Context-Aware Recommender Systems: Research Workshop and Movie Recommendation Challenge

Gediminas Adomavicius
Dept. of Information and Decision Sciences
University of Minnesota
Minneapolis, MN, USA
gedas@umn.edu

Alexander Tuzhilin
Stern School of Business
New York University
New York, NY, USA
atuzhili@stern.nyu.edu

Shlomo Berkovsky
CSIRO TasICT Centre
Hobart, Tasmania, Australia
shlomo.berkovsky@csiro.au

Ernesto W. De Luca
TU-Berlin / DAI Lab
Berlin, Germany
ernesto.deluca@da-lab.de

Alan Said
TU-Berlin / DAI Lab
Berlin, Germany
alan.said@da-lab.de

ABSTRACT
CARS and CAMRa were organized under the Context-awareness in Recommendation Systems special event and gathered academic researchers as well as industrial practitioners in a workshop and challenge.

Categories and Subject Descriptors
H.3.4 [Information Technology and Systems Applications]: Decision support; H.3.3 [Information Storage and Retrieval]: Information Search and Retrieval - Information filtering, Relevance feedback, Retrieval models, Search process, Selection process

General Terms
Algorithms, Design, Experimentation, Human Factors

1. CONTEXT-AWARENESS IN RECOMMENDER SYSTEMS
The importance of contextual information has been recognized by researchers and practitioners in many disciplines, including personalization, information retrieval, ubiquitous and mobile computing, data mining, and management. While a substantial research has already been performed in the area of recommender systems, the vast majority of existing approaches focuses on recommending the most relevant items to users and does not consider additional contextual information, such as time, location, weather, or the company of other users. This joint workshop and challenge brought together researchers with wide-ranging backgrounds to identify important research questions, to exchange ideas from different research disciplines, and to facilitate discussion and innovation in the area of context-aware recommender systems in general (CARS\(^1\)) and tackle practical challenges of context-aware movie recommendation (CAMRa\(^2\)).

1\(^\text{http://ids.csom.umn.edu/faculty/gedas/cars2010/}
2\(^\text{http://www.dai-labor.de/camra2010/}

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2. CARS WORKSHOP
The CARS area has experienced significant growth over the last few years after several papers have been published on the subject. The goal of the 2nd CARS workshop is twofold: (1) to bring together the leading CARS researchers in order to discuss the key issues and problems of incorporating and utilizing contextual information in recommender systems, and (2) to move the CARS area forward by overviewing various existing approaches, identifying key themes, and developing new directions. Some of the CARS-related issues included the development of novel context modeling and user modeling techniques, algorithms for detecting relevance of contextual data and for incorporating contextual information into the recommendation methods, and how to scale these methods to large volumes of data and to rich and numerous classes of contextual information. The goal of the workshop was accomplished through presentation of peer-reviewed technical papers, a research keynote, and having a panel-style discussion of the key issues by the workshop participants.

3. CAMRA CHALLENGE
CAMRa was set up as a challenge to give industrial and academic representatives working in recommender systems an opportunity to focus their efforts on a common goal. The challenge focused on two datasets (released exclusively for the challenge by Movepilot and Filmtipset movie recommendation websites) and three context-aware recommendation tasks (event-, mood-, and social-based recommendations) that the participants were asked to address. In this environment we were able to identify important aspects in context-aware recommendation, compare developed methods and obtained results.

The challenge attracted over 40 teams from 21 countries. The primary outcomes of the challenge were presented in the papers accepted to the workshop. The proceedings are available in the ACM International Conference Proceeding Series. Extended versions of the best papers will be published in a special issue of the ACM Transaction on Intelligent Systems and Technology (TIST).