

## ***Abstract***

*Recommender system collaborative filtering is information filtering technology which is used to give rating prediction or recommendation of certain item based on other users' preferences with similar behavior.*

*In recommender system, not all calculated prediction is an accurate prediction, or in other word prediction error exist. In this final project, Prediction Error-Based Enhancement – Item Similarity (PEBE-IS) method implemented and analyzed. PEBE-IS is an improvement of User-Based Pearson Similarity (UBPS), conventional user-based collaborative filtering. PEBE-IS can estimate prediction error which is occurred in UBPS. Estimation of prediction error derived from prediction error of active user's rated item.*

*In this final project, the effect of parameter  $n$ ,  $\gamma$ , and data sparsity on PEBE-IS' prediction accuracy are analyzed, based on mean absolute error (MAE). Beside it, accuracy of PEBE-IS also compared with UBPS.*

*Based on experiment, accuracy of UBPS and PEBE-IS prediction are influenced by parameter  $n$  and data sparsity. Prediction accuracy of PEBE-IS also influenced by parameter  $\gamma$  used in this method. From experiment too, accuracy of PEBE-IS is better than UBPS on certain  $\gamma$  value. PEBE-IS still better than UBPS even when the the method tested with different data sparsity.*

***Keyword*** : *recommender system, collaborative filtering, metode UBPS, metode PEBE-IS, prediction error*