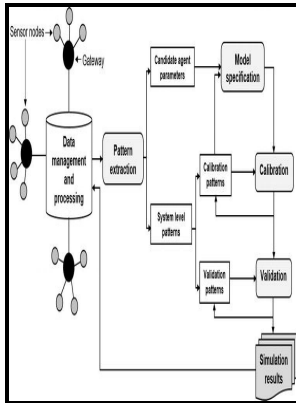


Reactive systems - modelling, specification and verification

Cambridge University Press - Temporal Verification of Reactive Systems



Description: -

-
System design -- Mathematical models
Expert systems (Computer science) -- Verification
Expert systems (Computer science) -- Validation
Reactive systems -
modelling, specification and verification
-Reactive systems - modelling, specification and verification
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CiteSeerX — Systems Level Specification and Modelling of Reactive Systems: Concepts, Methods, and Tools

In our informal introduction to the language, we interpreted names as input actions and co-names as output actions. .

Verification of Reactive Systems: Formal Methods and Algorithms

For example, once we have built two separate processes P and Q , we can form a new process by 6 Introduction combining P and Q sequentially or in parallel.

CiteSeerX — Systems Level Specification and Modelling of Reactive Systems: Concepts, Methods, and Tools

Are there constraints that are not downward closed? To meet these needs, early design phases nowadays include verification of given specifications against system descriptions to find potential design errors as early as possible. This state transformation is a way of describing formally that the intended effect of S is essentially to swap the values of the variables x and y . The key ingredients in this approach are $r r r r$ process algebra, automata or labelled transition systems, structural operational semantics, and logic.

Verification & Validation

We will now present a complete analysis of all the steps needed to show that R is a strong bisimulation, even though they are very simple and tedious. Implement the alternating-bit protocol in the CWB.

Reactive Systems: Modelling, Specification and Verification

Recall that the transition that we are considering must be provable using the SOS rules for parallel composition given in Table 2. Can you give examples of properties that both timed automata afford? Communication amounts to information exchange between a process that produces the information the sender and a process that consumes it the receiver.

Reactive Systems: Modelling, Specification and Verification; is written by L. Aceto, et al; and published by Cambridge University Press; distributed by Cambridge University Press; © 2007, (hardback), ISBN 978

Fill in the list representation of the regions γ_1 and γ_2 in Figure A. Volume 2421 of Lecture Notes in Computer Science, Springer-Verlag, pp. Another elegant timing-based mutual exclusion algorithm was proposed by Alur and Taubenfeld 1992, 1996.

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