

## **Abstract**

Recommender system is a system that is able to provide a recommendation for user to items, such as goods, music, videos, films, books, and so on, which may be chosen.

This final project implement and analyze the recommender system with matrix factorization algorithms and Pearson-based collaborative filtering. Comparative analysis is based on the algorithm analysis, the value of Mean Absolute Error (MAE) and Response time. From the analysis, it was found that the complexity of matrix factorization algorithms more complex than Pearson algorithm. Additionally MAE values obtained recommender system with matrix factorization algorithm has a smaller value than the MAE recommender system with an algorithm of Pearson and Response time value of recommender system with Pearson algorithm is smaller than the matrix factorization algorithm. The best method is matrix factorization which has the MAE is more accurate than the method of Pearson. The hardware development also makes the response time does not influence significantly.

Keywords: recommender systems, collaborative filtering, pearson, matrix factorization, MAE, Response time.