1. Record Nr.   UNISA996465688003316

   Titolo   Formal Approaches to Software Testing [[electronic resource]] : 4th
                       International Workshop, FATES 2004, Linz, Austria, September 21,
                       2004, Revised Selected Papers / / edited by Jens Grabowski, Brian
                       Nielsen

   Pubbl/distr/stampa Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer,
                       , 2005

   Edizione   [1st ed. 2005.]

   Descrizione fisica 1 online resource (X, 228 p.)

   Collana   Programming and Software Engineering ; ; 3395

   Disciplina   005.1

   Soggetti   Software engineering
                       Programming languages (Electronic computers)
                       Computer logic
                       Management information systems
                       Computer science
                       Software Engineering
                       Programming Languages, Compilers, Interpreters
                       Logics and Meanings of Programs
                       Management of Computing and Information Systems

   Lingua di pubblicazione   Inglese

   Formato   Materiale a stampa

   Livello bibliografico   Monografia

   Note generali   Bibliographic Level Mode of Issuance: Monograph

   Nota di bibliografia   Includes bibliographical references and index.

   Nota di contenuto   Symbolic Test Generation -- Test Generation Based on Symbolic
                       Specifications -- Symbolic Test Case Generation for Primitive Recursive
                       Functions -- Preserving Contexts for Soft Conformance Relation --
                       Testing Non-functional Properties -- Testing of Symbolic-Probabilistic
                       Systems -- A Test Generation Framework for quiescent Real-Time
                       Systems -- Online Testing of Real-time Systems Using Uppaal --
                       Testing Deadlock-Freeness in Real-Time Systems: A Formal Approach
                       -- Test Development with Model Checking Techniques -- Using Model
                       Checking for Reducing the Cost of Test Generation -- Specifying and
                       Generating Test Cases Using Observer Automata -- Semi-formal
                       Development of a Fault-Tolerant Leader Election Protocol in Erlang --
                       An Automata-Theoretic Approach for Model-Checking Systems with

Unspecified Components -- Test Optimization -- Test Patterns with TTCN-3 -- High-Level Restructuring of TTCN-3 Test Data -- Ordering Mutants to Minimise Test Effort in Mutation Testing -- Testing COM Components Using Software Fault Injection and Mutation Analysis, and Its Empirical Study.

| Sommario/riassunto | Testing often accounts for more than 50% of the required effort during system development. The challenge for research is to reduce these costs by providing new methods for the specification and generation of high-quality tests. Experience has shown that the use of formal methods in testing represents a very important means for improving the testing process. Formal methods allow for the analysis and interpretation of models in a rigorous and precise mathematical manner. The use of formal methods is not restricted to system models only. Test models may also be examined. Analyzing system models provides the possibility of generating complete test suites in a systematic and possibly automated manner whereas examining test models allows for the detection of design errors in test suites and their optimization with respect to readability or compilation and execution time. Due to the numerous possibilities for their application, formal methods have become more and more popular in recent years. The Formal Approaches in Software Testing (FATES) workshop series also benefits from the growing popularity of formal methods. After the workshops in Aalborg (Denmark, 2001), Brno (Czech Republic, 2002) and Montreal (Canada, 2003), FATES 2004 in Linz (Austria) was the fourth workshop of this series. Similar to the workshop in 2003, FATES 2004 was organized in affiliation with the IEEE/ACM Conference on Automated Software Engineering (ASE 2004). FATES 2004 received 41 submissions. Each submission was reviewed by at least three independent reviewers from the Program Committee with the help of some additional reviewers. Based on their evaluations, 14 full papers and one wo- in-progress paper from 11 different countries were selected for presentation. |