



## Master's Thesis proposal

### General Information

Master's Thesis Title: **Context-based Recommendation in a Ubiquitous environment**

Orientation:  professional  
 research

M.Sc. Th. Advisor's Dept. MAIA,UB  
& University:

M.Sc. Th. Advisor: Maria Salamó

M.Sc. Th. Advisor e-mail: maria@maia.ub.es

Observations:

### M.Sc. Thesis Description

Main issues / Brief Description:

The project goal is the study and development of specific techniques for making recommendations in a ubiquitous environment.

## Detailed Description:

Recommender systems try to help user's access complex information spaces. A good example is when they are used to help users to access online product catalogues, where recommender systems have proven to be especially useful for making product suggestions in response to evolving user needs and preferences. In this project, we will investigate different scenarios of recommendation to users connected in a social network.

The thesis work will involve:

- Study of recommender systems [1, 2, 3] although the proposed techniques will be focused on Collaborative Filtering recommendation [2] and on Context-based recommendations [5].
- Modelling user preferences.
- Development of the proposals into a ubiquitous environment such as mobile devices network [4].
- Generalisation to different domains.
- Evaluation and result analysis of the proposals.

[1] Pazzani, M.J., Billsus, D.: Content-Based Recommendation Systems. In: Brusilovsky, P., Kobsa, A., Nejdl, W. (eds.) The Adaptive Web: Methods and Strategies of Web Personalization. LNCS, vol. 4321, pp. 325–341. Springer, Heidelberg (2007)

[2] Schafer, J.B., Frankowski, D., Herlocker, J., Sen, S.: Collaborative Filtering Recommender Systems. In: Brusilovsky, P., Kobsa, A., Nejdl, W. (eds.) The Adaptive Web: Methods and Strategies of Web Personalization. LNCS, vol. 4321, pp. 291–324. Springer, Heidelberg (2007).

[3] Smyth, B. (2007) 'Case-Based Recommendation' Eds. Brusilovsky, P., Kobsa, A., Neidl, W. The Adaptive Web: Methods and Strategies of Web Personalization. Lecture Notes in Computer Science, Vol. 4321. Springer-Verlag, Berlin Heidelberg New York.

[4] Mcdonald, David W. "Ubiquitous Recommendation Systems." Computer (2003): 111-112.

[5] Abbar, S., Bouzeghou, M., & Lopez, S. (2009). Context-Aware Recommender Systems : A Service-Oriented Approach. VLDB (pp. 1-6).

Other comments:

We recommend applicants to have minimal knowledge of machine learning and data mining although it is not a sine quan non condition.

Barcelona, March 14<sup>th</sup> 2011