



Politechnika Śląska

Wydział Automatyki, Elektroniki i Informatyki

Mariusz Duka

Rozprawa doktorska

Wyznaczanie rankingu stron WWW
algorytmem ISOWQ Rank

Promotor:

dr hab. Artur Strzelecki
Uniwersytet Ekonomiczny w Katowicach

Gliwice 2023

Determining of websites ranking with the use of ISOWQ Rank algorithm

Abstract

The outcome of this paper is to confirm the effectiveness of the pioneering algorithm ISOWQ Rank in assessing the quality of websites. The assessment is based on the current knowledge related to optimization in and around a website, with the aim to increase its ranking position in search engines. The positive correlation with the MOZ algorithm, the operating techniques of which are confidential, proves that the parameters have been properly selected and given appropriate value when assessing the quality of websites.

In the course of the research, ranking algorithms, that use the hyperlinks' structure, keywords analysis, HTML tags and the number of visits, have been studied to assess the quality of websites. Current knowledge on optimization techniques has been collected, and appropriate tools enabling the technical audit of websites have been discussed. During the dissertation, the previous research into the analysis of SERP results and factors affecting ranking positions in search engines have been studied.

The main purpose of this paper is the research into the development and evaluation of the effectiveness of the ISOWQ Rank algorithm, that gives websites a specific value to rank their quality. The research was to confirm whether there is a positive correlation between the ISOWQ Rank and MOZ algorithms, and to show what impact individual ranking factors have on this correlation, in particular the content and structure of the text on a website. In the course of this research, the current knowledge on the ranking methods and optimization techniques in and around the websites have been analysed. Comparative studies were used to measure the effectiveness of the algorithm that showed a positive correlation between the scoring obtained using the ISOWQ Rank algorithm and the scoring calculated by the MOZ algorithm.

The next purpose was the practical application of the ISOWQ Rank algorithm. As part of the work, an IT system consisting of two independent segments was designed and implemented. The first segment covered the subsystem responsible for data analysis, while another segment was intended for data presentation and user service. During the 11-year operation of the system, over 1.3 million web page analyses have been performed. All collected data is available on the website at www.isowq.org

The thesis can be summarized in the following statement: the ISOWQ Rank algorithm optimally determines the ranking of websites by assigning to them a specific value, thus indicating their quality. Following the guidelines in the created methodology, with the use of the ISOWQ Rank algorithm, allows us to increase website's value determined by the MOZ algorithm, which in turn may have a positive impact on the ranking position in search engines.