Susan Stepney, Rosalind Barden
and David Cooper (Eds.)

Object Orientation in Z

Object Orientation In Z Workshops In Computing

R. Gotzhein,J. Bredereke

Object Orientation In Z Workshops In Computing:

Object Orientation in Z Susan Stepney,Rosalind Barden,David Cooper,2013-06-29 This collection of papers draws together a variety of approaches for adding ob ject orientation to the Z formal specification language These papers are not a conference proceedings but have a slightly more complicated his tory This work has grown and evolved from some work originally done in the ZIP project under the United Kingdom s Department of Trade and Industry DTI IED initiative ZIP is a three year project which aims to make the use of the Z specification language more widespread It hopes to achieve this by producing a standard for Zj developing a method for Zj building tool support for Zj and carrying out research into refinement proof and concurrency in Z The ZIP methods work includes performing a survey of current Z practitioners reported in Barden et al 1992 j investigating current styles and methods of Z usagej and developing a Z Method handbook available early in 1993 As part of this work we carried out a comparative study of the ways in which object orientation has been combined with Z A summary of that work has been published as Stepney et al 1992 **Z User Workshop, Cambridge 1994** J.P. Bowen,J.A. Hall,2012-12-06 This volume contains papers from the Eighth Z User Meeting to be held at the University of Cambridge from 29 30 June 1994 The papers cover a wide range of issues associated with Z and formal methods with particular reference to practical application These issues include education standards tool support and interaction with other design paradigms such as consideration of real time and object oriented approaches to development Among the actual topics covered are the formal specification in Z of Defence Standard 00 56 formal specification of telephone features specifying and interpreting class hierarchies in Z and software quality assurance using the SAZ method Z User Workshop Cambridge 1994 provides an important overview of current research into industrial applications of Z and will provide invaluable reading for researchers postgraduate students and also potential industrial users of Z Refinement in Z and Object-Z John Derrick,Eerke A. Boiten,2012-12-06 Refinement is one of the cornerstones of the formal approach to software engineering and its use in various domains has led to research on new applications and generalisation This book brings together this important research in one volume with the addition of examples drawn from different application areas It covers four main themes data refinement and its application to Z generalisations of refinement that change the interface and atomicity of operations refinement in Object Z and modelling state and behaviour by combining Object Z with CSP Refinement in Z and Object Z Foundations and Advanced Applications provides an invaluable overview of recent research for academic and industrial researchers lecturers teaching formal specification and development industrial practitioners using formal methods in their work and postgraduate and advanced undergraduate students *Formal Methods and Software Engineering* Chris George,Huaikou Miao,2003-06-30 This book constitutes the refereed proceedings of the 4th International Conference on Formal Engineering methods ICFEM 2002 held in Shanghai China in October 2002 The 43 revised full papers and 16 revised short papers presented together with 5 invited contributions were carefully reviewed and selected from a total of 108

submissions The papers are organized in topical sections on component engineering and software architecture method integration specification techniques and languages tools and environments refinement applications validation and verification UML and semantics **Z User Workshop, York 1991** J. E. Nicholls,2012-12-06 In ordinary mathematics an equation can be written down which is syntactically correct but for which no solution exists For example consider the equation x x 1 defined over the real numbers there is no value of x which satisfies it Similarly it is possible to specify objects using the formal specification language Z 3 4 which can not possibly exist Such specifications are called inconsistent and can arise in a number of ways Example 1 The following Z specification of a functionf from integers to integers f x 1 x O fx x 1 i f x 1 x O fx x 2 ii is inconsistent because axiom i gives f 0 1 while axiom ii gives f 0 2 This contradicts the fact that f was declared as a function that is f must have a unique result when applied to an argument Hence no suchfexists Furthermore iff 0 1 andfO 2 then 1 2 can be deduced From 1 2 anything can be deduced thus showing the danger of an inconsistent specification Note that all examples and proofs start with the word Example or Proof and end with the symbol 1 *Object-oriented Specification Case Studies* Kevin Lano,K. Lano,H. Haughton,1994 Object orientation and formal methods are widely regarded as two fields with significant potential for influence on the future of software engineering This book aims to provide an introduction to the rapidly growing area at the intersection of these fields formal approaches to system specification using object oriented techniques ZUM ... the Z Formal Specification Notation ,1995 *International Journal of Computer Systems Science & Engineering* ,2005 *Technology of Object-oriented Languages and Systems : TOOLS 25* Christine Mingins,Roger Duke,Bertrand Meyer,1998 This collection of papers examines the field of database and information systems It includes topics such as distribution and concurrency application design patterns and frameworks Java formal aspects of OO modeling languages and measurement database *Algebraic Methodology and Software Technology (AMAST'91)* M. Nivat,1994 The goal of the AMAST conferences is to foster algebraic methodology as a foundation for software technology and to show that this can lead to practical mathematical alternatives to the ad hoc approaches commonly used in software engineering and development The first two AMAST conferences held in May 1989 and May 1991 at the University of Iowa were well received and encouraged the regular organization of further AMAST conferences on a biennial schedule The third Conference on Algebraic Methodology and Software Technology was held in the campus of the University of Twente The Netherlands during the first week of Summer 1993 Nearly a hundred people from all continents attended the conference The largest interest received by the AMAST conference among the professionals extended to include the administration organizations as well AMAST 93 was opened by the Rector of the University of Twente followed by the Local Chairman Their opening addresses open this proceedings too The proceedings contains 8 invited papers and 32 selected communica tions The selection was very strict for 121 submissions were received **Formal Methods - Pacific 97** Australasian Refinement Workshop,New Zealand Formal Program Development Colloquium,1997-12 Formal Methods Pacific 97 is an umbrella

conference incorporating the 6th Australasian Refinement Workshop and the 3rd New Zealand Formal Program Development Colloquium The conference provided a forum for discussion of current research on mathematicallybased techniques for design and development of computer systems especially formal and or rigorous methods for developing executable programs from abstract specifications tool support for formal software development and practical experience with formal methods Topics also include software specification and verification hardware specification and verification and specification and development of real time and concurrent systems The refereed papers included in these proceedings present significant contributions to current research in formal software development within Australasia along with several contributions from other parts of the world The conference also included informal presentations describing work in progress abstracts only for these are included **Proceedings of the Sixth International Workshop on Computer-Aided Software Engineering, CASE '93, Singapore, July 19-23** Hing-Yan Lee,Thomas F. Reid,Stan Jarzabek,1993 **Unified Modeling Language** Keng Siau,T. A. Halpin,2001 UML is a large and complex language with many features in need of refinement or clarification and there are different views about how to use UML to build systems This book sheds light on such issues by illustrating how UML can be used successfully in practice as well as identifying various problematic aspects of UML and suggesting possible solutions *Z User Workshop* ,1991 Asia-Pacific Software Engineering Conference, 1996 ,1996 The three keynote addresses cover the new for new software technology principles of software evolution and auditing informal software testing and analysis processes Others of the 41 papers consider a design metric for module coupling a class testing technique based on data binding safety analysis using colored Petri nets a dynamic extension for specifying distributed systems designing and implementing dynamically reconstructing system software a dialog oriented user interface generation mechanism real time system design tools based on a real time object model and other topics No subject index Annotation copyrighted by Book News Inc Portland OR **Asia-Pacific Software Engineering Conference, 1995** ,1995 Annotation The 55 papers cover testing requirements modelling concurrency object oriented development software process distributed systems development environments formal methods quality assurance and reliability reuse specification maintenance information systems and reasoning and verification The keynote addresses discuss software systems engineering from domain analysis via requirements capture to software architectures and communication collaboration and cooperation in software development The third keynote is not included in the proceedings No subject index Annotation copyright by Book News Inc Portland OR
Formal Description Techniques IX R. Gotzhein,J. Bredereke,1996-09-30 This book is the combined proceedings of the latest IFIP Formal Description Techniques FDTs and Protocol Specification Testing and Verification PSTV series It addresses FDTs applicable to communication protocols and distributed systems with special emphasis on standardised FDTs It features state of the art in theory application tools and industrialisation of formal description **First IEEE International Conference Conference [sic] on Formal Engineering Methods** IEEE Computer Society,1997 **An Introduction to**

Formal Specification and Z Ben Potter,Jane Sinclair,David Till,1996 Following the sucess of the first edition the authors have updated and revised this bestselling textbook to take into account the changes in the subject over the past 5 years
   Algebraic Methodology and Software Technology ,1997

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