Improving Menu Search Relevance on the DIKANTIN Platform with a Comparison of Vector Space Model and BM25F Methods

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ABSTRACT

Online food ordering applications are growing in popularity as the need for fast and convenient services increases. DIKANTIN is a platform that allows users to search and order food online. One of the problems in the application is the menu search system, which has not been optimized to display relevant results. This research compares two information retrieval methods, Vector Space Model (VSM) and BM25F, in improving the relevance of menu search. VSM uses TF-IDF and cosine similarity approaches to measure the similarity between query and document, while BM25F applies weighting to document attributes to improve the relevance of search results. Testing was performed on 205 menu data on the DIKANTIN platform and evaluation was based on Mean Average Precision (MAP). The test results show that BM25F has a better performance in search relevance with a MAP of 92.4% compared to VSM which only reaches 78%. Further tests were conducted using a questionnaire survey of users from 9 departments at Jember State Polytechnic. The results show that 76% of the respondents prefer BM25F while 22% choose VSM, indicating that BM25F is more effective in improving the accuracy of search results.

Keywords: *Information Retrieval*, *Vector Space Model*, *BM25F*, *search relevance*