album	1	2.56%
Total Found for the Phrases Above		28	71.79%
Total of Phrases Found in the Log File		39	100%

Top Search Keywords

The first table identifies keywords which led the most visitors to the site (regardless of the search engine). The second table identifies, for each keyword, which search engines led visitors to the site.

Top Search Keywords			
	Keywords	Keywords found	% of Total
1	software	29	26.12%
2	album	17	15.31%
3	photo	17	15.31%
4	camera	13	11.71%
5	digital	13	11.71%
6	free	4	3.6%
7	scanner	4	3.6%
8	montana	2	1.8%
9	screensavers	2	1.8%
10	photocopier	2	1.8%
Total Found for the Keywords Above		103	92.79%
Total of Keywords Found in the Log File		111	100%

Most Used Browsers

This section identifies the most popular WWW Browsers used by visitors to the site. This information will only be displayed if your server is logging the browser/platform information.

Most Used Browsers				
	Browser	Hits	% of Total Hits	User Sessions
1	Microsoft Internet Explorer	1,283	66.96%	147
2	Netscape	436	22.75%	42

Addendum B – WebTrends Log File Statistics for February 2000

3	Others	66	3.44%	9
4	Other Netscape Compatible	55	2.87%	8
5	WebTrends	28	1.46%	3
6	Googlebot/1.0 (googlebot(at)googlebot.com)	27	1.4%	7
7	OmniWeb	11	0.57%	1
8	Mllxpc/4.1	8	0.41%	1
9	www.logika.net	2	0.1%	2
Total For Browsers Above		1,916	100%	220

Netscape Browsers

This section gives you a breakdown of the various versions of Netscape browsers that visitors to the site are using.

Netscape Browsers				
	Browser	Hits	% of Total Hits	User Sessions
1	Netscape 4.x	377	86.46%	37
2	Netscape 3.x	59	13.53%	5
Total For Browsers Above		436	100%	42

Microsoft Explorer Browsers

This section gives you a breakdown of the various versions of Microsoft Explorer browsers that visitors to the site are using.

Microsoft Explorer Browsers				
	Browser	Hits	% of Total Hits	User Sessions
1	Explorer 5.x	1,065	83%	111
2	Explorer 4.x	210	16.36%	35
3	Explorer 3.x	8	0.62%	1
Total For Browsers Above		1,283	100%	147

Addendum B – WebTrends Log File Statistics for February 2000

Most Used Platforms

This section identifies the operating systems most used by the visitors to the site.

Most Used Platforms				
	Platform	Hits	% of Total Hits	User Sessions
1	Windows 98	956	49.89%	93
2	Windows 95	396	20.66%	50
3	Others	227	11.84%	34
4	Windows NT	221	11.53%	32
5	Macintosh PowerPC	44	2.29%	3
6	Linux	42	2.19%	3
7	Macintosh 68K	28	1.46%	3
8	Windows Win32s	2	0.1%	2
Total For Platforms Above		1,916	100%	220

This report was generated by [WebTrends](#).

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Executive Summary Report

snapapps.com – March

General Statistics

The User Profile by Regions graph identifies the general location of the visitors to your Web site. The General Statistics table includes statistics on the total activity for this web site during the designated time frame.

General Statistics	
Date & Time This Report was Generated	Monday April 03, 2000 - 11:23:45
Timeframe	02/29/00 18:02:10 - 03/31/00 16:59:08
Number of Hits for Home Page	854
Number of Successful Hits for Entire Site	6,231
Number of Page Views (Impressions)	2,872
Number of Document Views	2,872
Number of User Sessions	781
User Sessions from United States	70.8%
International User Sessions	11.65%
User Sessions of Unknown Origin	17.54%
Average Number of Hits Per Day	201
Average Number of Page Views Per Day	92
Average Number of User Sessions Per Day	25
Average User Session Length	00:04:21
Number of Unique Users	577
Number of Users Who Visited Once	480
Number of Users Who Visited More Than Once	97

Most Requested Pages

This section identifies the most popular web site pages and how often they were accessed. The average time a user spends viewing a page is also indicated in the table.

Most Requested Pages					
	Pages	Views	% of Total Views	User Sessions	Avg. Time Viewed
1	snapApps.com http://www.snapapps.com/	854	29.73%	284	00:00:06

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2	snapApps.com http://www.snapapps.com/snappyman.htm	301	10.48%	248	00:00:06
3	snapApps.com http://www.snapapps.com/main_fs.htm	216	7.52%	188	00:00:17
4	snapApps.com http://www.snapapps.com/main.htm	213	7.41%	188	00:00:50
5	snapApps.com http://www.snapapps.com/masthead_main.htm	211	7.34%	186	00:00:40
6	Photo Album Software - snapAlbum 2000 http://www.snapapps.com/Album-photoalbum.htm	141	4.9%	133	00:02:30
7	snapApps.com http://www.snapapps.com/masthead_products.htm	90	3.13%	74	00:00:16
8	snapCopier: Makes a photocopier out of your scanner http://www.snapapps.com/Copier-photocopiers.htm	55	1.91%	51	00:03:00
9	http://www.snapapps.com/snapsafe/qotosafe.htm	46	1.6%	38	00:01:59
10	Inexpensive Digital Camera Software from snapApps.com http://www.snapapps.com/Album-digitalcamera.htm	32	1.11%	30	00:00:21
Sub Total For the Page Views Above		2,159	75.17%	N/A	N/A
Total For the Log File		2,872	100%	N/A	N/A

Most Accessed Directories

This section analyzes accesses to the directories of the site. This information can be useful in determining the types of data most often requested.

Most Accessed Directories						
	Path to Directory	Hits	% of Total Hits	Non Cached %	Non Cached K Xferred	User Sessions
1	http://www.snapapps.com/images	3,271	52.49%	84.8%	0	549
2	http://www.snapapps.com/	2,595	41.64%	88.51%	0	610
3	http://www.snapapps.com/Trial	75	1.2%	78.66%	0	22
4	http://www.snapapps.com/snapSafe	73	1.17%	91.78%	0	45
5	http://www.snapapps.com/snapAlbum	42	0.67%	100%	0	16
6	http://www.snapapps.com/arizSaver	37	0.59%	83.78%	0	12
7	http://www.snapapps.com/snapCopier	32	0.51%	56.25%	0	21
8	http://www.snapapps.com/iishelp	25	0.4%	20%	0	1
9	http://www.snapapps.com/snapPack	20	0.32%	100%	0	4
10	http://www.snapapps.com/MSoftUpd	15	0.24%	80%	0	4

Most Downloaded File Types

This section identifies the accessed file types and the total kilobytes downloaded for each file type. Cached requests and erred hits are excluded from the totals.



Most Downloaded File Types

Addendum B – WebTrends Log File Statistics for March 2000

	File type	Files	K Bytes Transferred
1	gif	2,784	0
2	htm	2,512	0
3	swf	36	0
4	jpg	17	0
5	idq	11	0
6	asp	3	0
7	inf	2	0
8	cdf	1	0
9	prp	1	0
Total Files & K Bytes Transferred		5,367	0

Most Active Countries

This section identifies the top locations of the visitors to the site by country. The country of the user is determined by the suffix of their domain name. Use this information carefully because this information is based on where the domain name of the visitor is registered, and may not always be an accurate identifier of the actual geographic location of this visitor. For example, while a vast majority of .com domain names are from the United States, there is a small minority of domain names that exist outside of the United States.

Most Active Countries		
	Countries	User Sessions
1	United States	553
2	PR	23
3	UK	10
4	Australia	9
5	Canada	8
6	Netherlands	6
7	Italy	5
8	Spain	3
9	Croatia (Hrvatska)	3
10	South Africa	3
Total		623

Addendum B – WebTrends Log File Statistics for March 2000

North American States and Provinces

This section breaks down web site activity to show which of the North American States and Provinces were the most active on the site. This information is based on where the domain name of the visitor is registered, and may not always be an accurate representation of the actual geographic location of this visitor. This information can only be displayed if reverse DNS lookups have been performed.

North American States & Provinces		
	State	User Sessions
1	Virginia	137
2	California	9
3	Kansas	5
4	North Carolina	4
5	Montana	4
6	Maine	2
7	Oregon	2
8	Kentucky	1
9	Illinois	1
10	Ohio	1
Total For the States Above		166

Most Active Cities

This section further breaks down the site's activity to show which cities were the most active on the site. This information is based on where the domain name of the visitor is registered, and may not always be an accurate representation of the actual geographic location of this visitor. This information can only be displayed if reverse DNS lookups have been performed.

Most Active Cities		
	City, State	User Sessions
1	Vienna, Virginia, United States	125
2	Falls Church, Virginia, United States	12
3	Wichita, Kansas, United States	5
4	Palo Alto, California, United States	5
5	San Francisco, California, United States	4
6	Raleigh, North Carolina, United States	4
7	Whitefish, Montana, United States	3
8	Medford, Oregon, United States	2
9	Louisville, Kentucky, United States	1
10	Schaumburg, Illinois, United States	1
Total For the Cities Above		162

Addendum B – WebTrends Log File Statistics for March 2000

Most Active Organizations

This section identifies the companies or organizations that accessed the site the most often.

Most Active Organizations				
	Organizations	Hits	% of Total Hits	User Sessions
1	bigskv.net	903	14.49%	68
2	in-tch.com	561	9%	9
3	206.252.225.13	179	2.87%	9
4	America Online aol.com	163	2.61%	125
5	bestnetpc.com	151	2.42%	11
6	home.com	132	2.11%	15
7	montana.com	117	1.87%	11
8	Unet Technologies Inc. uu.net	117	1.87%	12
9	diqisys.net	108	1.73%	7
10	uswest.net	70	1.12%	7
Sub Total For Companies Above		2,501	40.13%	274
Total For the Log File		6,231	100%	781

Summary of Activity for Report Period

This section outlines general server activity, comparing the level of activity on weekdays and weekends. The Average Number of Users and Hits on Weekdays are the averages for each individual week day. The Average Number of Users and Hits for Weekends groups Saturday and Sunday together. Values in the table do not include erred hits.

Summary of Activity for Report Period	
Average Number of <i>Users</i> per day on Weekdays	24
Average Number of <i>Hits</i> per day on Weekdays	193
Average Number of <i>Users</i> for the entire Weekend	47
Average Number of <i>Hits</i> for the entire Weekend	397
Most Active Day of the Week	Wed
Least Active Day of the Week	Sun
Most Active Day Ever	March 14, 2000
Number of Hits on Most Active Day	491
Least Active Day Ever	February 29, 2000
Number of Hits on Least Active Day	61
Most Active Hour of the Day	12:00-12:59
Least Active Hour of the Day	04:00-04:59

Addendum B – WebTrends Log File Statistics for March 2000

Activity Level by Day of the Week

This section shows the activity for each day of the week for the report period (i.e. if there are two Mondays in the report period, the value presented is the sum of all hits for both Mondays.) Values in the table do not include erred hits.

Activity Level by Day of the Week				
	Day	Hits	% of Total Hits	User Sessions
1	Sun	541	8.68%	67
2	Mon	790	12.67%	101
3	Tue	1,122	18%	116
4	Wed	1,172	18.8%	132
5	Thu	800	12.83%	125
6	Fri	757	12.14%	119
7	Sat	1,049	16.83%	121
	Total Weekdays	4,641	74.48%	593
	Total Weekend	1,590	25.51%	188

Activity Level by Hour of the Day

This section shows the most and the least active hour of the day for the report period. The second table breaks down activity for the given report period to show the average activity for each individual hour of the day (if there are several days in the report period, the value presented is the sum of all hits during that period of time for all days). All times are referenced to the location of the system running the analysis.

Activity Level by Hours Details			
Hour	# of Hits	% of Total Hits	# of User Sessions
00:00-00:59	53	0.85%	11
01:00-01:59	85	1.36%	17
02:00-02:59	187	3%	18
03:00-03:59	62	0.99%	14
04:00-04:59	52	0.83%	19
05:00-05:59	84	1.34%	13
06:00-06:59	93	1.49%	18

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07:00-07:59	248	3.98%	43
08:00-08:59	323	5.18%	32
09:00-09:59	370	5.93%	52
10:00-10:59	355	5.69%	41
11:00-11:59	486	7.79%	43
12:00-12:59	719	11.53%	46
13:00-13:59	386	6.19%	53
14:00-14:59	293	4.7%	29
15:00-15:59	364	5.84%	50
16:00-16:59	337	5.4%	37
17:00-17:59	402	6.45%	28
18:00-18:59	174	2.79%	29
19:00-19:59	235	3.77%	51
20:00-20:59	328	5.26%	30
21:00-21:59	132	2.11%	35
22:00-22:59	288	4.62%	50
23:00-23:59	175	2.8%	22
Total Users during Work Hours (8:00am-5:00pm)	3,633	58.3%	383
Total Users during After Hours (5:01pm-7:59am)	2,598	41.69%	398

Technical Statistics and Analysis

This table shows the total number of hits for the site, how many were successful, how many failed, and calculates the percentage of hits that failed. It may help you in determining the reliability of the site.

Technical Statistics and Analysis	
Total Hits	6,403
Successful Hits	6,231
Failed Hits	172
Failed Hits as Percent	2.68%
Cached Hits	864
Cached Hits as Percent	13.49%

Top Referring Sites

Addendum B – WebTrends Log File Statistics for March 2000

This section identifies the domain names or numeric IP addresses with links to the site. This information will only be displayed if your server is logging this information.

Top Referring Sites		
	Site	User Sessions
1	No Referrer	338
2	http://www.snapapps.com/	143
3	http://www.altavista.com/	127
4	http://www.bigsky.net/	38
5	http://ink.vahoo.com/	20
6	http://www.goto.com/	12
7	http://www.google.com/	10
8	http://snapapps.com/	9
9	http://search.dogpile.com/	7
10	http://hotbot.lycos.com/	6
Sub Total for the Referring Sites Above		710
Total for the Log File		781

Top Referring URLs

This section provides the full URLs of the sites with links to the site. This information will only be displayed if your server is logging the referrer information.

Top Referring URLs		
	URL	User Sessions
1	No Referrer	338
2	http://www.snapapps.com/ Album-photoalbum.htm	54
3	http://www.altavista.com/ cgi-bin/querly?q=photo+album+software&pq=q&ae	27
4	http://www.altavista.com/ cgi-bin/querly?pq=a&sc=on&hl=on&q=photo+album+soft	24
5	http://www.snapapps.com/	16
6	http://www.snapapps.com/ main fs.htm	14
7	http://www.bigsky.net/design/	13
8	http://www.snapapps.com/ masthead main.htm	10
9	http://www.snapapps.com/ Copier-Freecopier.htm	9
10	http://www.snapapps.com/ snappyman.htm	8
Sub Total for the Referrers Above		513
Total for the Log File		781

Top Search Engines

Addendum B – WebTrends Log File Statistics for March 2000

The graphic illustrates the new user sessions initiated by searches from each search engine. The first table identifies which search engines referred visitors to the site the most often. Note that each search may contain several keywords. The second table identifies the main keywords for each search engine.

Top Search Engines			
	Engines	Searches	% of Total
1	AltaVista	136	72.34%
2	Yahoo	23	12.23%
3	GoTo	17	9.04%
4	Snap	11	5.85%
5	Look Smart	1	0.53%
	Total of Searches for the Engines Above	188	100%
	Total of Searches for the Log File	188	100%

Top Search Phrases

The first table identifies Phrases which led the most visitors to the site (regardless of the search engine). The second table identifies, for each phrase, which search engines led visitors to the site.

Top Search Phrases			
	Phrases	Phrases found	% of Total
1	photo album software	95	50.53%
2	digital camera software	18	9.57%
3	password	12	6.38%
4	laws regarding the use of digital cameras in auto accidents	5	2.65%
5	passwords	4	2.12%
6	inexpensive digital camera	3	1.59%
7	turn your scanner into photocopier	2	1.06%
8	dolack	2	1.06%
9	photocopier software	2	1.06%
10	scanner photocopy software	2	1.06%
	Total Found for the Phrases Above	145	77.12%
	Total of Phrases Found in the Log File	188	100%

Top Search Keywords

The first table identifies keywords which led the most visitors to the site (regardless of the search engine). The second table identifies, for each keyword, which search engines led visitors to the site.

Addendum B – WebTrends Log File Statistics for March 2000

Top Search Keywords			
	Keywords	Keywords found	% of Total
1	software	139	24.6%
2	photo	102	18.05%
3	album	101	17.87%
4	digital	30	5.3%
5	scanner	27	4.77%
6	camera	25	4.42%
7	photocopier	15	2.65%
8	password	12	2.12%
9	laws	5	0.88%
10	regarding	5	0.88%
Total Found for the Keywords Above		461	81.59%
Total of Keywords Found in the Log File		565	100%

Most Used Browsers

This section identifies the most popular WWW Browsers used by visitors to the site. This information will only be displayed if your server is logging the browser/platform information.

Most Used Browsers				
	Browser	Hits	% of Total Hits	User Sessions
1	Microsoft Internet Explorer	4,182	68.22%	506
2	Netscape	1,031	16.81%	106
3	Christopher Elliott Project	530	8.64%	7
4	WebTrends	150	2.44%	9
5	Other Netscape Compatible	129	2.1%	36
6	WhizBang! Lab	45	0.73%	1
7	Googlebot/2.0 beta (googlebot(at)googlebot.com)	43	0.7%	16
8	Others	5	0.08%	3
9	Dllbot/1.0	4	0.06%	2
10	AgentName/0.1 libwww-perl/5.45	4	0.06%	4
Total For Browsers Above		6,123	99.88%	690

Addendum B – WebTrends Log File Statistics for March 2000

Netscape Browsers

This section gives you a breakdown of the various versions of Netscape browsers that visitors to the site are using.

Netscape Browsers				
	Browser	Hits	% of Total Hits	User Sessions
1	Netscape 4.x	1,023	99.22%	104
2	Netscape 3.x	8	0.77%	2
Total For Browsers Above		1,031	100%	106

Microsoft Explorer Browsers

This section gives you a breakdown of the various versions of Microsoft Explorer browsers that visitors to the site are using.

Microsoft Explorer Browsers				
	Browser	Hits	% of Total Hits	User Sessions
1	Explorer 5.x	3,331	79.65%	418
2	Explorer 4.x	812	19.41%	85
3	Explorer 3.x	39	0.93%	3
Total For Browsers Above		4,182	100%	506

Most Used Platforms

This section identifies the operating systems most used by the visitors to the site.

Most Used Platforms				
	Platform	Hits	% of Total Hits	User Sessions
1	Windows 98	3,145	51.3%	383
2	Windows 95	1,111	18.12%	125

Addendum B – WebTrends Log File Statistics for March 2000

3	Others	920	15%	93
4	Windows NT	803	13.09%	84
5	Macintosh PowerPC	64	1.04%	5
6	Linux	51	0.83%	3
7	SunOS	17	0.27%	2
8	Macintosh 68K	11	0.17%	1
9	Windows Win32s	8	0.13%	1
	Total For Platforms Above	6,130	100%	697

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