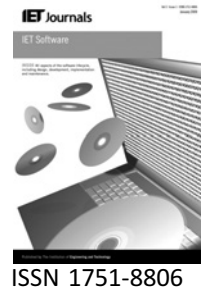


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Shaping human capital in software development teams: the case of mentoring enabled by semantics

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Abstract: In current organisations, the importance of knowledge and competence is unquestionable. In a scenario in which knowledge workers perform their duties in knowledge-intensive organisations, mentoring has emerged as an efficient practice for the development of these personnel. On the other hand, the convergence of information technology (IT) and communication technologies and the rapid evolution of the internet has been one of the most influential factors in human resources management, and the advent of semantic technologies presents novel opportunities for the improvement of personnel development, including semantics. This study presents a solution based on semantic technologies which utilises different personal and professional data to carry out pair matching of mentors and protégés.

1 Introduction

Today's work environment is increasingly diverse with the structure of work in constant fluctuation owing to increases in downsizing and outsourcing, participative work arrangements and autonomous teams [1]. In this new scenario, the internet has given birth to a new community model of communication and transformed also forms of acquisition of knowledge. These novel forms of social behaviour have had the result that user preferences and behaviour can be easily obtained, which, combined with a user's professional data, represent an opportunity for knowledge management initiatives. In human resource management field and especially in the recruiting and selecting process, information technology (IT) could add important value, especially since adapted IT processes could lead to quicker, more successful transparent results [2]. Moreover, the importance that human resource policies play in the management of social capital variable in an IT environment is very relevant [3]. Finally, software development is evolving from a single site development to multiple-localisation team environments [4] in which IT workers must develop a wide panoply of skills [5].

Among the practices to develop people within organisations, coaching and mentoring processes are highly relevant. These techniques offer an obvious benefit to individuals and groups and, as a consequence, the benefits spread all over the organisation. Mentoring is a very important tool for the development of human capital in IT organisations. In such organisational environments, professional practice must be continually revised and improved in order to adapt workers competences to technical innovations [6]. Moreover, it can be said that mentoring is a valid tool to develop not only technical competences but also generic ones. These competences may be crucial in a wide range of organisational contexts including all knowledge workers [7]. Finally, social interactions either using the internet or using face-to-face communication can provide opportunities for sharing and mentoring where expertise can be shared with minimal time costs to main jobs via providing key ideas, guidance and mentoring [8].

In order to provide software development teams with a specific tool for pair matching tasks, in this paper is presented SeMatching. This tool has been conceived as an instrument