

Towards the implementation of requirements management specific practices (SP 1.1 and SP 1.2) for small- and medium-sized software development organisations

ISSN 1751-8806
Received on 26th June 2019
Revised 25th September 2019
Accepted on 8th January 2020
E-First on 17th April 2020
doi: 10.1049/iet-sen.2019.0180
www.ietdl.org

Ismail Mohamed Keshta¹ ✉, Mahmood Niazi², Mohammad Alshayeb²

¹Computer Science and Information Systems Department, AlMaarefa University, Riyadh, Saudi Arabia

²Information and Computer Science Department, King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia

✉ E-mail: imohamed@mcst.edu.sa

Abstract: There is a significant need to give careful consideration to the Capability Maturity Model Integration (CMMI) level 2 specific practices (i.e. SP 1.1 'understand requirements' and SP 1.2 'obtain commitment to requirements'), especially in the context of small- and medium-sized software development organisations, in order to assist such organisations in effectively managing their requirements engineering processes. In this study, the authors propose an abstract-level model for each of these two specific practices as well as cover the initial evaluation of the models. In addition, necessary templates and checklists are also provided for each proposed model. The proposed models are based on a significant amount of research in software process improvement, CMMI and requirements engineering. The initial evaluation of the proposed models was executed using an expert panel review process. The results showed that the proposed models provide ease of learning and ease of use, provide stakeholder satisfaction and can be applied to small-and medium-sized software development organisations. It is important to highlight that this study contributes not only to the implementation of SP 1.1 and SP 1.2 of REQM process area in the context of small- and medium-sized software development organisations but also to the body of knowledge on REQM.