

## Abstract

Information Retrieval is a method which is used for search document, and can be fitted for user need of information and documents. By developing the mathematic concept of Information Retrieval method, we can get the improvement of document search application from document collection. In information retrieval, there are two types of documents, namely the free text (unstructured document) and fielded text (structured document). HTML document is one kind of the fielded text. Searching in HTML documents must consider a factor of importance of each part of the document. Those factors, hereinafter referred as static rank, can be distinguished based on tags or markup in HTML documents, such as title, text, inlinks, obj, type, etc.

GBM method is a kind of method that applying the IR score and static rank, PageRank is used to get the static rank. GBM method is implemented in the scope of the document weighting, which having a certain calculation of the field (tag) that is affected by certain boost factors. The performances of this method are based on suitability GBM documents with keywords (queries), hereinafter referred as value relevance.

Based on results of testing, it can be concluded that the results of system performance (precision, recall and IAP / interpolated average precision) is best obtained when using the inverse kuadrat method rather than eksponensial negative method. On boost factor scenario, it is best obtained when using the default scenario [Ahmad,2011]  $\{(keywords=4), (title=4), (head=3), (body=2), (span=2)\}$ . This is caused by the given proportion of boost factor value equal to the default scenario, in order of importance of each field in the document based on assumptions. However, there is another factor that must be considered. This is the diversity of the field (tag) existence which is tested in the scenario in each of documents.

**Keywords :** *Information Retrieval, Information Retrieval System, Gravitation Based Model, precision, recall, IAP , document collection dan query.*