Deriving a Quality-linked Use Case Model from Quality-linked & Object-Based Business Process Architecture and Process Models

اشتقاق نموذج حالة الإستخدام المرتبط بالجودة لأنظمة المعلومات من نماذج بنية الأعمال و العمليات المرتبطة بالجودة

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Abstract:

Nowadays, the use of business processes models to enrich and support system models becomes increasingly important and highly demanded. That's because the whole activities of the organization cannot be captured by the system models alone, therefore, several research papers have been made in order to link and bridge the gap between business models and system models. But still, a partial gap is not fulfilled through these research papers because it neglects the side of the Quality-business process architecture. In this research, we have reduced the partial gap between business models and system models by successfully applying our proposed quality-based mapping framework on the case study of the Advising and Registration process in ASU. The framework has three components and it starts by designing the quality object-based Riva business process architecture and its models Q-BPMN, and then transform the Q-BPMN into quality system models in the form of quality use-case by using our proposed converting approach. The converting approach consists of two phases. In the first phase, the BPMN workflows are converted into a use case diagram. In the second phase, the quality references in the QoP table and quality names in the NFR-framework are transferred into the use case description. The linking of the business and the system sides have resulted in having a quality linked and business-driven use case diagram that is enriched with quality requirements. Besides, the linking has resulted in increasing the number of use cases with its description. Also, in this research, we have proposed a mappable quality classification for business models and use case models.