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Disciplina	005.1/01/5113
Soggetti	Software engineering Computer programming Programming languages (Electronic computers) Computer logic Information technology Business—Data processing Software Engineering/Programming and Operating Systems Programming Techniques Software Engineering Programming Languages, Compilers, Interpreters Logics and Meanings of Programs IT in Business
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Nota di contenuto	How did software get so reliable without proof? -- A case study on the formal development of a reactor safety system -- Test automation for safety-critical systems: Industrial application and future developments -- Quantitative analysis of an application of formal methods -- Applying the B technologies to CICS -- Refining action systems within B-Tool -- Integrating action systems and Z in a medical system specification -- Formalizing Anaesthesia: A case study in formal specification -- A new system engineering methodology coupling

formal specification and performance evaluation -- Formalizing new navigation requirements for NASA's Space Shuttle -- Combining VDM-SL specifications with C++ code -- Data reification without explicit abstraction functions -- Formal and informal specifications of a secure system component: Final results in a comparative study -- Visual verification of safety and liveness -- Graphical development of consistent system specifications -- Deduction in the Verification Support Environment (VSE) -- Consistency and refinement for partial specification in Z -- Combining statecharts and Z for the design of safety-critical control systems -- Integrating real-time scheduling theory and program refinement -- Using a logical and categorical approach for the validation of fault-tolerant systems -- Local nondeterminism in asynchronously communicating processes -- Identification of and solutions to shortcomings of LCL, a Larch/C interface specification language -- Formal specification and verification of the pGVT algorithm -- Automatic verification of a hydroelectric power plant -- Experiences in embedded scheduling -- Model checking in practice: An analysis of the ACCESS.bus™ protocol using SPIN -- The incremental development of correct specifications for distributed systems -- A theory of distributing train rescheduling -- An improved translation of SA/RT specification model to high-level timed Petri nets -- From testing theory to test driver implementation -- Program slicing using weakest preconditions -- A formal approach to architectural design patterns -- Modular completeness: Integrating the reuse of specified software in top-down program development -- A strategic approach to transformational design -- Correct and user-friendly implementations of transformation systems -- An example of use of formal methods to debug an embedded software -- Experiments in theorem proving and model checking for protocol verification -- Procedure-level verification of real-time concurrent systems.

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### Sommario/riassunto

This book presents the refereed proceedings of the Third International Symposium of Formal Methods Europe, FME '96, held in Oxford, UK, in March 1996. FME '96 was co-sponsored by IFIP WG 14.3 and devoted to "the application and demonstrated industrial benefit of formal methods, their new horizons and strengthened foundations". The 35 full revised papers included were selected from a total of 103 submissions; also included are three invited papers. The book addresses all relevant aspects of formal methods, from the point of view of the industrial R & D professional as well as from the academic viewpoint, and impressively documents the significant progress in the use of formal methods for the solution of real-world problems.

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