

Contents

Foreword	vii
<i>H. De Man</i>	
Omnia Fieri Possent	1
<i>T. Basten, M. Geilen, H. de Groot</i>	
Part I Challenges	
Embedded System Design Issues in Ambient Intelligence	11
<i>E. Aarts, R. Rovers</i>	
Ambient Intelligence: A Computational Platform Perspective	31
<i>L. Benini, M. Poncino</i>	
Ambient Intelligence and the Development of Embedded System Software	51
<i>A. Purhonen, E. Tuulari</i>	
Preparation of Heterogeneous Networks for Ambient Intelligence	69
<i>P. van der Stok</i>	
The Butt of the Iceberg: Hidden Security Problems of Ubiquitous Systems	91
<i>F. Stajano, J. Crowcroft</i>	
Emerging Challenges in Designing Secure Mobile Appliances	103
<i>S. Ravi, A. Raghunathan, J.-J. Quisquater, S. Hattangady</i>	

Part II Developments

The Domestic Robot - A Friendly Cognitive System Takes Care of your Home <i>F. Pirri, I. Mentuccia, S. Storri</i>	131
QoS-based Resource Management for Ambient Intelligence <i>C.M. Otero Pérez, L. Steffens, P. van der Stok, S. van Loo, A. Alonso, J.F. Ruíz, R.J. Bril, M. García Valls</i>	159
Terminal QoS: Advanced Resource Management for Cost-Effective Multimedia Appliances in Dynamic Contexts <i>J. Bormans, N. Pham Ngoc, G. Deconinck, G. Lafruit</i>	183
Scalability and Error Protection - Means for Error-Resilient, Adaptable Image Transmission in Heterogeneous Environments <i>A. Chirila-Rus, G. Lafruit, B. Masschelein</i>	203
Metaprogramming Techniques for Designing Embedded Components for Ambient Intelligence <i>V. Štuikys, R. Damaševičius</i>	229
Application-Domain-Driven System Design for Pervasive Video Processing <i>Z. Chamski, M. Duranton, A. Cohen, C. Eisenbeis, P. Fautrier, D. Genius</i>	251
Collaborative Algorithms for Communication in Wireless Sensor Networks <i>T. Nieberg, S. Dulman, P. Havinga, L. van Hoesel, J. Wu</i>	271
Energy-Efficient Communication for High Density Networks <i>R. Min, A. Chandrakasan</i>	295
Application Re-mapping for Fault-Tolerance in Ambient Intelligent Systems <i>P. Stanley-Marbell, N.H. Zamora, D. Marculescu, R. Marculescu</i>	315
Contributing Authors	337