SemCASS: technical competence assessment within software development teams enabled by semantics

Ricardo Colomo-Palacios*, Ángel García-Crespo and Juan Miguel Gómez-Berbís

Computer Science Department,
Universidad Carlos III de Madrid,
Av. Universidad 30, Leganés, 28911, Madrid, Spain
E-mail: ricardo.colomo@uc3m.es
E-mail: angel.garcia@uc3m.es
E-mail: juanmiguel.gomez@uc3m.es
*Corresponding author

Cristina Casado-Lumbreras

Karakorum Servicios Profesionales,
Zurbarán 5, 28223 Pozuelo de Alarcón, Madrid, Spain
E-mail: ccasado@karakorumsp.es

Pedro Soto-Acosta

Department of Management & Finance,
University of Murcia,
Campus de Espinardo, 30100 Murcia, Spain
E-mail: psoto@um.es

Abstract: The environment surrounding organisations is characterised by an increasing necessity of competent personnel that need to be assessed. Moreover, personnel factors are capital for software development projects. Given the importance of people in certain sectors, this paper introduces SemCASS, a tool based on semantic technologies to feed competence evaluation with competence evidences within software development projects. These evidences are taken from two different sources. On the one hand competence facts derived from the analysis of project repositories using natural language processing techniques. On the other hand, standard competence evidences collected using mobile technologies. SemCASS benefits from the standardisation of personnel performance metrics related to software development teams as well as the capital importance of competence ontologies and semantic reasoning as basic support of new knowledge management efforts. Due to these set of features, the reliability and precision of the competence assessment will increase drastically.

Keywords: competence assessment; semantic web; software development teams; ontologies; software metrics.