

Program for Pervasive 2006

This document contains details of the main technical track, late breaking results, posters, demonstrations, videos and doctoral colloquium for Pervasive2006.

Friday May 5 2006	MUCS 2006 (Cork)
Sunday May 7 2006	Workshops W1 - W8
Monday May 8 2006	Keynote, Research Presentations & Talk, Demos, Videos
Tuesday May 9 2006	Research Presentations & Talk, Social Event
Wednesday May 10 2006	Doctoral Colloquium (UCD Dublin)
Wednesday May 10 2006	LoCA 2006 (IBM Dublin)

Main Program

Monday, May 8th, 2006

9.00-9.20	Introduction Welcome and official opening of the conference
9.20-10.20	Keynote <u>"Proactive Computing"</u> <i>David Tennenhouse Chief Executive Officer A9.com</i> Session Chair: Paddy Nixon (UCD Dublin, Ireland)
10.20-10.50	Morning Tea/Coffee Break
10.50-11.30	Session 1: Activity Recognition A Practical Approach to Recognizing Physical Activities <i>Jonathan Lester, Tanzeem Choudhury, and Gaetano Borriello</i> Building Reliable Activity Models Using Hierarchical Shrinkage and Mined Ontology <i>Emmanuel Munguia Tapia, Tanzeem Choudhury, and Matthai Philipose</i> Session Chair: Paul Lukowicz (UMIT, Austria)

11.30-12.30

Session 2: Activity and Context

"Need to Know": Examining Information Need in Location Discourse
Derek Reilly, David Dearman, Vicki Ha, Ian Sminth, and Kori Inkpen

Collaborative Localization -Enhancing WiFi-Based Position Estimation with Neighborhood Links in Clusters
Li-wei Chan, Ji-rung Chiang, Yi-chao Chen, Chia-nan Ke, Jane Hsu, and Hao-hua Chu

Risks of using AP locations discovered through war driving
Minkyong Kim, Jeffrey J. Fielding, and David Kotz

Session Chair: Anind Dey (CMU, USA)

12.30-14.00

Lunch Break

14.00-15.20

Session 3: Sensors, Sensor Processing and Platforms

Declarative Support for Sensor Data Cleaning
Shawn Jeffery, Gustavo Alonso, Michael J. Franklin, Wei Hong, and Jennifer Widom

Detecting and Interpreting Muscle Activity with Wearable Force Sensors
Paul Lukowicz, Friedrich Hanser, Chrsitoph Szubski, and Wolfgang Schobersberger

The Design of a Portable Toolkit of Wireless Sensors for Naturalistic Data Collection
Emmanuel Munguia Tapia, Stephen S. Intille, Louis Lopez, and Kent Larson

The Smart Tachograph - Individual Accounting of Traffic Costs and its Implications
Vlad Coroama

Session Chair: Gaetano Borriello (University of Washington, USA)

15.20-16.00

Posters, Demos and Videos Overview

1-Minute Madness (Overview presentation of posters, demos and videos)

Co-Chairs

Kieran Delaney (Cork Institute of Technology, Ireland)

Gavin Doherty (Trinity College Dublin, Ireland)

Tom Pfeifer (Waterford Institute of Technology, Ireland) *

Albrecht Schmidt (Ludwig-Maximilians-Universität, Germany)

Wontack Woo (KJIST, S. Korea)

*Session Chair: Tom Pfeifer

16.00-18.00	<p>Posters, Demos and Videos Reception</p> <p>Posters will be exhibited in the conference hotel.</p> <p>Demos will be exhibited in the exhibition area.</p> <p>Videos will be repeated in the main conference area.</p> <p>Tea and coffee will be provided during the reception.</p>
18.00-18.30	<p>Groups depart hotel for Dublin Castle</p>
19.00-21.00	<p>Formal State Reception – Dublin Castle</p>

Tuesday, May 9th, 2006

9.00-10.00	<p>Keynote</p> <p><u>"Pervasive Computing: Off The Beaten Path"</u> <i>Joe Marks, Research Director, Mitsubishi Electric Research Laboratories</i></p> <p>Session Chair: Aaron Quigley (UCD Dublin, Ireland)</p>
10.00-10.40	<p>Session 4: Toolkits and Gaming</p> <p>Domino: Exploring Mobile Collaborative Software Adaptation <i>Marek Bell, Malcolm Hall, Matthew Chalmers, Phil Gray, and Barry Brown</i></p> <p>Keep your eyes on the road and your finger on the trigger – Designing for mixed focus of attention in a mobile game for brief encounters <i>Liselott Brunberg and Oskar Juhlin</i></p> <p>Session Chair: Michael Beigl (University of Karlsruhe, Germany)</p>
10.40-11.10	<p>Morning Tea/Coffee Break</p>

11.10-12.30

Session 5: Security

Unobtrusive Multimodal Biometrics for Ensuring Privacy and Information Security with Personal Devices

Elena Vildjiounaite, Satu-Marja Mäkelä, Mikko Lindholm, Reima Riihimäki, Vesa Kyllönen, Jani Mäntyjärvi, and Heikki Ailisto

LoKey: Leveraging the SMS Network in Decentralized, End-to-End Trust Establishment

Anthony J. Nicholson, Ian E. Smith, Jeff Hughes, and Brian Noble

Scalability in a Secure Distributed Proof System

Kazuhiro Minami and David Kotz

Secure Mobile Computing via Public Terminals

Richard Sharp, James Scott, and Alastair R. Beresford

Session Chair: Kenji Mase (Nagoya University, Japan)

12.30-14.00

Lunch Break

14.00-15.40

Session 6: Pointing, Interaction and Displays

iCAP: Interactive Prototyping of Context-Aware Applications

Anind K. Dey, Timothy Sohn, Sara Streng, and Justiin Kodama

iCam: Precise at-a-distance Interaction in the Physical Environment

Shwetak N. Patel, Jun Rekimoto, and Gregory D. Abowd

Gesture Signature for Ambient Intelligence Applications: a Feasibility Study

Elisabetta Farella, Sile O'Modhrain, Luca Benini, and Bruno Riccò

Exploring the Effects of Target Location Size and Position System Accuracy on Location Based Applications

Cliff Randell, Erik Geelhoed, Alan Dix, and Henk Muller

Displays in the Wild: Understanding the Dynamics and Evolution of a Display Ecology

Elaine M. Huang, Elizabeth Mynatt, and Jay P. Trimble

Session Chair: Antonio Krueger (University of Muenster, Germany)

15.40-16.10

Afternoon Tea/Coffee Break

16.10-17.30

Session 7: Smart Homes and Beyond

Modeling Human Behavior from Simple Sensors in the Home

Ryan Aipperspach, Elliot Cohen, and John Canny

Using a Live-In Laboratory for Ubiquitous Computing Research

Stephen S. Intille, Kent Larson, Emmanuel Munguia Tapia, Jennifer S. Beaudin, Pallavi Kaushik, Jason Nawyn, and Randy Rockinson

The Diet-Aware Dining Table: Observing Dietary Behaviors over a Tabletop Surface

Keng-hao Chang, Shih-yen Liu, Hao-hua Chu, Jane Yung-jen Hsu, Cheryl Chen, Tung-yun Lin, Chieh-yu Chen, and Polly Huang

Lessons for the Future: Experiences with the Installation and Use of Today's Domestic Sensors & Technologies

Mark Stringer, Geraldine Fitzpatrick, and Eric Harris

Session Chair: Gregory Abowd (Georgia Tech, USA)

17.30 – 17.40

Formal Closing

19.00

Buses depart hotel

18.00

Gala Dinner Guinness Storehouse

* Best Paper Award

Adjunct Program

Monday, May 8th, 2006 (16:00 – 18:00)

Late Breaking Results and Posters

TITLE	AUTHORS
SDJS: The Duck Hunter Problem in Wireless Sensor Networks	Albert Krohn, Tobias Zimmer, Michael Beigl, Christian Decker, Till Riedel
The Tyndall Mote: Enabling Wireless Research and Practical Sensor Application Development	Brendan O'Flynn, A. Lynch, K. Aherne, P. Angove, J. Barton, S. Harte, C. O'Mathuna, Dermot Diamond, Fiona Regan
Context Awareness via GSM Signal Strength Fluctuation	Ian Anderson, Henk Muller
Providing User Self-Contained Location Information Using Mobile Phones	Wei Li, Martin Jonsson
Models of People, Places and Devices for Location -Aware Services	Mark Assad, Judy Kay, Bob Kummerfeld
Mobile Interaction in Smart Environments	Karin Leichtenstern, Enrico Rukzio, Jeannette Chin, Vic Callaghan, Albrecht Schmidt
Mobile Interaction with the Internet of Things	Sven Siorpaes, Gregor Broll, Massimo Paolucci, Enrico Rukzio, John Hamard, Matthias Wagner, Albrecht Schmidt
Environment Based Messaging	Paul Holleis, Enrico Rukzio, Thomas Kraus, Albrecht Schmidt
A File System for Resource Abstraction in Ubicomp	Till Riedel, Christian Decker, Albert Krohn, Michael Beigl, Tobias Zimmer

A User Survey on: How to Deal with Conflicts Resulting from Individual Input Devices in Context-Aware Environments?	Friederike Otto, Choonsung Shin, Woontack Woo, Albrecht Schmidt
MacZ - a QoS MAC Layer for Ambient Intelligence Systems	Thomas Kuhn (University of Kaiserslautern, DE)
Context Hand-Over: Managing User Context for Seamless Service in Changing Places	Seiie Jang, Shoji Kajita, Kenji Mase
A context information manager for dynamic environments	Jérôme Euzenat, Jérôme Pierson, Fano Ramparany
HUG CorA - How to Use a Generic Coordination Architecture in Pervasive System Development	Manfred Bortenschlager
Flexible Composition of Smart Device Services	Mathieu Vallée (France Telecom RD, FR), Fano Ramparany, and Laurent Vercouter
PhantomParasol: a parasol-type display transitioning from ambient to detailed	Koji Tsukada, Toshiyuki Masui
The CDVPlex Biometric Cinema: Sensing Physiological Responses to Emotional Stimuli in Film	Sandra Rothwell, Bart Lehane, Ching Hau Chan, Alan F. Smeaton, Noel E. O'Connor, Gareth J.F. Jones, Dermot Diamond

Monday, May 8th, 2006 (16:00 – 18:00)

Videos

TITLE	AUTHORS
Aesthetic Awareness Displays	Alois Ferscha, Bernadette Emsenhuber, Heinrich Schmitzberger, Petra Thon
Daidalos : A Platform for Facilitating Pervasive Services	Robert Mullins, Fiona Mahon, Christoph Kuhmuench,

	Micheál Crotty, Jelena Mitic, Tom Pfeifer
Around the Table: Studies in Co-located Collaboration	Troy Church, William R. Hazlewood, Yvonne Rogers
The Display Cube as playful TUI for supporting Learning	Matthias Kranz, Paul Holleis, Corinna Grueber, Mark Bilandzic, Johannes Vetter, Albrecht Schmidt
DIY Pervasive Services for Everyday Life	Naohiko Kohtake, Takuro Yonezawa, Ryo Ohsawa, Masayuki Iwai, Kazunori Takashio and Hideyuki Tokuda

Monday, May 8th, 2006 (16:00 – 18:00)

Demos

TITLE	AUTHORS
Scripting Environment for Pervasive Application Exploration on Mobile Phones	Jukka Laurila, Ville Tuulos, Ronan MacLaverty
Interaction of Mobile Camera Devices with physical maps	Johannes Schöning, Antonio Krüger, Hans Jörg Müller
Context-aware adaptation for component-based pervasive computing systems	Davy Preuveneers, Yves Vandewoude, Peter Rigole, Dhouha Ayed, Yolande Berbers
The Smart Helmet: A Practical Demonstration of Smart Environments in Sports	Michael Walsh, Rafa Martinez, John Barrett
The Implementation of Non-Coherent Cooperative Transmission for Wireless Sensor Networks	Albert Krohn, Michael Beigl, Christian Decker, Till Riedel, Tobias Zimmer
PLANTS DEMO - Enabling Mixed Societies of	John Barton, Brendan O'Flynn, Kevin Aherne, Anthony

Communicating Plants and Artefacts	Morrissey, John O'Sullivan, Alan Cassells, Nikos Drossos, Christos Goumopoulos, Fiona Tooke, Peter Whitbread-Abrutat
Wide-Area Tracking Tools for Indoor Augmented Reality	Joseph Newman, Gerhard Schall, István Barakonyi, Andreas Schürzinger, Dieter Schmalstieg
uAssociator: A Spotlight-and-Camera Mapping Tool for Associating Sensor Nodes and Everyday Objects	Takuro Yonezawa, Hiroshi Sakakibara, Kazunori Takashio, Hideyuki Tokuda
Tangible Books - Virtual Library Interfaces	Stefan Beck, Andreas Schrader

Wednesday, May 10th, 2006 (16:00 – 18:00)

Doctoral Colloquium

TITLE	AUTHORS
Superimposed Radio Signals for Wireless Sensor Networks	Albert Krohn
A QoS Data Management System within a Pervasive Medical Environment	John O'Donoghue, John Herbert
A Flexible Coordination Language for Pervasive Computing Environments	Manfred Bortenschlager
Enforcement of Dynamic Privacy Policies in Distributed Context-Aware Systems	Kamran Sheikh, Maarten Wegdam, Marten van Sinderen
QoC: Quality of Context - Improving the Performance of Context-Aware Applications	Tobias Zimmer

Toward A Person-Centric Context Aware System

Wei Li

A Context-Centric Ambient Intelligent Framework for Manufacturing Process Optimisation

Gearóid Hynes

A Distributed Context-Aware Trust Management Architecture

Ricardo Neisse, Maarten Wegdam, Marten van Sinderen

Combining Components, Aspects, Domain Specific Languages and Product Lines for Ambient Intelligent Application Development

Lidia Fuentes, Daniel Jiménez

Zone Services - A New Approach of Location-based Services

Diana Weiss