Supporting the decision process of engineering changes through the computational process synthesis

Abstract:
Engineering changes (ECs) are considered as cost and time consuming. Based on the understanding of EC as a specific representative of cycles within development processes, the implementation of ECs is initiated by a target deviation, which leads to a decision over different alternatives of the implementation process of the particular EC. This decision is based according to literature and industrial practices within the field of process design methods on an expert discussion, without a formalized and explicit consideration of different change options. This paper presents computational process synthesis (CPS) as a support for the decision making of change options. The CPS is embedded within a procedural model for the decision process of ECs. Besides, this paper presents a case-study, which describes the application of the presented procedural model as well as the CPS.

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