

A New Method for Designing a Sitemap

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Abstract. Sitemap is a tool used by web designers to increase the accessibility of their site's information. The significance of sitemaps lies in providing their users with an overview of the contents of the website. In this article, a new method for designing a sitemap, which is based on different users need, is proposed. The customers of websites are usually at least one or two groups with specific information needs, needing to be provided with more help. In this proposed method, the requirements of these groups are first defined, and scenarios for moving through the site's pages are also recommended. These scenarios guide users to the right pages in a high level of quality (speed, ease of access and desirability of information). Each scenario leads to a page of website and may mark the other pages in its path. Using our designed sitemap, a proper understanding of the sitemap is expected.

Keywords: Sitemap, Website, Accessibility, Users' needs, Requirements, Scenario.

1 Introduction

The speed and quality of the users' accessibility to the required information in a website depends on two factors: web user skills and website structure. Frequent and experienced users can surf more quickly to access their required information than less experienced ones. An appropriate site architecture, including hyperlinks, information categorization, the logical and appropriate arrangement of hyperlinks, menus' options, and any other web guiding elements, can facilitate user's surfing and accessing to required information.

Although site navigation and menus can help users access their required information, it sometimes takes users considerable time to become acquainted with the site structure, and some useful information may not be noticed by users. Providing users with a quick overview of a site's sections can accelerate their accessibility to the required information. This facility is provided by sitemaps which are regarded indispensable by website designers.

Sitemaps, by offering an overview of web content, help users to be faster familiarized with a web structure and content. Sitemaps may take such diverse forms as alphabetical site indexes, categorized titles, and categorized titles along with subtitles. Sitemaps may be in the form of hyperlinks or plain texts. "Despite the prevalence of good sitemaps these days, users do not use them very much." [5] Based on the

research by Nielson Norman Group [5], the reason is the lack of knowledge of users about the presence of the sitemap. Therefore, it is necessary to notify the users somehow about the availability of sitemap. On the other hand, the inexperienced and unskilled users, even by using the sitemap, spend a considerable amount of time to find their needed information. The authors of this paper have encountered users who were not skilled enough to efficiently use the information provided in websites. Moreover, the provided regular sitemap has been of no help. This problem was even more serious when it came to visiting the crowded and complicated sitemaps such as large hospitals.

Usually for each website, there are a group of users who need more help and guidance. In this paper, we are seeking for a solution to improve the effectiveness of the sitemaps for this group of users, and we propose new version of sitemap that directs these users to their required information (or lead them to their desired web pages) by providing more guidance and supports.

2 Introducing the New Sitemap

In our introduced approach to design a sitemap, we identify the user groups who need more guidance and support. After determining the required information of this user groups, we identify the web-pages containing the corresponding information. Now, these identified pages are shown with special markings (bold, colored, reverse video, etc). The idea is to present the main respective pages with a certain color and the other associated pages with alternative colors. Consequently, the resultant sitemap proposes some distinctively colored pages to these users.

Our objective is to enable this group of users to quickly have access to these web-pages after entering the website without much effort. Therefore, it is necessary that the users see a notice at the same time they enter the site, and they should be able to declare their purpose of visiting the site by selecting the available choices. Based upon their selection a customized sitemap should be presented.

Indeed, this notice should not impose any restriction for other users. Therefore, infrequent users are one click away from their required information and frequent users do not need to do any extra work.

3 Designing the New Sitemap

For implementation of the new sitemap, we first need to identify user groups based on their needs. This helps us to create a user profile. The profiles are obtained through analysis of requirements, interviews, polls and studies. Using these profiles, the information requirements of users are identified and then, they are categorized and prioritized. Based on the acquired results from profiles, the required website pages of users are also identified, categorized and prioritized. The marking of these pages in the sitemap leads into improvement in the usefulness of the new sitemap as compared to the conventional ones because following specifying the information requirement in the initial notice page, these users observe a sitemap that has specified the pages with distinctive colors and commensurate with their information needs.

In this sitemap the user can select more suitable pages or the ones with higher priority (bolder), these selections are considered as the first suggestions of the website, and if they are willing after visiting them, they can choose other colored pages (the pages containing related information) by returning to the sitemap. In this new sitemap, we focus on the routes that users should traverse to obtain their required information. For reaching to the required information of a certain user, one or several routes might be defined. These routes include the hyperlinks by successive selection of which the users can reach their destination (required information). We call the most suitable route for reaching a page containing the needed information "**user's circulation scenario**". This scenario is a route which is selected by the sitemap designers as the optimal route among all the existing routes and is used in designing the sitemap.

Each scenario is a sequence of hyperlinks. These hyperlinks may be located in separate pages of the website. In this case, the user proceeds towards their needed information after visiting successive pages corresponding to each hyperlink. In addition, these hyperlinks might be as part of a menu and in this case, the users can see the hyperlinks existing under each menu by selecting any of them, and they can proceed toward the respective information by selecting the next hyperlink. Therefore, every scenario leads into a final page of the website and; it can mark other relevant pages for users' application on its way. In comparison with conventional sitemaps, these scenarios guide users to the right pages in a higher level of quality (speed, ease of access and desirability of information). Thus, the defined scenarios for a specific user group indicate a set of pages and optimized ways for reaching the pages in the sitemap for a certain group of users. This marking can be done with specific colors. The destination page is specified with a certain color and the other related pages are specified with different relevant colors.

In this way, the new sitemap is like the same ordinary sitemap but due to markings of some pages based on the proposed scenarios of the site designer; it might provide the users with more information as compared to regular sitemaps. It helps the users to find the required pages in the shortest possible time and also to attain a suitable insight about the spatial situation of these pages.

We believe that comprehending the situation of the site is a crucial factor for users' familiarity with the structure of the site. They identify graphically their own situation and the situation of pages related to their information needs. The users see the pages suggested to them in the new sitemap. In addition to familiarity with the situation of each of the website pages, the users can decide to visit or not to visit those pages. The user can see the related pages recommended to them by the site (specified with other colors). These observations altogether result in a better and faster understanding about the site and help the user to obtain their required information more rapidly. As all the users do not need commonly used sitemaps, all of them do not require this new sitemap too. The proposed sitemap is recommended for aiding certain groups of users.

Practically, implementation of the new sitemap is not mandatory and reasonable for all groups of users because all the website users (including skilled users) do not need such supports (services). According to Nielsen Norman Group [5], the sitemaps:

- *"They do not hurt people who do not use them.*
- *They do help a few people.*
- *They incur very little cost."*

These statements are also true concerning the new sitemaps, of course their cost is higher than commonly used sitemaps but instead, they provide more help to certain groups of users. We recommend that for some websites (such as hospitals website), the site's user groups shall be identified and an exclusive sitemap shall be designed for one or several groups of users, particularly when some groups are likely to be lost in the website regarding the extensive sections and information. The authors has not test the idea practically however users and stakeholders showed great interest to support the idea.

Therefore the future work will be to provide such a system, run an experiment to elicit detailed user requirements and to evaluate the effectiveness and efficiency of this proposed approach.

4 Conclusion

In this paper, a new method for designing a sitemap is proposed. The idea is to select a group of users who need more support. Then their requirements in terms of finding the relevant information are gathered and a proper scenario is defined. The defined scenarios for a specific user group mark a set of web pages as well as the paths to those pages. Referring to this sitemap, users can have a proper understanding of their location on the website, and they can also see the location of the web pages.

With this suggested method, we help first time users to recognize proper paths easily as efficient as frequent users. This approach will be useful for websites that their users have pre-identified needs. A user will be presented with a sitemap that is relevant to his/her choice of requested information. Frequent and advanced users will have no need to use such a sitemap.

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