Modeling of problematic aspects in the web site development process

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Abstract — **the key aspects of the works, dedicated to the website development process were analysed. The list of mathematical models, which allow to significantly increase its effectiveness was formed, basing on the concept model of the mentioned process.**

Keywords are: **website positioning, modeling of the website development process, adaptive fuzzy models**

I. INTRODUCTION

The results of the scientific research in the matter of website positioning are in high demand in the wide circle of specialists in website organization [1]. Among the few studies of methodological, methodical and technical questions in organization of website interaction with global environment in order to improve website positions in long-term perspective, the research [1] and [2] have to be specially noted. Work [1] includes numerous generic positions of theoretical analysis of the issue, proven with practical implementation experience. Such models are extremely rare in the of website functioning efficiency research. However, math modeling may be inefficient at all for some areas that use intuitive, creative methods only. From this aspect, it is rational to analyse a set of problems that rise up during website development process and the possibility of its sufficient solution with the help of mathematical models, prior to the elaboration of specific models. This work is dedicated to the conduction of such analysis.

II. CONCEPT MODEL OF THE WEBSITE DEVELOPMENT PROCESS

The design and information content projection of a website is described in the literature [3]. This process should logically begin with evaluation of business-plans and priorities of the site owners. On the next step segmentation of the audience is done and mental models of concept audience groups work with the site is studied. The semantic core of keywords and phrases is determined on this basis.

However the consideration and implementation of the above mentioned factors does not guarantee the success of a web project. Noticeability of the source in the web environment is characterized by its place in the list of search results in the main search engines for the keywords of this resources' semantic core. If this question remains without attention, the audience of the site cannot grow intensively with new visitors. The methods that ensure noticeability of the page and site are united under a term of SEO – Search Engine Optimization, and include selection of most efficient keywords into semantic core, some specific concentration of the keywords in the page content, special techniques used in HTML code.

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III. MATHEMATICL MODELS OF THE WEBSITE DEVELOPMENT PROCESS AND THE ANALYSIS OF DEMAND FOR IT

From the given concept description of the web source development process, two main categories are logically driven from it: the tools to ensure notieability of the source and the tools to ensure its adaptivity.

Generic model of the factors that affect website's position in web environment are given by [1]. It's proposed to specify the given model for the projection of web source pages' positions in the priority list of specific search engine (SE) on specific request (Qr):

$$Pos(Pg, SE, Qr) = Auth_{SE}(Th, \overrightarrow{fx}(Qr), \overrightarrow{fg}(Qr), Rank(SE)) \quad , \quad (1)$$

where $Auth_{Se}$ - function of page ranking of specific search engine for specific themed requests,

$$\overline{fx}(Qr) = (fx_{hd}(Qr), fx_{bd}(Qr), fx_{cn}(Qr)),$$ - vector of keywords' relative frequences in the beginning, end and main body of the page content,

$$\overline{fg}(Qr) = (fg_1(Qr), ..., fg_{Nt}(Qr)),$$ - vector of keywords' relative frequences in special tags of the code.

The construction of adequate ranking function of such type results with a number of issues. Among those are structuring representation of the function according to the specialities of specific search engine.

IV. CONCLUSIONS

Informational problems that appear during website development process and the main factors that affect its effective solution are analysed. The set of math models which allow to decrease information pressure on the website developers and ensure adequate representation and adaptivness are determined

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