Abstract

Recommender system is one of solutions which can help user to handle the amount of information received. Recommender system also helps the user to select an item which is probably liked by the user. In conducting the search, recommender system is divided into two types: based on the item (item-based) and based on the user (user-based). This final task applies the item-based.

One of the methods contained in the item-based work is collaborative filtering. In collaborative filtering there are various stages to build a recommender system. One of them is the calculation of similarity. This final task implements the conditional probability-based similarity method in the calculation of similarity. The implementation of this method aims to calculate similarity based on the probability where the probability of an item would be selected if the item has a high similarity with the items that have been previously selected by user. This final task analyzes the prediction accuracy and recommendation quality of conditional probability 2 in building recommender system.

From research conducted, the accuracy of predictions generated by the conditional probability with normalization (conditional probability 2) higher than the conditional probability without normalization (conditional probability 1). However, the quality of recommendations generated by normalizing the conditional probability (conditional probability 2) lower than without the normalization of the conditional probability (conditional probability 1). In addition, the amount of sparsity is used, the parameters α, the number of neighbor, and a large top-n also affects the prediction accuracy and quality of recommendations. In this study, a large number of best neighbor and top-n is used, respectively, 30 and 10.

Keywords: *recommender system, item-based, collaborative filtering, conditional probability-based similarity*