# Lecture Notes in Computer Science

Edited by G. Goos and J. Hartmanis

180

## Ada Software Tools Interfaces

Workshop, Bath, July 13–15, 1983 Proceedings

Edited by Peter J. L. Wallis



Springer-Verlag Berlin Heidelberg New York Tokyo 1984

### **Editorial Board**

D. Barstow W. Brauer P. Brinch Hansen D. Gries D. Luckham

C. Moler A. Pnueli G. Seegmüller J. Stoer N. Wirth

### Editor

Peter J.L. Wallis School of Mathematics, University of Bath Claverton Down, Bath BA2 7AY, England

CR Subject Classification (1982): D.2.2

ISBN 3-540-13878-1 Springer-Verlag Berlin Heidelberg New York Tokyo ISBN 0-387-13878-1 Springer-Verlag New York Heidelberg Berlin Tokyo

This work is subject to copyright. All rights are reserved, whether the whole or part of the material is concerned, specifically those of translation, reprinting, re-use of illustrations, broadcasting, reproduction by photocopying machine or similar means, and storage in data banks. Under § 54 of the German Copyright Law where copies are made for other than private use, a fee is payable to "Verwertungsgesellschaft Wort", Munich.

© by Springer-Verlag Berlin Heidelberg 1984 Printed in Germany

Printing and binding: Beltz Offsetdruck, Hemsbach/Bergstr. 2146/3140-543210

## Contents

	Page
Introduction	1
Section 1 - The Diana Interface	
Diana Past, Present, and Future Kenneth J Butler	3
The Intermediate Language Diana Guido Persch, Manfred Dausmann	23
A Formal Definition of Diana Jurgen Uhl	35
Section 2 - Diana Variants	
Dianette - A Pragmatic Variant of Diana M P Harrison	48
The Design of AIR and its Application to Ada Separate Compilation James S Briggs	60
Section 3 - Diana in Use	
The Use of Diana in Compilers, Language Transformers, Formatters and Debuggers Guido Persch	76
The Diana Interfacer T Payton, S Keller, J Perkins, S Mardinly	88
Section 4 - Tools Interfaces in General	
Designing and Testing Interfaces for Portable Software: Ada TEXT_IO as an Example. John B Goodenough, Thomas H Probert	104
Databases in Software Development: The Ada Programming Support Environment J A Hall	115
The Toolpack/IST Approach to Extensibility in Software Environments Leon Osterweil, Geoffrey Clemm	133