

DESIGN PROCESS AUTOMATION SYSTEM SEO-OPTIMIZATION

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This paper analyzes the background of the process of SEO-optimization, carried description of the main types of services provided to businesses with promotion of internet resources and analyzes the main stages of SEO. The methodological basis for building an automated system optimization and Seo-formulated conclusions on the possibility of its design using modern programming technologies.

Keywords - structure, seo-optimization, web site, internet.

Introduction

Seo-optimization - actions aimed at improving the visibility of a website in search engines according to user requests content and, consequently, an increase in targeted traffic that comes from search engines [1]. Nowadays, website promotion in search engines is one of the most effective ways to attract the target audience. Given that, it is every day draws the attention of researchers whose goal is to develop new methods and tools for automating it [2].

Comparing the effectiveness of Seo-optimization and other internet advertising cannot give preference to a particular direction of internet marketing. Each of them has its strengths and weaknesses. In some cases, weaknesses search engine makes it less attractive to customers. These disadvantages include: high competition prevailing in the subject, no guarantees of results, periodic changes in the algorithms of search engines that can affect the stability of results. However, most of these mechanisms can promote your site at the lowest price to provide the widest audience awareness and thereby attract visitors to their own resources. This approach is especially important for resources with many different search queries and useful pages [3].

Given that the actual problem is the analysis of all phases of search engine optimization with the ability to "optimize" in accordance with the requirements of the user. This will serve to minimize the optimization criterion since the Seo-optimization.

Connection between described question and important scientific and practical tasks

Design of process automation Seo-optimization is an important task within the development as the IT industry and industry in general. Since there is no single company or entity which in some way is not represented in the Internet, which in turn promotes the development of corresponding mathematical and algorithmic device for implementing this process [5].

Due to the novelty of the task is no general solution for its wide range of inputs [1]. With certain assumptions it is possible to apply the methods of system analysis and artificial intelligence technologies [3]. Given that the construction of new techniques based on this conglomerate will automate the process of solving problems Seo-optimization.

Recent research and publications analysis

Automation of Seo-optimization is a relatively new scientific and practical problems [1,6] since its inception and was the background of intensive development of the Internet and the increasing interest of people to its capacity of promoting products and services. This situation contributed to the whole industry - Seo-optimization, and the companies that provide information about the analyzed online resource [4]. The peculiarity of these organizations is that usually the actions that they are made in the "promotion" of a particular resource within a search engine that does not solve the optimization problem in general [5].

In view of the analysis carried out [2,3] is the actual problem of automating the process of designing Seo-optimization that will provide the necessary means of improving the position of Internet resources .

The major objectives of the research and their significance

The main objectives of the study are: the analysis of the main stages of the process Seo-optimization, consideration of methodological structures and formulate recommendations for the construction of the block diagram of Seo-optimization. According to these research problems to address them to: form a public scheme Seo-optimization process, display and analyze the main stages; optimization techniques to determine and identify the main actors [2], which are involved in the process of Seo-optimization. Solving these problems will make it possible to design application system, which will provide the tools: the accumulation of data on parameters optimization and will provide opportunities for their systematization, analysis, implementation and support of new services search engine, providing recommendations for optimal choices of Seo- optimization.

The main research results

Because the study was able to form a methodology of promoting online resources that includes the following stages: preparation of semantic core, preparation of texts website (copywriting), optimizing site code, placing links, analysis of the results.

Preparation of semantic core is the selection of phrases for which will be promoting online resources and their distribution on the site. In general, a complete set of words and phrases that describe a certain object and its properties. The right of semantic core is very important for search engine optimization because it is based on it being built search engine, which is not possible without promotion. Semantic kernel defines a strategy for creating content on the site, and can either be narrowed or expanded, altered, synonyms, new concepts. Depending on the type of resource and promotion purposes, the amount of semantic can consist of a dozen, and thousands of keyword phrases. There are many different programs and services that automate this process, but make the best semantic kernel manually, using the power of search engines, such as service Wordstat in Yandex service or selection of keywords from Google. So you can fully control the process of knowledge workflow.

In carrying out this procedure, there are three groups of queries: high, medium and low frequency. Belonging to a particular group query is defined by the corresponding number of them made by users during the month. In addition to the frequency of administration should be considered gradation searches: highly competitive, moderately competitive and low competition. Defining competitiveness request is difficult to realized and protracted over time because it requires a detailed "manual" analysis of relevant resources. In particular, the process of selection of keywords using services Wordstat (Wordstat.Yandex.ua) is the introduction of the city (region) for which the analysis and relevant keywords. The result obtained statistics in different variations (Fig. 1). The numbers next to each query, the results provide information on the selection of previous forecasts, the number of impressions per month, which can be obtained by selecting the query as a keyword. Further from the resulting list of selected queries to select target queries (queries relating to the thematic content of the resource) and after the formation of the last completed work on the creation of semantic.

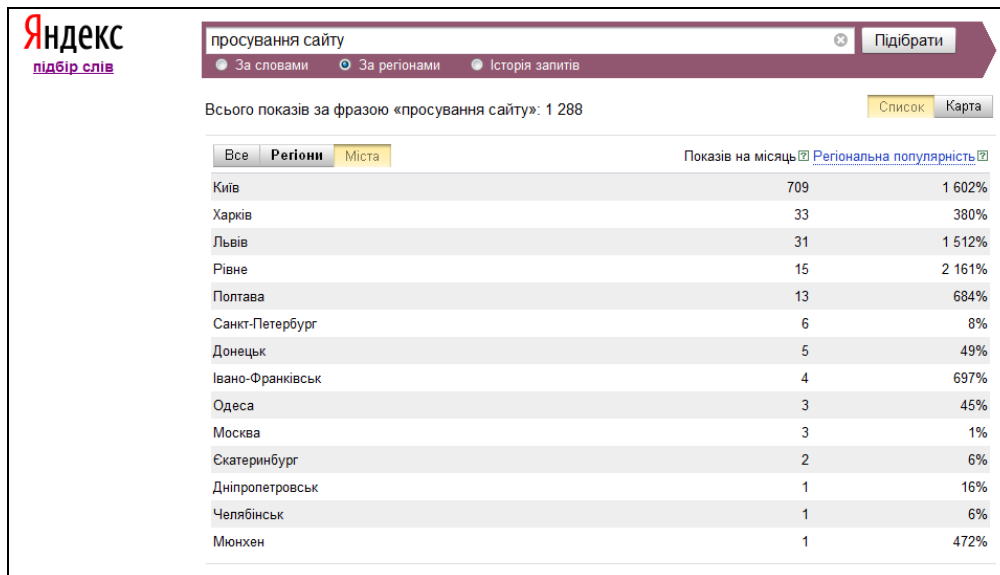


Fig. 1. Selection of words from using the service Wordstat

Preparation of texts website (copywriting) - is preparing texts that appeal to visitors and also optimized for search engines. There are several types of copywriting: simple and complex at the same time they are often called rewriting. Simple rewriting is processing one article to another, which describes all the same, but in other words. The output formed a "unique content" is not infringing the source. Thus, complex rereading is similar, but the input is a set of sources. As a result of this process creates an optimized text queries on search engines.

Optimizing site code – technical process to reduce the amount of code that is sent to users and search engines at startup. Code optimization has significant benefits, including: reducing the size of pages and speed up their load, reducing the load on the server hosting that positively affects its stability (particularly important for projects with a high level of attendance) [4].

Placing links belonging to "external factors" and without optimizing their consideration can not be successful in a competitive promotion topics. Moreover, these activities should be carried out continuously and are to create an external "a reference environment" [2] and display the required text around links, ie the text that corresponds to the subject goods.

Analysis of the results is the continuous monitoring Internet resource position in search results across all selected queries and analyzes the changes that occur. This procedure allows you to respond quickly to changes in the ranking algorithms of search engines, evaluate and promptly make the necessary adjustments.

Scheme of Seo-optimization

As Seo-considered process optimization, involving relevant experts it has the form shown in Figure 2. The process of analyzing and promoting web site consists of the following steps:

1. *Analysis of Internet resources and create a new project.* When a project work followed by fixed charge specialist - project manager. At all stages of work in progress with the client interacts assigned to the project account manager. Initially based on customer requests defined goals and priorities of the project. The project manager analyzes the site and resource competition. After accounting data obtained account manager in dialogue with the client, project manager allocates targets to the resource page.

2. *Work plan.* Based on these data (as a result of site analysis and resource competition, taking into account the level of difficulty of each keyword queries) project manager with staff to promote forms of work plan for the project.

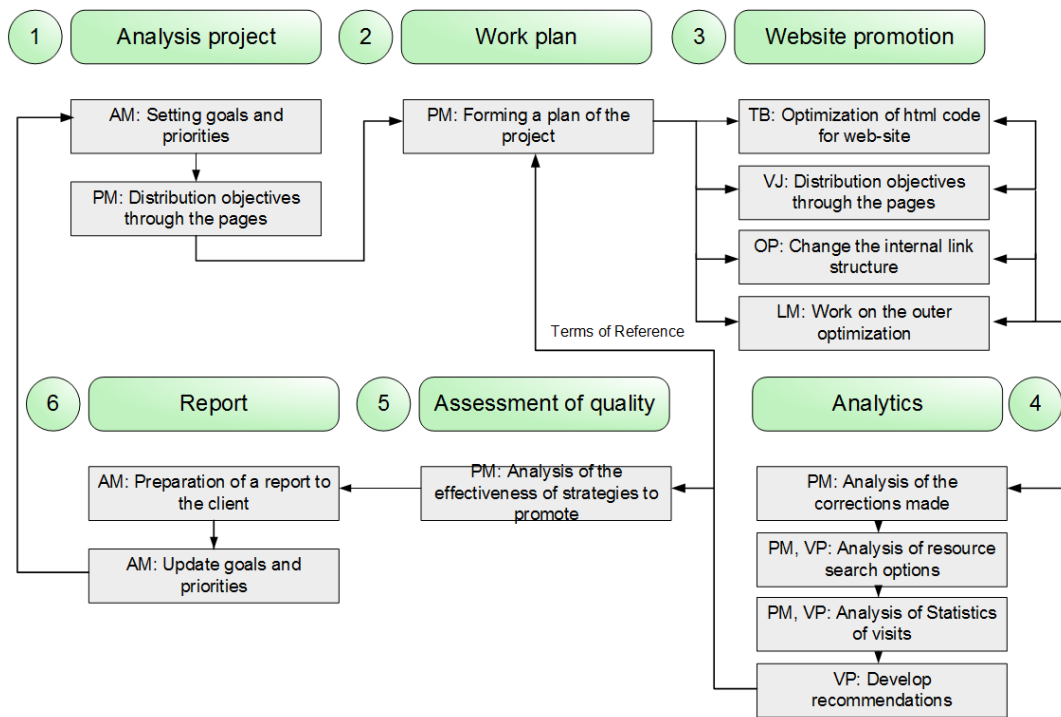


Fig.2. Scheme of SEO-Optimization

3. Website Promotion - consists of two parts: internal and external optimization.

3.1. The internal optimization Internet resource

3.1.1. Programmer department based project manager prepared the terms of reference shall be made to promote the necessary resources to correct html-code. In the absence of complete site access, account manager sends the project manager prepared terms of reference for making the necessary adjustments in the html-code site technicians on the part of the client. After making adjustments, the project manager checks the correctness of performance specification and, if necessary, prepares a new task with the necessary clarifications and additions.

3.1.2. Copywriters of journalism based on the prepared project manager specification develop the necessary adjustments for the promotion text and articles. Account manager approves new texts with the client and, if necessary copywriters make repeated changes to the text material on the basis of information received from the client. Further technical department in places approved options.

3.1.3. Specialists promotion of preparing terms of reference for external adjustment "link structure" to optimize the transfer of information between the pages of the resource. Further technical department makes appropriate adjustments to the resource.

3.2. The external optimization. At this stage the work of the external factors ranging resource. According to the task manager display a link in the resource links from sites close to the subject (to increase TIC) and highly ranked sites (to increase the overall importance of the web-site) [2].

4. Analytics. At this stage, analyzes the major internal and external parameters online resource that moves, consider the dynamics of different site positions in search engines for each keyword queries with simulated statistics and site traffic. Based on these data promotion department generates a list of recommendations for further work.

5. Assessment of quality. Based on the data obtained in the previous step, the project manager assesses basic parameters promotion with regard to the goals and priorities set out in the first stage. Next, the project manager provides the data required for reporting to the client.

6. Report to the client. Based on data provided by the project manager, account manager creates a report for the client. After reviewing the report, the client, in the case of adjustment input on goals and priorities, account manager transmits relevant information to the project manager to change the strategy to promote Internet resource. In the case of a new purpose or adjustment of existing priorities, work carried out since the second stage.

If the list of goals and priorities remained the same, the work continued from the third stage. Due to the fact that the sites ranking algorithm of the search engines are periodically made adjustments necessary condition for promotion is adjusting internal settings pages affect ranking.

Step outside website optimization is also cyclic, ie work capacity and external adjustment "a reference environment" site promoted, should be carried out continuously to maintain and improve the achieved position.

In view of these stages of analysis and promotion internet resource was developed modular system block diagram of process automation Seo-optimization (Fig. 3).

The main modules of the system are: tools for analysis and promotion of Internet resources, core module of user interaction and module identification and authentication.

The system provides two access levels: at the level of manager (admin) and the user. Manager (administrator) has full rights can: activate and delete users, modify database information, etc., and user rights are limited to the analysis of internet resources and breeding recommendations for its promotion. An important operation performed by the module administration is handling the boundary situations are realized by determining the response of each object and the whole system to some external steps: initialization, termination and collapse. In particular, the initialization process is to bring in a fixed initial state: initial announcement of all variables and parameters of the problem and forming a hierarchy of objects. The process of termination is to release all the hardware and software resources occupied by objectives system. The process of collapse is the unplanned termination system [6].

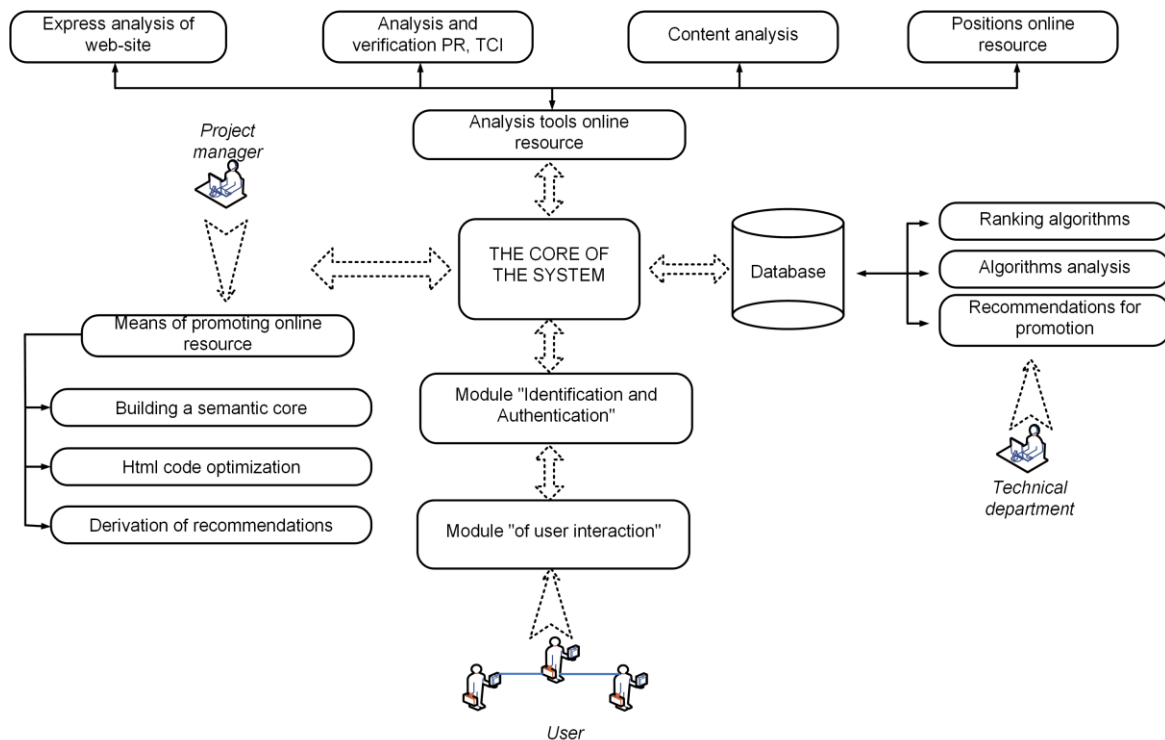


Fig.3. Block diagram of process automation Seo-optimization

The core of the system - the main module of the system, in which the processing of all operations and work with its database. The core of the system coordinates the work of other modules to form a complete system. A special feature of this module is to organize the process of entering input data, its processing and storage. Module of user interaction is designed to provide the features work depending on user rights. Implemented through a graphical user interface that combines all the elements and program components that affect the user experience.

Analysis tools online resource containing commands that implement: express analysis, and verification PR and TIC, content analysis and verification the position of the resource in search engines.

Means of promoting realize: the construction of semantic core, optimizing HTML code and output of recommendations to promote resource.

Conclusions

This paper describes the design features of automating the process of Seo-optimization. We describe the approach and steps formed in progress online resources made it possible to design a block diagram of a system that provides methodological ground for its design using modern design tools. This approach will: use new adaptive algorithms promotion resources to simplify the process of forming a "semantic"; improve information and competitive services that exist in the market Seo-optimization. Further research will be aimed at the study design and methods of each module of process automation Seo-optimization.

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