

Verification of UML activity models using Alloy

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Abstract

The recent trends in the field of information systems points toward document centric approaches, application of modern database management systems and new flexible models more complex than the existing models. The challenges of modeling are to reflect the dynamic and static side of information systems where the rapidly changing business environment directly influences the behavior of information systems through documents, their related actions, and events. In our work, we exploit properties of Activity Diagram represented by Alloy - a specification language for software architecture that can be operationalized - along with the underlying mathematical model to simplify the semantics of models and to make their analysis, verification and validation easier.

Keywords: Alloy, UML, Activity diagram, verification, transformation.

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