# A Contextualization Service for a Personalized Access Model

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**Abstract.** Personalization paradigm aims at providing users with the most relevant content and services according to many factors such as interest center or location at the querying time. All this knowledge and requirements are organized into user profiles and contexts. A user profile encompasses metadata describing the user whereas a context groups information about the environment of interaction between the user and the system. An interesting problem is therefore to identify which part of the profile is significant in a given context. This paper proposes a contextualization service which allows defining relationships between user preferences and contexts. Further, we propose an approach for the automatic discovery of these mappings by analyzing user behavior extracted from log files.

## 1 Introduction

Personalization paradigm aims at adapting applications as much as possible to the user preferences and to the user context. Adaptation may concern several aspects, such as system reconfiguration, communication protocols, data sources selection, query reformulation, data layout, or users feedback handling. Data personalization refers to the set of techniques which allow providing users with the most relevant content. There exist two approaches for adapting and customizing application interactions: User Centric Personalization and Context-Aware Application.

Considering only one of the previous approches may not be satisfactory for many applications. Indeed, the same user, with different profiles, may prefer listening news during breakfast and listening Rn'B music while driving a car. Alternatively, the same user, at his home context, may have different domains of interest related to his hobbies or to his job. Thus, allowing applications to combine both approaches leverages their adaptability to the benefit of the users.

The goal of this paper is to show, through the definition of a specific service called contextualization, how a Personalized Access Model (PAM) can operate on both profile and context. Given a profile model and a context model, Contextualization is defined as a cross-filtering process, run periodically over the user's interaction log file to extract possible associations