Implementation and Comparative Analysis of Semantic Search Technique Using Ontology

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Abstract

This paper investigates the semantic search performance of search engines. Initially, one keyword-based search engine and a semantic search engine Yandex and our proposed System were selected. Then, fifteen queries based upon Single keyword, multiple keyword and Complex Queries, were determined. After that, each query was run on each search engine. Various results are calculated to determine the performance of Keyword based and Semantic Based Search engines. These results are based upon various parameters like Response time, Estimated Result Count, No. of dead Links, No. of Redundant Links, Depth Reached and precision rate. Our Proposed Semantic Search engine is based upon three algorithms named as Concept matching Algorithm, Retrieving inbound anchor texts, Minimal answers Algorithm. These algorithms are applied one by one respectively to get the results. Overall, our proposed search engine shows the best results on each parameter stated above.

Keywords: Information retrieval, Semantic search Performance, Semantic search engine, Keyword based Search engine, Evaluation

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