

Personalized Recommendation of TV relations

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Information overload on the Web causes that users do not understand the information found or rather they are not able to search for proper information. Recommender systems were created to improve this situation. They recommend items based on user's preferences or items each another. In this work we focus on domain of TV program.

We know three types of recommender systems – content based filtering, collaborative filtering and mix of these two systems hybrid - filtering. Each of them has some problems. Our first step was to analyze problems in recommender systems. Diversity and cold-start belong among them. There are few cases to solve this problem, for example to use hybrid-filtering/recommendation.

We decided to combine two methods to get best results. In our case we took content based filtering to find most similar items in between users. Main idea is to insert new ratings to matrix used by collaborative filtering to improve the recommendation. When a user rates some TV relation we try to find similar item to the rated relation. We insert new rating to the matrix after this step. After all we get two types of ratings:

- Explicit rating (user rating)
- Implicit rating (rating inputted to matrix automatically)

Our main goal was to reduce diversity of data we work with and get better precision. After insertion we run the normal collaborative user based filtering method on the enriched matrix. We find top n most similar users with active one and at the end we recommend him relations which rated most similar users. The whole process is depicted on Figure 1.

We currently test our method on running web application. On the beginning of our experiment is questionnaire to get some explicit information about his preferences in domain of TV program. For example, what channels he usually watches, what genres he prefers...After that user signs up and rates some relations. In the backend of this application we runs our recommender and we order our recommendations from the best to the worst. It should be list of 20 channels. Now when are relations ordered users

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give us their opinion if they like relation or dislike, so after all we can say if users like first 5 items of recommendation our precision is good and we compare this result with recommender system implemented without our method.

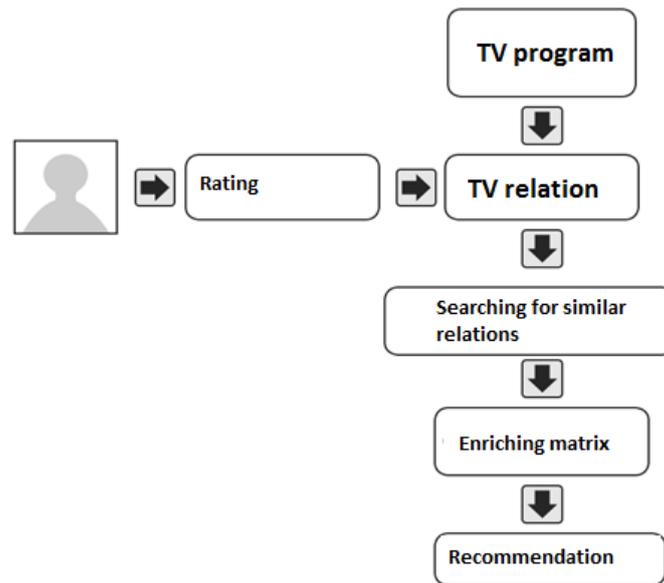


Figure. 1. Process of our recommender system.

Acknowledgement. This work was partially supported by the Scientific Grant Agency of Slovak Republic, grant No. VG 1/0646/15.

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