Building and Optimizing the Website of Helsingin soodapuhallus OY

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This study aims to help small and mid-sized organizations to build and optimize their e-marketing strategies to successfully operate virtually with sufficiency. Nowadays, e-marketing businesses grow rapidly; therefore, strategies must be applied to your network to gain competence to acquire a desired outcome. There are various techniques in order to achieve this result and the purpose of this study is to familiarize you with these techniques. Accordingly, we will provide a clear insight from the integration to execution stage.

The project contains several tasks contributing towards assessing marketing strategical advantage. First, is to update the current status of Helsingin soodapuhallus OY www.sp-helsinki.fi with accordance of sponsor’s new requirements. Lastly, to generate Search Engine Optimization(SEO) to reach audiences.

Several tools are used to execute these tasks. For instance, Google Webmaster tools is used crawl indexes and optimize visibility in Google search engine while Google Analytics shows how many customers have reached the website in a certain period of time. However, FileZilla software is also utilized to access to the client server where the programming coding segment were performed. Firebug is a very helpful tool when updating the user-interface itself.

This study allows you to have a wide-range knowledge regarding techniques on how to conduct them. You will also have a better understanding of SEO’s main purposes and objectives in a nut shell. More prominently, how the activities are utilized into a comprehensive marketing strategy.


Tässä opinnäytetyössä on tutkittu SEO:n eri tekniikoita. Tutkimus antaa paremman käsityksen SEO:n tärkeimmistä toteutustavoista ja tavoitteista pähkinänkuoressa sekä ennen kaikkea siitä, miten SEO hyödynnetään osaksi kattavaa markkinointistrategiaa.

**Asiasanat**
digitaalinen markkinointi, internetsivun suunnittelu, hakukoneoptimointi, internet, markkinointistrategia,
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1 Introduction

Today’s online marketing includes strategic activities to target potential customers that can find your service beneficial. However, there are certain methods on how to attain this success for your business. Most organizations will agree that establishing your company’s presence on the Internet would give you a competitive advantage among other companies who have not yet implemented it. Therefore, building a website that contains informative description regarding your products or services to share your expertise is a must.

After the above mentioned methods are followed, you are now ready to use credible Search Engine Optimization techniques (SEO) to boost your company’s ranking on search engines. Basically, SEO helps you to optimize the most possible highest ranking position in major search engines like Google. There are a number of SEO techniques you may generate. As an advantage, when a customer tries to search a “keyword” connected to your business leads to your website appearing at the top most line of the search engine’s result.

Since SEO has been introduced to the growing market industry, many techniques are optimized to achieve maximum efficiency in marketing organizations. There are various techniques that are applicable to a network and most of them must be done by trained IT professionals for SEO implementation since it requires injecting programming codes to your website. Search Engine Optimization does not only boost your website to get a higher ranking in search engine optimization, but also introduces your expertise to unfamiliar customers. The aim of this study is to give a competitive advantage for small to mid-sized companies that seek e-business marketing strategies.

Although this project may contain various tasks, our mission is to gain professional experience by operating in a real functioning company (Helsingin soodapuhallus OY). This may help us improve our growing knowledge not only in the Information Technology field, but also in the marketing business area.

Our main task is to generate Search Engine Optimization for Helsingin soodapuhallus OY website http://sp-helsinki.fi/ applying changes to their website with accordance to
the new requirements requested by the company. The company will obtain a vast advantage and be more productive in the internet marketing world. The company website may increase visibility and reach people that has interest in their services.

Helsingin Soodapuhallus OY is a small and growing company operating in Helsinki’s metropolitan area since it was established in 2012. Helsingin Soodapuhallus OY’s expertise is basically soda blasting, which is a gentle new method for cleaning stains from fragile surfaces. Soda blasting is an eco-friendly technique to clean equipment’s surfaces without damaging the underlying metal and it is a great alternative to sand or chemical blasting. The cost for their services may vary depending on the size or special treatment applied.

Generally, soda blasting is a process in which sodium bicarbonate is applied using compressed air. In this case, Helsingin Soodapuhallus OY is using Gritco equipment as a cleaning machine; it is recognized as one of the most advanced equipment for production of professional air blast units. While the sodium bicarbonate used in this production is Armex that gives physical attributes and chemical benefits. However, because Helsingin Soodapuhallus OY always wanted to deliver services with the best quality they can offer, they chose the most reliable and extremely efficient method for production.

Helsingin Soodapuhallus OY has currently customers that range from individual to mid-sized corporations. Furthermore, our sponsor wishes to expand locally and significantly grow faster. Therefore, after the company has faced a lot of ups and downs throughout the business history, it has finally come up to a conclusion to consult IT students for marketing strategy purposes. Our sponsor is ready to embrace the benefits of marketing strategy and believes that this method would gain them profitable advantage.

Helsingin Soodapuhallus OY contacted us mainly for generating Search Engine Optimization for the company’s running website. Although, the website is already built, some changes are to be made. There are changes that must be done according to new requirements.
1.1 Thesis Structure

The study is divided into chapters and sections that are managed accordingly to its importance as we go deeper to the content of the project. We managed to simplify the context from introducing the project until the conclusion stage.

Chapter 1. We will clearly explain general information of the company, what are they doing and mainly the objective of this research. You will get to know Helsingin Soodapuhallus OY and our project in a nutshell.

Chapter 2. Research Questions. The purpose of research questions is to define the whole process and guide our arguments to catch reviewers’ interest. We have three research questions in total with explanations that clearly indicate the tasks assigned for the website. However, these questions will be eventually answered as we go deeper to our research.

Chapter 3. Background Study. In the background study, we basically explained the tools used and their general informations. We will give you simple introduction to the tools involved in this research.

Chapter 4. Design. In the design phase, we will show you how those tools from the Chapter 3 are used and implemented. We will also provide screenshots to show the mapping and structure of the current website situation.

Chapter 5. Implementation. At this phase, we have already implemented our project with successful deliverables. Furthermore, we will allow you to enter the back side of the implementation stage, which means you get to see the codes implemented to the system. Implementation depends on the requirements by the sponsor that must be followed. Only what our sponsor appoints us to do our tasks. We have included the testing measurement in this section as well.

Chapter 6. Conclusion. Conclusion is needed to give judgement after deliberation. We will have a look on every process we attained and think what we could have done
before. Because at this moment we can have an overview of the whole process and realization if it can get better.
2 Research Question

We have list of evocative research questions to attract readers and provide an in-depth visualization on why this project should be considered. The purpose of research question is to define the whole process and draw attention of the reader. Our research questions are defined well so the reader may have an idea what is the project about.

This research was conducted to answer the three following questions:

1. What is the current situation of the company Helsingin Soodapuhallus OY before any applications done to their system?
2. Comparing the differences from the before and after effect of the system, has it been instrumental to the sponsor?
3. Based on our research, what can we conclude about the benefits and drawbacks of Search Engine Optimization?
3 Background Study

3.1 Search Engine Optimization

Search Engine Optimization is such an unknown area that even the most highly qualified personnel does not know what the best practice would be for different situations. This is because the search algorithms of search providers are trade secrets much like secret recipes of bakeries.

However, Search Engine Optimization is one of the most effective techniques of getting a higher ranking in search engines by specifically declaring keywords that are related to your business. SEO is categorized in two concepts such as on-page optimization and off-page optimization. On-page optimization indicates to every method that affects the page code, for example meta tags. We will explain this approach later. On the other hand, off-page optimization refers to link popularity that uses helpful tools that connects to your site, for example Google Webmaster.

Basically it helps organizations’ website to rank higher among other competitors in a very inexpensive way by specifying preferred keywords that describe the general content of your website. However, keywords must be carefully picked and must not be repeated more than once.

The term search engine covers a wide circumstances regarding search system or search site. To understand how the search technique works, we will give you an introduction about legal search methods. However, there are two different types of search, in which some are organic and others are paid.

Different types of Search

1. Search indexes or search engines.

“These are the predominant type of search tools you’ll run across. Originally, the term search engine referred to some kind of search index, a huge database containing information from individual Web sites. Google’s vast index (www.google.com) contains over 3 billion pages, for instance. Large search-index companies own thousands of computers that use software known as spiders or robots (or just plain bots —
Google’s software is known as Googlebot) to grab Web pages and read the information stored in them. These systems don’t always grab all the information on each page or all the pages in a Web site, but they grab a significant amount of information and use complex algorithms to index that information.” (P. Kent, et al 2004)

2. Search directories.

“A directory is a categorized collection of information about Web sites. Rather than containing information from Web pages, it contains information about Web sites. The most significant search directories are owned by Yahoo! (dir.yahoo.com) and the Open Directory Project (www.dmoz.org). (You can see an example of the Open Directory Project, displayed in Google, in Figure 1-2.) Directory companies don’t use spiders or bots to download and index pages on the Web sites in the directory; rather, for each Web site, the directory contains information such as a title and description. The two most important directories, Yahoo! and Open Directory, have staff members who examine all the sites in the directory to make sure they are placed into the correct categories and meet certain quality criteria. Smaller directories often allow people submitting sites to specify which category should be used.” (P. Kent, et al 2004)

3.1.1 Meta Tags

“The term derives from the Greek word “meta,” which means “behind” or “hidden.” Meta” refers to the aspect of something that is not immediately visible, perhaps because it is in the background, but which is there nonetheless and has an impact.” (A. Gandour, et al 2011, p.5)

The meta description tag can eventually be used by Google as an abstract of the page instead of taking excerpts of the page’s content (Krishnan, 2007) but not incessantly. The tag must contain keyword phrases, related to the page’s content that best describes it and having a size between 150 and 200 characters and no longer than that. The original purpose of the meta description tag was not considerably useful because does not acknowledge it instantly. Sometimes, the meta keywords tag is not taken into account by search engines. The meta tag functionality is to show how a short snippet of the page after searching in Google. Meta tag such as “language” option allows pointing out the language in which meta tags are written. However, this tag is not essential since the page language is already specified in the html tag. (A. Gandour, et al 2011, p.5)
“The information put in description metatag is seen on the search result page when searching with keyword “soodapuhallus” for example, under the main title link of the page. It’s information that the search engine user will see automatically without clicking your site. It’s like a free advertisement. Description metatag gives you an opportunity to tell search engines what your page is about and people interested would click themselves in.” (H. Davis, 26, 2012)

Arguably the most important thing in SEO is the h1 heading tag. This h1 tag is the biggest and most important header of the page. Google’s search engine interprets the words of h1 as the most significant content of the page. Every page should have one and h1 tag should project the main data of page.

“Heading tags (not to be confused with the <head> HTML tag or HTTP headers) are used to present structure on the page to users. There are six sizes of heading tags, beginning with <h1>, the most important, and ending with <h6>, the least important. Since heading tags typically make text contained in them larger than normal text on the page, this is a visual cue to users that this text is important and could help them understand something about the type of content underneath the heading text. Multiple heading sizes used in order create a hierarchical structure for your content, making it easier for users to navigate through your document.” (Search Engine Optimization Starter Guide by Google, et al 2013 p.20)

Meta keywords tags gives a major factor to search engines. Meta keywords and the meta description both contribute to get a higher ranking in search engine. But meta keywords must be brief that indicates the page content. The meta keywords tag takes the following form:

When you write a meta keywords list, start by scanning the copy on your page. Make a list of the most important terms you see on the page. Then read through the list. Pick the 10 or 15 terms that most accurately describe the content of the page. If you can't narrow your keyword list down to 10-15 keywords, then the content on your page may be rambling to far. Because of the hyper-competitiveness of the current search engine placement landscape, pages need to be very focused on one or two specific keyword phrases in order to have a chance to get a top ten placement. For example, a page about northern Michigan apples and central Florida oranges doesn't have much of a
chance to win for either "northern Michigan apples" or "central Florida oranges." To have any chance to win, you need to have one page about northern Michigan apples and one page about central Florida oranges.

Another example: If your page is a list of exercise or fitness tips, and on the page you list tips for things to do before, during, and after a workout, then you need to think to yourself, "what 10 or 15 words or phrases is this page MOST about?" Just because your page mentions dieting in the text doesn't mean that the page is about dieting. If you want to win for dieting, then create a page about dieting. The ultimate example of a page which is focused and ready for search engine optimization is a page from an encyclopedia. Each page is brief, focused, and has just one theme.

A title tag tells both users and search engines what the topic of a particular page is. The <title> tag should be placed within the <head> tag of the HTML document.

"Ideally, one should create a unique title for each page on the site that is optimized. If the page document appears in a search results page, the contents of the title tag will usually appear in the first line of the results. This can help users recognize if the page is likely to be relevant to their search.

The title for the homepage can list the name of the website/business and could include other bits of important information like the physical location of the business or maybe a few of its main focuses or offerings.”

(Search Engine Optimization Starter Guide by Google, et al 2013 p.4)

3.2 Google Analytics

“Google Analytics is a free service offered by Google that generates detailed statistics about the visitors to a website. Its main highlight is that the product is aimed at marketers as opposed to webmasters and technologists from which the industry of web analytics originally grew. Google Analytics can track visitors from all referrers, including search engines, display advertising, pay-per-click networks, email marketing and digital collateral such as links within PDF documents.” (Randall W. et al 2008, p16)
One of the most important differences from offline marketing to online marketing is its immediate tracking capability. Web analytics are the utmost essential tools of an online marketer, they offer insightful information about the performance of advertising online; easy monitoring of patterns; and comprehension of web marketing initiatives, conversion rates, and more. Web marketing is the most trackable marketing medium out there. However, the real value of web analytics data lies not in the science of the statistics but in their interpretation.

Having a website without analytics is like being a bad chef who doesn’t listen to hear if the customers are happy with their food or not. The service providers measure success when they can provide services that customers want. The immediate feedback loop from Google Analytics allows Webmasters to improve their act. (Thomas L. 2011 p. 134)

Thomas L. summarizes the services and features of Google Analytics:
• See which pages drive the most page views on the site.
• See which pages users abandon most frequently (your “bounce rate”).
• See which landing pages (pages tailored to a specific marketing campaign) work best.
• See which traffic sources (search, pay per click, e-mail marketing, social media, etc.) are driving people and actions to your website.
• See how long people are spending on each page.
• See the location of your user base. You can see where people are coming from by country, state, and city.
• View conversion goals for your users. Different groups will have different desired actions they want visitors to take (buy, download, join, subscribe to free newsletter, donate, click on “About Us,” ask for a consultation, etc.). All desired actions can be measured.
• Incorporate e-commerce metrics (if e-commerce happens on your website) and measure traffic sources, key phrases searched, and online advertising down to the sales amount and products purchased.
• See which organic search terms people used to find your website. (This will become very important when it comes time to discuss search engine optimizing in the next chapter).
• There are over 80 other reports you can get from your Google Analytics dashboard.”
(Thomas L. 2011 p. 137)

3.3 Google WebMaster

Google Webmaster Tools

Google provides tools that help webmasters get into control on how Google interacts with the sites they are maintaining. Webmaster Tools also gives handy data to webmasters of their sites. This data contains report of any crawling errors by Googlebot. With Webmaster Tools one can see how Googlebot sees pages.

With Google Webmaster Tools one can for example:
• notify Google of an XML Sitemap file
• create and test robots.txt files
• choose the preferred domain
• discover problems with title and description meta tags
• show the top searches used to get to a site
• delete unwanted links to the site that Google may use in results
• receive notifications of Google quality guideline violations.
(Search Engine Optimization Starter Guide by Google, p.30)

3.4 Web Page Content

3.4.1 FileZilla

FileZilla is an FTP Programme which stands for File Transfer Protocol the best way to upload or download web pages, edit or update it and publish it in the internet. Filezilla is an 'open source' or free FTP client and can be downloaded from the official website of FileZilla http://filezilla-project.org/. Filezilla is available for multiple platforms for such functionality specification.

When you have the program downloaded and installed in your computer. You can then connect to your web host but before it you will need you own following information:
Address: Your FTP server can be found next to the corresponding user on the accounts table in your FTP Manager.
User: your ftp username
Password: your ftp password

“When you open the program for the first time you need to enter in all of your connection information to connect to the website. This can be done in one of two ways. If you have many FTP sites, you will want to keep them organized by using the 'Site Manager'. If you're only managing one site, use the 'Quickconnect'. ”(Bravenet et al 2013)

FileZilla is used as a software program that allows us to edit our webpages. Documents inside the web pages are accessible with this program and gives us functionality to upload and download documents into it. In order to update the websites, we have to connect it to an editor program like Geany.

3.4.2 Geany

“Geany is a small and lightweight Integrated Development Environment. It was developed to provide a small and fast IDE, which has only a few dependencies from other packages. Another goal was to be as independent as possible from a special Desktop Environment like KDE or GNOME - Geany only requires the GTK2 runtime libraries.” (E Tröger, et al 2010)

If you have understood the use of Geany, you will now think that this is the best tool for us when editing the pages. Unlike other tools like Paint or WordPad, it shows how the syntax is declared plus code folding. Since our webpages is coded in XML tags, this is the best text editor for code navigation. It grants us to build the webpage and execute the code, then save the updated version with FileZilla. You can view the updated version after refreshing the website.

3.4.3 Firebug

Firebug integrates only with Firefox as a virtual web development tool that gives power to edit, debug, and monitor CSS, HTML, and JavaScript live in any web page while
browsing it. Firebug is one of the simplest way that allows you to find HTML elements and its information injected in the page. However, Firefox has already a "View Source" feature but it lacks the visibility of changes when an HTML source was transformed by JavaScript.

It can easily show you what’s happening behind the web page interface. In addition, the tabs on the right side give you a visible outlook of element’s properties, including the CSS style sheet that are defying the style and the pixels generating element’s position.

![Image of Firebug interface](image)

**Picture 1. Example of how the codes are seen in Firebug.**

Firebug is used because it is very helpful when actually updating the webpage. Before making changes in Geany, we can alter the page by trying how it would look like in reality. For example, we can edit the background by extending the background picture or declaring it as no repeat. This can be done by inspecting elements in the HTML tab, in order to see if it was effective, you can reload the page and changes will reflect to the webpages. But take note, these changed are not accredited until it is applied through Geany and saved in FileZilla.
3.5 Utilities for exchanging Information

3.5.1 Google Docs

Google Docs is a free internet service which can be used by anyone with a modern internet browser and a Gmail account to create, modify, and share documents, spreadsheets and presentations. The greatest advantage Google Docs is its ability to allow many parallel editors on same documents at the same time. The changes made are also updated immediately for everyone who has been given permission for the document to see. The biggest downfall of Google Docs is that it does not keep the same layout with Microsoft Office documents.

Instructions on accessing Google Docs: “First, you need to create Gmail account. Once the Gmail account is created, you are ready to use it. Start any web browser like Internet Explorer, Mozilla Firefox, Google Chrome, etc. Type docs.Google.com in the address bar of the web browser and press the ENTER key on keyboard. Login with your Gmail ID and Password. Within few moments, you see your personalized interface of Google Docs.” (Windows Talk, 2011)

3.5.2 Dropbox

Dropbox is a gratis web service that lets its user save files to a remote storage securely. With this service, users can share any files with one another. It works pretty much the same way as Google Drive, another free remote storage service in the web. The reason we used Dropbox was its easy and fast usage and interoperability with different interfaces like mobile ones. Dropbox also shows clearly when a file was modified or deleted and can be easily recovered. Dropbox also has its own picture viewer.

Dropbox introduction speech: “Dropbox works hard to make sure that all your files are the same no matter where you're working from. This means that you can start working on a computer at school or the office, and finish from your home computer. Never email yourself a file again! Download Dropbox for your phone to simplify your life even more — flip through all your photos or review that spreadsheet even while on the road. Dropbox lets you work from any computer or phone with the confidence that you'll always have everything you need.” (Dropbox, 2013)
3.6 Marketing Strategy

“Internet marketing is the component of marketing that deals with the planning, pricing, promotion, and distribution of your products and services online. Good Internet marketing strategies clearly communicate a firm’s unique selling proposition, or the unique collection of benefits that creates value for its customers.” (Chaffey D. 2009, 1)

Any type of advertising or promoting your business online is considered as Internet Marketing whereas helps you to have virtual connections with customers. Internet Marketing includes different strategies such as developing a website, search engine optimization, online directory, email marketing and online advertising.

Internet marketing intertwines artistic and mechanical aspects of the internet, including designing, developing, marketing and selling. “Online marketing methods can include online advertising, online PR, paid search, search engine optimization (SEO), e-mail marketing, social media, and affiliate marketing.” (Thomas 2011, 2)

3.6.1 Benefits of Online Marketing

Regardless if the business is already running or still in the process of planning, business will not progress without marketing strategies. Strategies may vary depending on the size, budget and effort of the company. If strategies are considered effectively, they could result to success, businesswise. Below are examples why business owners find online marketing very beneficial.

- The Internet is the channel connection of small businesses that is time and cost-saving. However, it allows you to have a virtual connectivity from your home/office to target customers even with a limited budget. It saves time and money.
- Online Marketing increases the company’s opportunity to have a more close communication with your target markets through email marketing, social network advertising, banner ads, blogs and articles. From then, you can view the
consumer’s feedbacks immediately and contact them regarding your business. It reduces costs and increase efficiency.

- Since Online Marketing is done through the Internet, you don’t have to waste money for printing ads or brochures and individually pass it on to customers. If such changes are going to be applied to your business, you will then have to re-print everything all over again. Unlike, updating your website timely to apply new changes is very cost-effective. Remember, companies one of the biggest hopes is to bring in more money than they put out. It offers greater flexibility.
4 Design

Our project is divided into tasks and each task has specific length of time in which we operate the system work. The purpose of executing stage is for actual development of the project for instance updating the webpage (e.g. minor grammar correction, translation to English and lay-out), and SEO. The tasks are done accordingly to the request of our sponsor.

4.1 Improve the Web Page Structure

Creating descriptive categories and filenames for the documents on the website will not only help in keeping the site better organized, but it could also lead to better crawling of webpage’s documents by search engines like Google. Also, it can create easier and nicer URLs for those that want to link to the content of the webpage. Visitors may be put off by extremely long and illegible URLs that contain no recognizable words. URLs can be confusing and unfriendly. Users would have a hard time trying to remember the URL from memory or creating a link to it. Also, users may believe that a portion of the URL is unnecessary, especially if the URL shows many unrecognizable parameters. They might leave off a part, breaking the link.

Some users might link to the page using the URL of that page as the anchor text. If your URL contains relevant words, this provides users and search engines with more information about the page than an ID or weirdly named parameter would.

Lastly, remember that the URL to a document is displayed as part of a search result in Google, below the document's title and snippet. Like the title and snippet, words in the URL on the search result appear in bold if they appear in the user's query. The words in the URL might appeal to a search user more than an ID number. (Search Engine Optimization Starter Guide by Google, 2013 p.4)

4.1.1 Make your site easier to Navigate

There are several ways to make a site easily navigable, such as the order of the pages.
Special attention to the structure of the pages is vital. Also, there are a plethora of mechanisms to include which also aids towards easy navigation within one’s site; although, there should be at least one that is text-only. (H. Davis, 29, 2006)

A site map should be used containing the major parts. It is advised that a site map should be separated into different pages if a page contains over a hundred links. Additionally, pages should be equipped with a static text link.
One of the crucial key aspects that you can arrange on the SEO front is the information in the pages. Now, determining where the words and data should be positioned is the next step. (H. Davis, 29, 2006)

It is common for search engines to disregard a page as, “lightweight” if it is fewer than 100 words. The ideal words within a page are advised to be amongst 100 to 250. Avoid the content being, “Off-kilter,” while incorporating several keywords. To avoid getting “points” deducted from content of less than 100 words, the presence of keywords will be seen as “keyword stuffing.” Exceeding 250 words veer towards “diminishing traffic” since 250 words are enough to fill a monitor screen; having over 250 words per page will require guests to scroll down from a marketing perspective. The solution is to stipulate supplementary pages for matters surpassing 250 words. (H. Davis, 29, 2006)

4.1.2 Optimizing the content

“A strategic website’s core purpose is to serve, support, and sell. Specific marketing goals will vary by organization. They may include sharing information, selling a product, completing a lead generation form, downloading technology, making a donation, picking up the phone, complementing advertising campaigns, building credibility, branding, and more. To accomplish these goals, effective websites come in all shapes, sizes, designs, and technologies.”(Thomas et al 2011, p 19)

A fundamental objective for primary SEO practice is to attain its goal and not reaching the limit where it’s considered its affronting search engines with its keyword density. Keyword density is defined as, “The ration of keywords that you are trying to target for SEO purpose to the other text on your pages,” (Thomas et al 2011, p 19). Search engines sway away from pages with inapt and unnecessary keywords, even though they look for keywords. In a guest’s’ perspective, a suitable keyword density is inviting.
Another recommendation aside from keyword density to aid in enhancing your site is the use of text instead of graphics because its words that are regarded for search engines. (Thomas et al 2011, p 19)

“Here are some design and information architecture guidelines you should apply to your site to optimize it for search engines: Use text wherever possible for most sites, the fancy graphics do not matter. If you are looking for search engine placement, it is the words that count. Always use text instead of or in addition to images to display important names, content, and links.” (H. Davis, 28, 2006)

4.1.3 Offer quality content and services

The main aspect is most likely the captivating and beneficial content of your website. There are several online media amenities such as emails, forums, and other services where users are knowledgeable if the content they see are either good or bad and suggest it to other users. Focus on the attribute of the content aids in the reputation of your site through Google and users with the means of, “word-of-mouth buzz”. Focus on the words that users would use to find the information and useful content you provide in your page. For instance, those with background knowledge of a certain topic might search for the technical term not common to others, unlike users who are new to the topic search for a word or term known by the general public. Taking into matter the difference in searched words due to the different ways users search for topics and incorporating them into your information with the use of Google Ad Words and how you structure the keywords will eminently increase the likelihood of positive results for your site. (Search Engine Optimization Starter Guide by Google. 2013, p.14)

Google Webmaster Tools can be used so that it shows the searches that introduces the most users to the Webmaster’s site. In order to further enhance the site, including new insightful and unique methods and information to users such as conducting an innovative research gives your site leverage and separates the site from the others. (Search Engine Optimization Starter Guide by Google. 2013, p.14)

4.1.4 Write better Anchor Texts

Anchor text is an interactive text. If clicked, it it will lead the user to a link which is in embedded, <a href="..."> </a>. The text is to give informational search engines, such
as Google, a general idea of the link inserted in the anchor tag. There are two cases where the link leads to a page is within your site or the link leads to information on other sites. Focusing on the best text is the key and makes it more easily navigational and functional for users to explore your site. Also, this aids Google in what information the link your anchor text contains. (Search Engine Optimization Starter Guide by Google et al 2013, p.16)

4.1.5 Optimize your use of images

Providing an “alt” attribute to an image along with its distinct filename will help users who are viewing your site in a browser or unconventional technologies supplements data about the image. Although they are not able to see the image, they have a general idea of what it should be about and help the user understand your site as a whole. Although images are a direct section, optimizing them is highly advised. Using the “alt” attribute is very helpful for other several cases. (Search Engine Optimization Starter Guide by Google. 2013 p.16)

For instance, in similarity with the anchor text mentioned in the previous section, provides the same purpose as “alt” text does for images. Although, the use of several images for users to use to explore your site is not advised. For easier communication with the Google Image Search, improved filenames helps Google comprehend the image that is provided. (Search Engine Optimization Starter Guide by Google. 2013 p.16)

Having a single directory for images rather than image files throughout your site should be taken to mind. Due to this, you will have one directory that streamlines the pathway to the images in your site with the use of file-type formats such as GIF, BMP, PNG, and the most common JPEG. (Search Engine Optimization Starter Guide by Google. 2013 p.16)

4.1.6 Dealing with Crawlers

Your site must be located by a search engine, such as Google, for it to be indexed so users may be aware of the information you have provided in online databases. In this method, search engines “crawl the web.” In order for a search engine to index your
site, it uses a software known as, “the crawler, the spider, or most commonly known as the bot,” bot being short for robot. (H. Davis, 23, 2006)

In order to increase the chances of being quickly noticed, inbound links must be provided in your site. All the link, either by anchor text and alt text must function accordingly. If this is not the case, that bot will lead the user to a broken link. (H. Davis, 23, 2006)

4.1.7 Make effective use of Robot

To allow search engines to go through your site and gather information you provide, you must have a “robots.txt” file which should be located at the root directory. Only choose certain pages that users would want to discover from a search engine to avoid confusion. This file can be attained through Google Webmaster Tools’ robots.txt generator. In the case of an unwanted subdomain accessed through a crawler, you must create a distinct file for it. (Search Engine Optimization Starter Guide by Google. 2013, p.21)

Another method to prevent bots and crawlers, the addition to your Meta tag of “NOINDEX” through .htaccess to directories that a protected through a passcode. All in all, the use of Google Webmaster Tools are very helpful and can even deplete matter crawled previously. (Search Engine Optimization Starter Guide by Google. 2013, p.21)

4.2 Updating the Website layout

The current webpage lay-out of Helsinki Soodapuhallus Oy was pre-developed by another professional web-developer. Our sponsor wishes to improve the user-interface by applying attractive functionality and content.

The current outlook of the webpage needed some retouching. The aim was to transform it to more user-centric design for visitors to convey quality and credibility even more.

It was decided with our sponsor to make subtle changes to the layout with aligning the contents of the pages.
4.2.1 Mapping Out a Website Map

Picture 2. This website map example demonstrates the site map layout hierarchy and identifying pages.

4.3 The page layout with different browser

We tested the layout of SP-Helsinki’s pages with modern mobile phones and tablets with the latest versions of different browsers. Only users with Internet Explorer version 9 or other previous versions would not see the page correctly.

If we would have created just an “old IE” only CSS stylesheet, the style of the pages would not have been implemented in the CSS. The code that determined some of the pages’ style was implemented in the page code directly and the CSS code only complimented it. We made different pages and own CSS file for old Internet Explorer users because otherwise the pages would have looked messy since older IE versions do not
support many CSS features. Our sponsor did not want us to make any drastic changes
to the code of the pages because they were structurally already working fine. We didn’t
want to use CSS hacks or drop some style elements that show incorrectly for older IE
versions. That is because CSS hacks may be unstable and dropping elements would
have resulted in an undesired layout.

4.4 Sitemap

XML Sitemap tells the search engine bots where they find each page. There is also an-
other sitemap for visitors which show the structure of the page in one place to help to
navigate inside the web page. Because in our case the web page was enough simple it
didn’t need a navigational site map. For the search engine bots we created XML
Sitemap using www.xml-sitemaps.com-tool. (xml-sitemaps)

Web Robots are autonomal programs that scan and index the content that is in
internet. Google and other search engines use it for indexing the content of webpages
to help in the making of search results. Some criminals use robots to find information
that is meant to be hidden. (robotstxt.org)

Robots.txt is a file that tells which parts of the webpage content should be scanned and
which should not. It is easier to tell robots to exclude something from scanning than to
tell all the parts which they can scan. In Helsingin soodapuhallus Oy’s page there was
already made some content that the page owner wanted to be hidden and later to be
released. So we created a file for crawling bots. In it, we put a “roadmap” for Google
bot and other bots where they shouldn’t crawl. For example Cgi-bin folder was also
blocked for crawling. Folder IEold is for users with Internet Explorer version lower
than 10. It contains duplicate textual content and sp-helsinki.fi could be punished by
Google for it by lowering it’s page ranking. Cgi-bin is for scripts and useless for users.

Our Robots.txt in all its simplicity:

“User-agent: *
Disallow: /cgi-bin/
Disallow: /IEold/”

(Helsingin soodapuhallus Oy, sp-helsinki.fi/Robots.txt)
5 Implementation

In the implementation stage, we will show you how the above mentioned tools and methodologies are transformed into actual implementation. We have included the testing measurement in this section at the same time. Codes applied in the system are pasted here as well.

5.1 Meta Information

5.1.1 H1 Heading Tag

It is equivocally the most debated thing in SEO base on how it should be implemented on the webpage. We put h1 tag in SP-Helsinki’s logo like other web content offers have done, such as W3C and Newgrounds. This practice is best implemented (as in our case) when there is no huge text that says Helsingin soodapuhallus Oy present. H1 implemented logo must always have the description name that is physically present in the logo. Otherwise, Google may penalize the site for information cloaking.

5.1.2 Meta Description

Meta description is the tag that describes the website to Google and other search engines. It should be short description that defines the content or the services of the webpage or company. This description is shown in search results when user is shown the webpage as a search result. The description should be refined so that the user wants to click it.

<html>
<head>
<title>Your title tag goes here</title>
<meta name="description" content="Helsingin Soodapuhallus tarjoaa laadukasta, taloudellista ja ekologista soodapuhallusta pääkaupunkiseudulla.">
<meta name="keywords" content="keyword, keyword, keyword, keyword">
</head>
<body>
Picture 3. Search engine meta description shown for Helsingin soodapuhallus before changes.

5.1.3 Meta Keywords used

<html>
<head>
<title>Title</title>
<meta name="description" content="description">
<meta name="keywords" content="Graffitien poistoa, soodapuhallus, maalin poistaminen, puhdistusmenetelmä, maalin poistoon, helsingin soodapuhallus, levän poisto, puun restaurointi, öljyn puhdistus, myrkkymaalien poisto, moottoripyörät, antiikit, veneet, kiinteistöt">
</head>
<body>

5.1.4 Title Tags used

<html>
<head>
<title>Helsingin Soodapuhallus</title>
<meta name="description" content="meta description goes here">
<meta name="keywords" content="keyword, keyword, keyword, keyword">
</head>
<body>
In our project page we noticed the main title link of the page was only “Soodapuhallus”. Because the page is about a company, it is more appropriate to use the company name in the title, so we changed the name to “Helsingin soodapuhallus Oy”.

The description meta tag didn’t exist for the site so Google showed: “Helsingin soodapuhallus Oy, © 2012 Helsingin soodapuhallus Oy, Y-tunnus 2351318-3, Made in Artery Branding Design.”

The title tag goes in the HTML <head> of each and every page of the webpages. Title tag Helsingin Soodapuhallus is especially chosen because it accurately describes the company.

Picture 5. How the browse accepts the Title Tag

5.2 The Page Layout with the Different Browser

The layout for the page of Helsingin soodapuhallus Oy was spanning from left to right infinitely. When a user zoomed out or had a large desktop the text was spread out on almost the entire width of the browser. We made it so that all text boxes and all tables containing content were centered.

Following pictures show the layout of the web site.
Picture 6. This is how the page looked earlier.

Picture 7. The same page as in picture 6 after centering.

Centered layout is excellent for modern browser users. The loading times were faster and the site was easier to use. The only downfall of this was the new layout didn’t work on Internet Explorer versions from 1 to 9. So we had to create own pages and CSS using the old layout for old IE users. Robots.txt was written so that search engine bots do not scan the pages for old IE users containing duplicate content.

The following code is the example code for the code we made for rerouting older Internet Explorer users browsers to a more working site for them.
Our rerouting code for IE v.1-9 users and CSS:

<!-[if lt IE 8]>
<link rel="stylesheet" type="text/css" href="ie8-and-down.css" />
<![endif]-->

(Coyier 2010)

Our CSS linking code for old IE browser users:

<!-[if lte IE 9]>
<meta http-equiv="refresh" content="0;url=http://sp-helsinki.fi/IEold/SP.php" />
<![endif]-->
<!--Loading of styles-->
<link rel="stylesheet" type="text/css" href="../Library/Style.css"/>

(Helsingin soodapuhallus Oy, sp-helsinki.fi/Fin/SP.php)

Our CSS linking code for older IE browser users:

<!--Loading of styles-->
<link rel="stylesheet" type="text/css" href="../Library/iespecific.css"/>

(Helsingin soodapuhallus Oy, sp-helsinki.fi/IEold/SP.php)
5.3 Replacing “Jätä Palaute” Form
Picture 10. After the review form was updated a user can click “Anna palautetta” (“Give feedback”) and the feedback appears under “Ota yhteyttä” (“Contact us”).

5.4 Google Analytics

Google Analytics code was implemented in the webpage’s code to track individual users. This code acts as a tracking device sending information about what browser the user is using, what’s the language of the browser, from which country the user is accessing the page, what pages the user is viewing and how long and how she/he got to the pages in the first place (i.e. through a specific search engine). Google recommends putting the code in the end of the html body or in the beginning in <head> section for browser compatibility. We put it in the <head> section of each main page.

This is the widely used Google Analytics code:

```javascript
<script type="text/javascript">
var _gaq = _gaq || [];
_gaq.push(['_setAccount', 'UA-39075632-1']);
_gaq.push(['_trackPageview']);
</script>
```
5.5 **Sitemap**

XML Sitemap tells the search engine bots where they find each page. There is also another sitemap for visitors which show the structure of the page in one place to help to navigate inside the web page. Because in our case the web page was enough simple it didn’t need a navigational site map. For the search engine bots we created XML Sitemap using www.xml-sitemaps.com-tool (xml-sitemaps). After the sitemap tool had scanned the links of the site, it gave us the .XML-file. In the file were every links of the pages in XML language. We put the sitemap file in the root of the page files folder through FileZilla and then submitted the XML-sitemap to Google Webmaster where Google scanned it and updated the data of the site in Google’s database.

5.6 **Rel=nofollow**

Rel=nofollow tag tells crawling bots not to follow site’s links. This could be desired if the site contains outbound links to non-reliable pages. This could worsen the page’s ranking in the eyes of search engines. SP-Helsinki.fi did not contain outbound links and the feedback was manually monitored so that people could not post spam to the pages so Rel=nofollow wasn’t needed to be used in the code of any of the pages.
6 Conclusion

The outcome of the project has given a functional deliverable result to our sponsor. Each requests that were appointed, are carefully attained with the likeliness to achieve a successful project. As discussed, we were given a certain period of time to perform the tasks. Aside from performing the tasks according to the request of our sponsor with the guidance of our thesis adviser, we contributed our ideas towards the project.

In this project we dealt with web marketing theory and SEO through practical and theoretical means. SEO is the process of optimizing a webpage to be better and coherent for search engines and in that way for users. The purpose of the marketing is to guide customers to the page. These two things SEO and marketing also go hand to hand. For example Google raises the position of search results the more quality links lead to the site. If you have a successful marketing and people are interested of creating links to your page, the higher the site climbs in search results. This climbing is easy to measure. With SEO one can improve webpage for search engines so that the sites visibility is increased so that the client gets better user experience.

Here are some suggestions we pondered for the improvement of the page which can be taken into consideration for later.

6.1 New User-Interface.

One of the suggested ideas was to create a completely new lay-out for the whole webpages of our sponsor. The design of a good website is to be visually appealing for marketing purposes but very clear and informative at the same time. In this we succeeded without having to create everything from beginning. The site of SP-Helsinki was updated to be even more visually pleasing and clear.

In Chapter 5, you may view the homepage of sp.helsinki.fi and its interface. As you can see, it did not yet have all the information about the company (which it will have even more in the future) and could be at the first page so a visitor immediately sees it. The more useful and up to date information is added in the website about the services the
company is offering the better. It is a fact that most visitors check the information found on the website of a business before associating with them.

In the beginning of our thesis work we created a “dummy” web page for testing and to show to our sponsor how their website would look like with a different lay-out. The visible content of the page was simplified and aligned around the paragraph. Also we attached the appropriate picture in the heading section to help visitors visualize how the company’s services work. The ‘contact us’ form was also placed in the first page so visitors could contact the company straight away. We decided to use user-friendly fonts and graphics like in the real SP-Helsinki.fi pages to make it look fresh and clean. Comparing the real web page with our dummy page, you can see a difference in the navigation and how the information is displayed.

See the picture below to see the dummy page.

Picture 13. Created sample webpage dummy.
6.2 URL’s structure improvement

URLs and domain names must be descriptive and organized because it can also lead to better crawling of documents by search engines. In our case, SP-Helsinki.fi is short, easy to remember, and great for possible foreign customers. Only minor setback of this name is that it doesn’t contain the most relevant keyword for SEO in our case. The keyword is Soodapuhallus and if the domain name was changed to helsinginsoodapuhallus.fi Google might give more points for the page ranking of the site. This could be done via Google Webmaster Tools after the domain name is purchased.

Picture 14. URL that is expressed in search result.

When a user tries to search Soodapuhallus in Google search engine, the highlighted bold title and snippet in above picture are only recognized in user’s query. Therefore, if sp-helsinki.fi would be transformed to helsinginsoodapuhallus.fi, it could be easier for Finnish visitors to recite the URL from memory.

On the other hand, sp-helsinki.fi also contains several documents or menus that can be accessed by adding the document folder name in the URL after sp-helsinki.fi. Parts can be also removed from the URL to access previous sites. Since Finnish is the main language of the site, the Fin part could be removed from the URL and the main page URL would be shorter and still on the same language.

Picture 15. Showing how URL directories work.

When clicking the page, it will direct you automatically to the SP.php which is the home page. SP.php could be also declared as Home.php so visitors could easily recite the URL and create a link to it because some users might link to the page using the URL as the anchor text. This is a minor clarity thing.
Although, this contributes to their website optimization we agreed to implement these solution due to reasons that may cause conflict in their system if implemented now before translating the pages to different languages. Fin folder will remain as it is, in case Helsingin Soodapuhallus when they translate their page into other languages.

6.3 Translation of the page to English

The purpose of translating the page to English language is to basically attract potential foreign customers. There are English-speakers residing in Finland who may lack Finnish language skills but could be in need of soda blasting services. Therefore having the page translated to English may attract them when they search the services that Helsingin Soodapuhallus OY is offering. Meanwhile, it is also a way to market services to neighbouring countries such as Russia, Sweden and Estonia. There are companies that could consider connecting with the company for cooperation opportunities. In this way, for example suppliers from other countries may consider the purchasing of equipment or tools for example.

The idea is to use the same user-interface and style-sheets and only translating the text in to English. The focus of this concept is to provide basic information of their services to the foreign visitors. It can boost the company’s existence in the market and not only locally for future expansion. Unlike other soda blasting companies’ websites, having an English translation of it, will be a plus as a marketing advantage when comparing Helsingin Soodapuhallus Oy to competitors.
6.4 Editing the Website Logo

Another way to advertise your website is to come up with a catchy logo that should grab visitor’s attention as well. Logo is essential to building brand especially if you want your customers to easily memorize your company. Helsingin Soodapuhallus already has an excellent logo. We made an alternative logo for SP-Helsinki to consider if they wish using in the future.

In the suggested logo, diamond frames were taken off. Letters 'SP' are widely used by other competitors in their logos, therefore letters 'SP' don’t necessarily need to be used in the main logo. See the pictures below of current Helsingin Soodapuhallus logo comparison to the suggested alternative logo we created.

Picture 17. The current logo of Helsingin Soodapuhallus Oy
Picture 18. Logo that we would suggest to our sponsor.

This logo features an eco-friendly environment and a reminiscent of green eco savvy influence. The colors of the logo are chosen practically to represent earthy tones (such green and blue) for green business. Since Helsingin Soodapuhallus Oy is using non-chemical but natural cleaning methods, this is also a good logo that describes visually why the company is ecologically friendly in their operation.

6.5 Creative Images and Videos

Images of the company can be viewed in the Picture Gallery page, this includes the before and after picture of such products they have cleaned with soda blasting equipment. These pictures don’t yet tell which parts of which machines they belong to. Adding more information under the picture and explanation what has been done will tell customers visually how soda blasting is effective.

Video ads are a way to increase company’s revenue by promoting your business. The purpose of a video could be to show how soda blasting process works and what kind of non-chemical substances are being applied to the surfaces of any machines. Videos can be easily uploaded via YouTube and once is it uploaded there, embedding code is provided which can be pasted to embed the video in Sp-helsinki.fi site. Customers will then see, hear and get to know more about the process and the technology behind soda blasting.

Our sponsor agreed to implement this innovative idea in the future when there is time.

6.6 Providing Contact Information

Providing contact information about who’s the responsible person for sales area would be deliberately appropriate for customers.
The contact information should be very informative, this should include the local office to give assurance to the customers. Contact information should contain a person’s name, number, email address and the address of the office.

6.7 Realtime Customer Reviews

It is very important to build reputation to gain customers’ trust. Our sponsor’s website has a review form to collect customer’s reviews or feedback regarding the services of Helsingin Soodapuhalus Oy. These reviews will be sent automatically to our sponsor and reviewed to have intuitive customer service. This system was implemented before our thesis project began and has been working well. Our project had nothing to do with the feedback system other than centering the layout of the “contact and feedback page” and updating the company information section.
Google Maps

Placing a concrete address of the company will give more quality information to customers.

Google Maps is a service application that maps company websites to their physical locations. It provides high-resolution images and satellite images that give you a real-life route and directions to the company where you want to visit, from your home for example.
It is very helpful for customers if they want to contact Helsingin Soodapuhallus Oy as a walk-in customer for urgent matter.

**Google Adwords**
As we have suggested for our sponsor to use; Google Adwords is one of the most effective techniques to advertise their website in the future.

Google Adwords basically helps your website to appear above all the search result query after searching for something on Google. Your ads must contain a phrase or keywords that are related to your business. Your website ads will then appear on the top of the search result and on the right side of the search query. Visitors will be then attracted immediately if they see your website appearing on the top most area among other websites. However, in order to have ads you have to create an account on Google Adwords and pay for the service. Let’s assume you have considered this technique, the costs and payments varies on how many people have clicked your website through advertisement. To explain it simply, you will have a complete control of your budget and pay only for clicking result.

We have created an imitation of how the Google Adwords works to give a conceptualized conclusion for this matter. If the idea is considered, it can give a vast effect to the company as a marketing advantage.
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At the same time, Google Adwords is very efficient if you want to target more customers. The created ads can show to other right websites that are related to your business. Imagine, if a customer is visiting another competitor’s website and your website will show up in it. You may most likely to attract the customer and redirect to your website. In this way, the customer would know about your company’s existence plus the differences between your company and the other visited earlier.
Picture 22. This is another soda-blasting company operating in Helsinki. This picture is not intended for copyright infringement but as fair use to only to show how the Google Adwords ads would pop-up to other company’s website.
7 References


