



Conference Paper

Formal Verification Framework for Automotive UML Designs

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Ghada Bahig · Amr El-Kadi

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 Lixia Ji ·  Jianhong Ma ·  Zhuowei Shan

To checking the correctness of UML models, we integrate UML and Model Checking effectually in software development. At the beginning, we select class diagram, state diagram and collaboration diagram from UML models to define a system description model, verification model and system...


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 Marcus Mews ·  Jaroslav Svacina ·  Stephan Weißleder

Models in testing are important for describing, understanding, and managing tests. In the automotive domain, AUTOSAR is an important standard to model components of electronic control units. AUTOSAR, however, lacks information about tests or test scenarios. Early testing in the automotive domain is ofte...

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 Huang Bo ·  Dong Hui ·  Wang Dafang ·  Zhao Guifan

AUTOSAR(AUTomotiveOpen System ARchitecture) is an open and standardized automotive software architecture, jointly developed by automobile manufacturers, suppliers and tool developers. The AUTOSAR standard will serve as a platform upon which future vehicle applications will be implemente...


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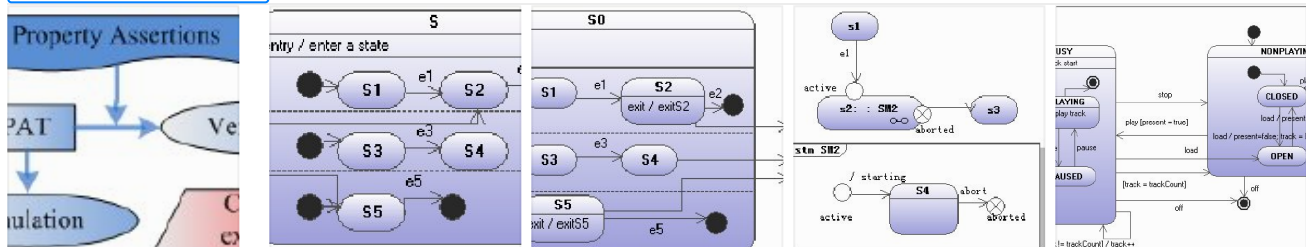
 Wei-gang Ma ·  Xin-hong Hei

A modeling and verification methodology is presented for railway interlocking system which is regarded as a safety-critical system. The methodology utilizes UML (Unified Modeling Language) to model the function requirement and FSM (Finite State Machine) to verify the safety requirements of the...

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 Shao Jie Zhang ·  Yang Liu

UML has become the dominant modeling language in software engineering arena. In order to reduce cost induced by design issues, it is crucial to detect model-level errors in the initial phase of software development. In this paper, we focus on the formal verification of dynamic behavior of UML diagrams...

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Incorporation of AUTOSAR in an Embedded Systems Development Process: A Case Study

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 Tim Hermans ·  Pieter Ramaekers ·  Joachim Denil · [...] ·  Jan Anthonis

AUTOSAR, the Automotive Open System Architecture, is growing to an accepted industrial standard for the development of automotive embedded software. The AUTOSAR design method describes a software development process starting at the architectural design up to the deployment of the developed softw...

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Formal Verification of UML-modeled Machine Controls.

[Conference Paper](#) [Full-text available](#) Sep 2009

 Thomas Klotz ·  Eva Fordran ·  Bernd Straube ·  Jürgen Haufe

Programmable logic controllers (PLCs) are applied in a wide field of application and, especially, for safety-critical controls. Thus, there is the demand for high reliability of PLCs. Moreover, the increasing complexity of the PLC programs and the short time-to-market are hard to cope with. Formal verificatio...

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Automation Test Method for Automotive Embedded Software Based on AUTOSAR

[Conference Paper](#) Sep 2009

 Huichoun Moon ·  Gwanghun Kim ·  Yeongyun Kim · [...] ·  Sanggui Im

This paper discusses new approach to materialize for automation test method for automotive embedded software. The total automotive embedded software is changing frequently whenever the specification for hardware is modified. These cause to spend time and cost. To resolve these problems, AUTOSAR whic...

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