

Table of Contents

Invited Keynotes

Design Probes for Handheld and Ubiquitous Computing	1
<i>H. Thimbleby</i>	
Maintaining Context and Control in a Digital World	20
<i>S.P. Stenton</i>	
Everywhere Messaging.....	22
<i>C. Schmandt</i>	
Mobile, Ubiquitous and the Sense of Space.....	28
<i>M. Susani</i>	

Handheld and Wearable Appliances

The Children's Machines: Handheld and Wearable Computers Too.....	31
<i>B. Mikhak, F. Martin, M. Resnick, R. Berg, and B. Silverman</i>	
Pocket BargainFinder: A Handheld Device for Augmented Commerce.....	44
<i>A.B. Brody, and E.J. Gottsman</i>	

Location-Based Services

Scalable and Flexible Location-Based Services for Ubiquitous Information Access	52
<i>R. José, N. Davies</i>	
Enabling Context-Awareness from Network-Level Location Tracking	67
<i>P. Couderc, A.-M. Kermarrec</i>	

Smart Devices and Smart Environments

Perceptual Intelligence.....	74
<i>A. Pentland</i>	
Advanced Interaction in Context.....	89
<i>A. Schmidt, K.A. Aidoo, A. Takaluoma, U. Tuomela, K. Van Laerhoven, and W. Van de Velde</i>	
Exploring Brick-Based Navigation and Composition in an Augmented Reality	102
<i>M. Fjeld, F. Voorhorst, M. Bichsel, K. Lauche, M. Rauterberg, and H. Krueger</i>	

Handhelds in Distributed Systems

- Handheld Computing Predictions: What Went Wrong ? 117
J.P. Allen

The Open-End Argument for Private Computing 124
T. Stabell-Kulø, F. Dillema, and T. Fallmyr

- Integrating PDAs into Distributed Systems: 2K and PalmORB 137
M. Román, A. Singhai, D. Carvalho, C. Hess, and R.H. Campbell

- Designing Information Appliances Using a Resource Replication Model 150
M.J. Silva, A.P. Afonso

Handheld and Wearable CSCW

- ACTIVE MAP: A Visualization Tool for Location Awareness
to Support Informal Interactions 158
J.F. McCarthy, E.S. Meidel

- Close Encounters: Supporting Mobile Collaboration through
Interchange of User Profiles 171
G. Kortuem, Z. Segall, and T.G. Cowan Thompson

- A Digital Photography Framework Supporting Social Interaction
and Affective Awareness 186
O. Liechti, T. Ichikawa

Context-Aware Mobile Applications

- The Role of Connectivity in Supporting Context-Sensitive Applications 193
K. Cheverst, N. Davies, K. Mitchell, and A. Friday

- Issues in Developing Context-Aware Computing 208
J. Pascoe, N. Ryan, and D. Morse

- RAMSES: A Mobile Computing System for Field Archaeology 222
M. Ancona, G. Dodero, and V. Gianuzzi

Interacting with Environments

- Token-Based Access to Digital Information 234
L.E. Holmquist, J. Redström, and P. Ljungstrand

- InfoStick: An Interaction Device for Inter-appliance Computing 246
N. Kohtake, J. Rekimoto, and Y. Anzai

- Using Spatial Co-location for Coordination in Ubiquitous
Computing Environments 259
M. Beigl

- Amplifying Reality 274
J. Falk, J. Redström, and S. Björk

Interacting with Handhelds

- Designing Interaction Styles for a Mobile Use Context..... 281
S. Kristoffersen, F. Ljungberg

- POBox: An Efficient Text Input Method for Handheld
 and Ubiquitous Computing 289
T. Masui

Panels

- Middleware for Ubiquitous Computing 301
R.J. Aiken, A. Abramski, J. Bates, and T. Blackadar

- Towards a Better Understanding of Context and Context-Awareness..... 304
G.D. Abowd, A.K. Dey, P.J. Brown, N. Davies, M. Smith, and P. Steggles

Posters

- The MediaCup: Awareness Technology Embedded
 in an Everyday Object 308
H.-W. Gellersen, M. Beigl, and H. Krull

- Point & Click – Interaction in Smart Environments 311
M. Beigl

- Wearable Information Appliances for the Emergency
 Services: HotHelmet 314
C. Baber, D.J. Haniff, and R. Buckley

- Using Wearable Computer as an Audiovisual Memory Prosthesis 317
J. Hoisko

- Today's Stories 320
*M. Panayi, W. Van de Velde, D. Roy, O. Cakmakci,
 K. De Paepe, and N.O. Bernsen*

- On the Self Evaluation of a Wearable Assistant 324
W. Van de Velde

- On Positioning for Augmented Reality Systems 327
S. Persa, P. Jonker

- Hippie: A Nomadic Information System 330
R. Oppermann, M. Specht, and I. Jaceniauk

- A Rapidly Configurable Location-Aware Information System
 for an Exterior Environment 334
R.P. O'Rafferty, M.J. O'Grady, and G.M.P. O'Hare

- Mobile Computing in Machine Engineering Applications 337
M. Brachtl, L. Mikšiček, and P. Slavík

XII Table of Contents

Chameleon – Reconfigurability in Hand-held Multimedia Computers	340
<i>G.J.M. Smit, T. Bos, P.J.M. Havinga, S. Mullender, and J. Smit</i>	
An Evaluation of WebTwig – A Site Outliner for Handheld Web Access	343
<i>M. Jones, G. Buchanan, and N. Mohd-Nasir</i>	
Human Factors of Multi-modal Ubiquitous Computing	346
<i>D.J. Haniff, C. Baber, and W. Edmondson</i>	
URCP: Experimental Support for Multi-modal Interfaces	349
<i>A. Donnelly, E. Barnstedt</i>	
Magic Medicine Cabinet: A Situated Portal for Consumer Healthcare	352
<i>D. Wan</i>	
Augmented Workspace: The World as Your Desktop	356
<i>K.L. Dempski</i>	
The ChatterBox	359
<i>J. Redström, P. Jaksetic, and P. Ljungstrand</i>	
Pollen: Virtual Networks That Use People as Carriers	362
<i>N. Glance, D. Snowdon</i>	
VoIP in Context-Aware Communication Spaces	365
<i>T. Kanter, H. Gustafsson</i>	
A Platform for Environment-Aware Applications	368
<i>S. van der Meer, S. Arbanowski, and R. Popescu-Zeletin</i>	
The Design and Implementation of the Ubidata Information Dissemination Framework	371
<i>A.P. Afonso, M.J. Silva, J.P. Campos, and F.S. Regateiro</i>	
Co-authoring in Dynamic Teams with Mobile Individuals	374
<i>C. Burger, O. Schramm</i>	
A Universal, Location-Aware Hoarding Mechanism	377
<i>U. Kubach, K. Rothermel</i>	
QoS and Context Awareness for Mobile Computing	380
<i>D. Chalmers, M. Sloman</i>	
Anonymous and Confidential Communications from an IP Addressless Computer	383
<i>C. Molina-Jiménez, L. Marshall</i>	
Ad-hoc Network Routing for Centralized Information Sharing Systems	386
<i>H. Lim, C. Kim</i>	
Author Index	389