

Contents

Introduction	1
Theme 1: Design Activities and Representations for Design	
Theme 1 Introduction	7
From Individuals to Groups Through Artifacts: The Changing Semantics of Design in Software Development <i>Simon P Davies & Adrian M Castell</i>	11
Planning and Organization in Expert Design Activities <i>Willemien Visser</i>	25
Views and Representations for Reverse Engineering <i>Henk J van Zuilen</i>	41
Strategy Analysis: An Approach to Psychological Analysis of Artifacts <i>R K E Bellamy</i>	57
Constraints on Design: Language, Environment and Code Representation <i>Françoise Détienne</i>	69
Designing the Working Process — What Programmers Do Beside Programming <i>Jörg Strübing</i>	81
Modelling Cognitive Behaviour in Specification Understanding <i>Francisco C Simplicio Filho</i>	91
Theme 1 Discussion Report	99
Theme 2: Code Representation and Manipulation	
Theme 2 Introduction	105
Does the Notation Matter? <i>David Gilmore</i>	107
The Effect of the Mental Representation of Programming Knowledge on Transfer <i>Jean Scholtz</i>	119
Textual Tree (Prolog) Tracer: An Experimental Evaluation <i>Mukesh J Patel, Chris Taylor & Benedict du Boulay</i>	127

Longitudinal Studies of the Relation of Programmer Expertise and Role-expressiveness to Program Comprehension <i>Barbee Teasley, Laura Marie Leventhal, Keith Instone & Diane Schertler Rohlman</i>	143
Search Through Multiple Representations <i>Robert S Rist</i>	165
User-Centered Requirements for Reverse Engineering Tools <i>Ray Waddington</i>	177
Why Industry Doesn't Use the Wonderful Notations We Researchers Have Given Them to Reason About Their Designs <i>Andrew Monk, Martin Curry & Peter Wright</i>	185
Theme 2 Discussion Report	189
 Theme 3: Technological Solutions	
Theme 3 Introduction	195
Viz: A Framework for Describing and Implementing Software Visualization Systems <i>John Domingue, Blaine A Price & Marc Eisenstadt</i>	197
A Design Environment for Graphical User Interfaces <i>Jürgen Herczeg</i>	213
Automated Interface Design Techniques <i>Brad Blumenthal</i>	225
Designing User Interfaces by Direct Composition: Prototyping Appearance and Behavior of User Interfaces <i>Matthias Schneider-Hufschmidt</i>	235
Dialogue Specification as a Link Between Task Analysis and Implementation <i>Andrew Monk & Martin Curry</i>	253
Theme 3 Discussion Report	263
 Theme 4: The Impact of Design Methods and New Programming Paradigms	
Theme 4 Introduction	271
A Paradigm, Please — and Heavy on the Culture <i>Marian Petre</i>	273
Software Producers as Software Users <i>Tony I Larsson & Arja A Vainio-Larsson</i>	285
Putting the Owners of Problems in Charge with Domain-oriented Design Environments <i>Gerhard Fischer</i>	297
Is Object-oriented the Answer? <i>Russel Winder</i>	307

<i>Contents</i>	<i>vii</i>
Why Software Engineers Don't Listen to What Psychologists Don't Tell Them Anyway <i>T R G Green</i>	323
Theme 4 Discussion Report	335
 References and Indexes	
References	345
Author Index	371
Keyword Index	373