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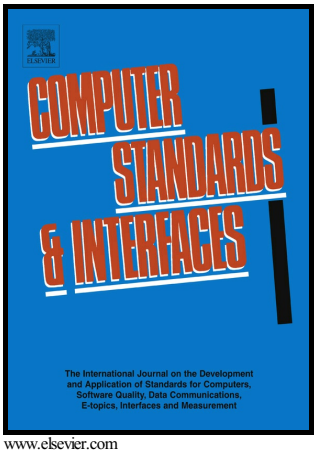

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Complexity Metrics for Process Models – A Systematic Literature Review

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Abstract

Context: One of the focal purposes of using 'visual' process models (i.e. process diagrams) is to ensure easier, universally understood and unambiguous diagrammatic communication. Thus the models should be easy to comprehend and maintain, which is directly related to their complexity. In order to systematically address process models complexity, it has to be measured.

Objective: The goal of our work was to provide a better overview and understanding in the field of process models complexity and to provide an overview of the corresponding metrics.

Method: A systematic literature review (SLR) was conducted, being the most suitable method for achieving aforementioned goals. In addition, to answer the stated research questions, different techniques for qualitative and quantitative data analysis and synthesis were used.

Results: We identified 43 relevant articles which were systematically analyzed according to a pre-defined process and data acquisition form. Out of these articles we collected 66 process models complexity metrics.

Conclusion: Modelers can use the 'catalogue' of process complexity metrics to establish and ensure good quality of diagrams, whereas researches can relate to or extend the 'catalogue' by providing new metrics or new insights to existing ones.

Keyword: Process model, process diagram, complexity measurement, metrics, systematic literature review.

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