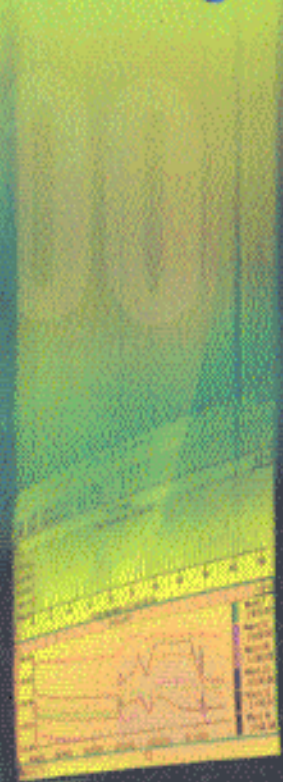


Editor
S K Chang

H a n d b o o k o f
**Software Engineering
&
Knowledge Engineering**

**Vol. 2
Emerging Technologies**



CONTENTS

Preface	v
Multimedia Software Engineering	1
<i>Shi-Kuo Chang and Timothy K. Shih</i>	
Object-Oriented Modeling of Multimedia Applications	21
<i>Gregor Engels and Stefan Sauer</i>	
Exploiting Visual Languages in Software Engineering	53
<i>Filomena Ferrucci, Genoveffa Tortota and Giuliana Vitiello</i>	
Software Engineering for Visual Programming Languages	77
<i>Margaret Burnett</i>	
Evaluation Issues for Visual Programming Languages	93
<i>Tim Menzies</i>	
Visual Parallel Programming	103
<i>Kang Zhang, Wentong Cai, Nenad Stankovic and Mehmet A. Orgun</i>	
System and Software Visualisation	131
<i>Claire Knight</i>	
Situated Computing: A Paradigm to Enhance the Mobile User's Interaction	149
<i>K. Priyantha Hewagamage and Masahito Hirakawa</i>	
Web Engineering: Models and Methodologies for the Design of Hypermedia Applications	181
<i>Gennaro Costagliola, Filomena Ferrucci and Rita Francese</i>	
Visualization of Knowledge Structures	201
<i>Chaomei Chen</i>	
Formal Description Techniques	239
<i>Motoshi Saeki</i>	
Software Specification & Design Methods and Method Engineering	263
<i>Motoshi Saeki</i>	

Component-Based Software Engineering <i>Wilhelm Hasselbring</i>	289
Software Cost Estimation <i>Hareton Leung and Zhang Fan</i>	307
Data Model Metrics <i>Mario Piattini, Marcela Genero and Coral Calero</i>	325
How Many Tests are Enough? <i>Tim Menzies and Bojan Cukic</i>	343
Verification and Validation <i>Alfs T. Berztiss</i>	367
Uncertainty Management <i>Alfs T. Berztiss</i>	389
Software Project Management <i>Vladan Devedzic</i>	419
Reverse Engineering <i>William C. Chu, Chih-Wei Lu, Chih-Hung Chang, Yeh-Ching Chung, Xiaodong Liu and Hongji Yang</i>	447
Synchronizing Interactive Web Documents with FD-Java Constraints <i>Antonina Dattolo, Vincenzo Loia and Michel Quaggetto</i>	467
Versions of Program Integration <i>Tahar Khammaci and Zine. E. Bouras</i>	495
A Survey of Software Inspection Technologies <i>Oliver Laitenberger</i>	517
SE/KE Reuse Research: Common Themes and Empirical Results <i>Tim Menzies</i>	557
Supporting Software Processes Using Knowledge Management <i>Ralf Kneuper</i>	579
Knowledge Elicitation: The State of the Art <i>Tim Menzies</i>	607
Nonmonotonic Reasoning and Consistency Management in Software Engineering <i>Ken Satoh</i>	629
Software Patterns <i>Vladan Devedzic</i>	645

Application of Knowledge-Based Systems for Supervision and Control of Machining Processes	673
<i>Rodolfo E. Haber, A. Alique, S. Ros and R. H. Haber</i>	
New Paradigm for Developing Evolutionary Software to Support E-Business	711
<i>Athula Ginige</i>	
A Survey of System-Level Design Notations for Embedded Systems	727
<i>J. L. Díaz-Herrera</i>	
Agent-oriented Software Construction with UML	757
<i>Federico Bergenti and Agostino Poggi</i>	
Improving UML Designs Using Automatic Design Pattern Detection	771
<i>Federico Bergenti and Agostino Poggi</i>	
Index	785