Abstract

The growth of technology in the computer world makes the amount of data bigger, one of of the example is data on every personal computer. Hence, in terms of data retrieval searching process within the personal computer, a desktop search engine system based on information retrieval that provides relevant results with rapid process is needed. To increase the level of relevance of query results, it needs a method to search for variations of terms that are relevant to the original query. Therefore, in this final task, Levenshtein Distance algorithm is implemented in the case of term variations and rank search query results. Levenshtein Distance in general is the process of finding the number of differences between two strings. And the implementation of this algorithm aims to compare the query with a list of terms that exist in the index.

Based on the implementation of the system, the implementation results of Levenshtein Distance algorithm show that this algorithm is able to increase the number of relevant documents of all documents that were retrieved by the system. However, the processing time becomes longer due to the application of proficiency level in these algorithms. An important value in the implementation of Levenshtein Distance algorithm is a distance value that is used to find variations of terms. Based on the test results, it is considered that the optimum distance to search for relevant documents is the *L/3*, where *L* is the length of a piece of the query.

Keywords: *Information Retrieval, Desktop Search, Levenshtein Distance, Query, relevant.*