Abstract

The virtual world is overflowing with digital items which makes user's experience when searching for, selecting and buying items harder. The use of a recommender system can help alleviate this problem and increase the profit of companies by generating to the user a list of potential favorite items. This paper proposes a new hybrid algorithm that depends on the item's semantic information and the users historical rating data. The semantic information is used to estimate the strength of the semantic similarity between users in terms of preferred and non-preferred items. The historical rating data is used to estimate the similarity in satisfaction level between users. Based on both similarity estimates, a unified list of neighbors is produced. This list will be used in the prediction step. Recommendation results obtained from employing the proposed hybrid algorithm have been compared against recommendation results from alternative techniques. The results obtained show that the proposed algorithm outperforms the baseline techniques in recommendation quality and prediction accuracy.