User Models as Personal Ontologies

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Abstract. The problem of defining user profiles has been a research issue since a long time; user profiles are employed in a variety of applications, including Information Filtering and Information Retrieval. In particular, considering the Information Retrieval task, user profiles are functional to the definition of approaches to Personalized search, which is aimed at tailoring the search outcome to users. In this context the quality of a user profile is clearly related to the effectiveness of the proposed personalized search solutions. A user profile represents the user interests and preferences; these can be captured either explicitly or implicitly. User profiles may be formally represented as bags of words, as vectors of words or concepts, or still as conceptual taxonomies. More recent approaches are aimed at formally representing user profiles as ontologies, thus allowing a richer, more structured and more expressive representation of the knowledge about the user.

This talk will address the issue of the automatic definition of personal ontologies, i.e. user-related ontologies. In particular, a method that applies a knowledge extraction process from the general purpose ontology YAGO will be described. Such a process is activated by a set of texts (or just a set of words) representatives of the user interests, and it is aimed to define a structured and semantically coherent representation of the user topical preferences. The issue of the evaluation of the generated representation will be discussed too.