

## Abstract

The large amount of information on the internet makes the role of recommendation systems very important in helping users choose the desired product in various fields, one of which is online book sales. The recommendation system helps users find the books that are most relevant to them. One approach that is often used in recommender systems is Collaborative Filtering (CF). However, CF has several shortcomings, one of which is that the system only recommends items that are popular and most relevant to users. This causes the item recommendations given to users to be less diverse. Therefore, we propose a book recommendation system based on Two-stages CF using the Diversity Balancing method to balance diversity in the recommendation results. System accuracy is measured using precision and recall, while diversity is measured using personal diversity and aggregate diversity. The test results indicate that as the number of recommended items increases, the proposed system's accuracy improves, but the diversity of recommended items decreases. In consideration of the trade-off between accuracy and diversity, our system achieves a recall score of 0.301, a precision score of 0.282, a PD score of 0.048, and an AD score of 0.095 with recommendation list size of 8 items