

# Binary Recommender Systems: introduction, an application and outlook\*

[Extended Abstract]

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## ABSTRACT

Recommender Systems are a hot application area these days, made popular by well known web sites. The problem of predicting user preferences is very demanding from the data mining algorithm design point of view, but it also poses challenges to evaluation and monitoring. Moreover, there is a lot of information that can be exploited, from clickstreams and background information to musical content and social interaction. As data grows and recommendation requests must be answered in a split second, online and agile solutions must be implemented. In this talk we will give a brief introduction to binary recommender systems, describe a particular hybrid application to music recommendation - from algorithm to online evaluation, and refer to context aware and online recommender algorithms.

## Categories and Subject Descriptors

H.4 [Information Systems Applications]: Data Mining  
Recommender Systems  
Collaborative Filtering

## 1. INTRODUCTION

Recommender systems [7] are one of the tools we have to help us manage and access the unthinkable amount of information available on the web (or any large information system) at the distance of a few clicks. For that reason, they can be included in the general category of information filtering systems. A recommender system typically operates in an environment (e.g. a web site) where a large number of items

are available (e.g. documents, books to buy, music tracks to listen to, web pages, etc.). Users enter that environment and chose the items to access. The job of a recommender system is simply to predict the preferences of a user (favorite items) given the user's profile. Research on recommender systems includes the definition of user profiles, development of algorithms that are able to predict preferences in a particular setting, exploitation of available information (e.g. context and background knowledge [1][2][4], musical content [3], social links between users, client-side data), algorithm scalability [6] [8] and evaluation of performance and usefulness [3][5]. In this talk we give an introduction to recommender systems, particularly to binary recommender systems, present a hybrid application to music recommendation - from algorithm to online evaluation, and refer to context aware and online recommender algorithms.

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