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Verifying the Accuracy of Automation Tools for the Measurement of Software with COSMIC – ISO 19761 including an AUTOSAR-based Example and a Case Study

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Abstract

Automating functional size measurement (FSM) is important for organizations needing to measure a large number of projects within a short timeframe, provided, of course, that the results automatically generated are accurate, particularly when such measurement is based on an international measurement standard. A literature review has shown that very little work has been conducted on verifying measurement results produced by FSM automation. This paper presents a verification protocol designed to provide evidence of the accuracy of an automated FSM tool using the COSMIC ISO 19761 measurement standard. Also included are: an example of its use for the verification of an AUTOSAR- based FSM automation prototype tool developed at ESTACA, and a case study on the application of the proposed verification protocol on another prototype tool developed at Renault S.A.

Keywords: Functional size measurement; accuracy; tool verification; automated measurement; COSMIC ISO 19761; AUTOSAR

The full paper should be available from IEEE Explore www.ieeexplore.ieee.org/Xplore

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