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WORKING PAPER

Policy-Enabled Goal-Oriented Requirements Engineering for Semantic Business Process Management

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Abstract

Business process management (BPM) develops into a new paradigm for enterprise computing that uses information technology (IT) not only to support or execute business processes, but also to continuously monitor and improve these processes in order to better achieve business objectives. BPM's variant Semantic Business Process Management (SBPM) is meant to further close the gap between business and IT by attaching business semantics to the IT artefacts used for BPM. A current problem in SBPM is that the specification of the business requirements that the business processes must respond to and that follow from the enterprise's strategic decisions, is not fully integrated with the design of the business processes themselves. In this paper we propose an approach in which business requirements for business processes are formally modelled and the skeleton of the designs of these business processes is automatically generated from these models. The approach presented here focuses upon the modelling of policies (i.e. a kind of business requirements for business processes) and on the subsequent design of business processes that comply to these policies. A first contribution is extending an existing goal-oriented requirements specification language, i.e. Formal Tropos (FT), to incorporate policies, called Policy-extended Formal Tropos (PFT). A second contribution is offering an automated transformation to create business process design skeletons out of the PFT models. The paper also reports upon a case study that was conducted as a first, though preliminary, empirical test of our approach.

Keywords

Requirements Engineering, Early-phase Requirements Elicitation, Semantic Business Process Management, Enterprise Modelling, Goal-based Process Modelling, Compliance Management, Policy Modelling.

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