

Title: TV Recommendation Systems

Objectives: The main objective is to study and develop mechanisms that can help TV consumers choosing a program among a set of available broadcasted streams or let content providers personalize advertisement.

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Summary:

The availability of a large number of Digital Television Channels makes the process of program selecting quite difficult and cumbersome. Users tend to move from channel to channel without spending much time watching each of the programs. Recommendations systems based on user profiles and usage patterns are important tools to help content providers propose their community of clients programs that may help creating a list of fans. Besides client satisfaction, another crucial business aspect for content providers is revenue based on advertisement. However, in order to make a better impact, ads must cater to the varied tastes of viewers. Recommendation systems that can assist sponsors to suitably place their ads among the variety of TV programs and ensures the ads reaching the intended audience effectively is then another important application of recommendation systems. Aspects to take into account include usually program/ad content, viewers' interests, sponsors' preferences, program timing and program popularity.

These systems can be broadly classified as (i) content based systems - that use machine learning techniques to select items based on the similarity between the content of items and the preferences of users; (ii) collaborative filtering based systems - that use the preferences of a group of similar users to make a recommendation to a new user whose interests match with the group (content is then recommended on the basis of user similarity rather than item similarity); (iii) Integrated based systems - that use the knowledge of both users and content to make a recommendation.

The work to be developed includes the analysis of the on-going work in this area and the development of a solution for a Personal Television system.

References

Günther Hölbling , Michael Pleschgatter, Harald Kosch, PersonalTV: A TV recommendation system using program metadata for content filtering, Multimedia Tools and Applications, [Volume 46, Numbers 2-3](#), 259-288, Springer

Sudha Velusamy, Lakshmi Gopal, Shalabh Bhatnagar, Sridhar Varadarajan, An efficient ad recommendation system for TV programs, Multimedia Systems, 14:73-87, 2008

Frank Hopfgartner, Joemon M. Jose, Semantic user profiling techniques for personalised multimedia recommendation, Multimedia Systems, 16:255-274, 2010

Zhiwen Yu , Xingshe Zhou, Liang Zhou, Kejun Du, A hybrid similarity measure of contents for TV personalization, Multimedia Systems, 16:231-241, 2010

Massimiliano Albanese , Angelo Chianese, Antonio d'Acierno, Vincenzo Moscato , Antonio Picariello,

A multimedia recommender integrating object features and user behavior, Multimedia Tools and Applications, 2010

Matthias Strobbe , OlivierVanLaer, SamuelDauwe, BartDhoedt, FilipDeTurck, Piet Demeester, ChristofvanNimwegen, JeroenVanattenhoven, Interest based selection of user generated content for rich communication services, Journal of Network and Computer Applications, 33: 84-97, 2010