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# Recommender Systems based on Human Psychological Reputation

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## Abstract

This short paper presents the perspectives of the PhD research<sup>1</sup>. It is being developed in the domain of Recommenders Systems in a Social Network considering the Psychological aspects of Humans presented as a service providers.

## Introduction

Recommender Systems are applications that provide personalized advice to users about products or services they might be interested in.

Recommender Systems are used to recommend products or services. In the case of services, they are produced and consumed by means of *interactions* between producers and consumers. In the context of services, we consider people not only as service consumers (users) but also as service providers [NC 2005, CGN 2005, JC 2005, LUNCKP 2004]: this is the originality of our research context. We propose a Recommender Systems to “recommend adequate people to deliver some service”. We are interested in providing personalized advice about people according to their psychological features during their previous operations in a Social Network. We consider people psychological features like personality traits, soft skills abilities, and Emotional Intelligence.

## 1. Recommenders Systems in Social Network

Nowadays, in Virtual Social Network there is no information about members' psychological abilities. Rather, we have experienced on the Web the availability of information about user consumed/bought products and “services” for instance by using E-commerce platforms, and also some incipient experiences of User profiles in Social Networks.

In E-commerce, we have Recommenders Systems to recommend products, like in Amazon.com (books recommended by analogy with others clients that bought similar items); or traditional services like train tickets (tickets sold if the client gives the correct information). In Social Networks, we have a User Profile developed that we can manipulate to recommend a human user as a *service provider*. However, there is no available experience on *how to recommend a human as a service provider on the basis of his/her previous performances (reputation)*.

As we said before, we decided to consider people like potential service providers. At the moment, the best technologies developed require one to enter manually the profile in order the recommender system to give some interesting suggestion about available people possessing specific skills. For instance, Buddy Finder [ZEGD 2005] allows us to find “somebody that can help us now”, to solve some specific, urgent, unforeseen problem. Buddy Finder is part of the BuddySpace [BDEST 2002] Instant Messenger tool. Both are examples of very advanced social software for enhanced presence [EKC 2004]. We are users [EKC 2005, JC 2005a] of these tools within the EU Integrated Project EleGI ([www.elegi.org](http://www.elegi.org)) where KMI (and in particular Marc Eisenstadt, the inventor of Buddyspace) are our nearest partners.

BuddyFinder find people based on their hard skills like knowledge. Our proposition offers a new perspective. We propose a Recommender System based on the reputation of people related to their

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<sup>1</sup> Thesis Supervisors Prof. Stefano A. Cerri, Informatics - Université Montpellier II, and Ass. Professor Nathalie Blanc, Psychology - Université Montpellier III.

psychological skills [Kantrowitz 2005, Bachard 2001] as personality, emotional intelligence, and soft skills abilities.

## Perspectives

According some researchers ([Goleman 1995], [Damasio 1996], and [Simon 1983]), the human psychological features influence their reasoning process and decision-making. Many of our Universities and Colleges give no importance to Emotional Intelligence and soft skills development. They do not stimulate neither propose the development of this specific literacy in their graduate courses. Even, they do not incorporate the skills development in their traditional ever pre-established courses/classes.

We chose to recommend people based on their Psychological aspects because, actually, what differentiate human *effective* work (when they provide work/service to others) are not just their cognitive abilities (hard skills [enGauge 2003]), but also emotional competences and soft skills.

The PhD research aims to design a workflow capable to capture, store, and make available user psychological information in a user profile database, which can be used by a Recommender Systems. Our first intention is to get the user information when the person is acting in his/her Social Network. The User Psychological profile contains information about user personality, emotional intelligence, and soft skills. Psychological information will be extracted during the user interaction in his/her social network. The interaction can be made by using an *Instant Messenger tool* and a *Server Database* equipped with a Reputation's workflow process control system. The last item embodies the technical innovation emerging from our research.

## References

- [ZEGD 2005] Zhu, Jianhan; Eisenstadt, Marc; Goncalves, Alexandre; Denham, Chris. BuddyFinder-CORDER: Leveraging Social Networks for Matchmaking by Opportunistic Discovery. In International Semantic Web Conference (ISWC2005). Proceedings...Workshop on Semantic Network Analysis, Galway, Ireland. November 7, 2005.
- [BDEST 2002] Buckingham Shum, S., De Roure, D., Eisenstadt, M., Shadbolt, N. and Tate, A. "CoAKTinG: Collaborative Advanced Knowledge Technologies in the Grid." *Proceedings of the Second Workshop on Advanced Collaborative Environments, Eleventh IEEE Int. Symposium on High Performance Distributed Computing (HPDC-11)*, Edinburgh, Scotland. July 24-26, 2002.
- [EKC 2005] Eisenstadt, Marc; Komzák, Jirí; Cerri, Stefano A. Peer Conversations for e-Learning in the Grid. First International ELeGI Conference on Advanced Technology for Enhanced Learning 2005.
- [EKC 2004] Eisenstadt, M., Komzak, J. and Cerri, S. "Enhanced Presence and Messaging for Large-Scale e-Learning", Proceedings of TelEduc04, the Third International Symposium on Tele-Education and Lifelong Learning, Havana Cuba, November 2004.
- [NC 2005] Nunes M.A.S.N. ; Cerri S.A. Getting out of the Breakdown: Towards Humans Social Network on the Grid SBIE'05: Simposio Brasileiro de Informatica na Educação Brasil; 2005.
- [CGN 2005] Cerri S.A. ; Gouarderes G. ; Nkambou R.b Learning GRID Services. Special Issue of the Applied Artificial Intelligence. Journal Vol.19, n. 9-10; Taylor& Francis Inc., Nov 2005; pp. 811-1073.
- [Goleman 1995] Goleman, D. *Emotional Intelligence*. Bantam, 1995.
- [Damasio 1996] Damasio, A.R., *Descartes' Error: Emotion, Reason and the Human Brain*. Papermac, 1996.
- [Simon 1983] Simon, H. A. *Reason in human affairs*. Stanford University Press, 1983.
- [JC 2005] Jonquet, C. ; Cerri, S.A. The STROBE Model: Dynamic Service Generation on the Grid Applied Artificial Intelligence Journal. Vol.19, n.9-10, 2005; pp.976-1014.
- [JC 2005a] Jonquet, C. ; Eisenstadt, M. ; Cerri S.A. Learning Agents and Enhanced Presence for Generation of Services on the Grid. Towards the Learning GRID: Advances in Human Learning Services, IOS Press, 2005; pp.203-213.
- [LUNCKP 2004] Lemoisson, P. ; Untersteller, E. ; Nunes, M.A. ; Cerri, S.A. ; Krief, A. ; Paraguacu F. (2004) Interactive Construction of EnCOre (Learning by Building and Using an Encyclopedia).GLS'04: 1st Workshop on GRID Learning Services at ITS'04. 2004. pp. 78-93.
- [Kantrowitz 2005] Kantrowitz, Tracy M. Development and Construct Validation of a Measure of Soft Skills Performance, Ph.D. thesis; Georgia Institute of Technology.2005.
- [Bachard 2001] Barchard, K.A.. Emotional And Social Intelligence: Examining its place in the nomological network.n Ph.D. University of British Columbia. 2001.
- [enGauge 2003] enGauge® 21st Century Skills: Literacy in the Digital Age. 2003. (available at <http://www.ncrel.org/engauge/skills/skills.htm> - 28/05/2006).