



AMBIENT 2013

The Third International Conference on Ambient Computing, Applications, Services
and Technologies

September 29 - October 3, 2013

Porto, Portugal

AMBIENT 2013 Editors

Maarten Weyn, Artesis University College of Antwerp, Belgium

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2013) by International Academy, Research, and Industry Association (IARIA)
Please refer to the Copyright Information page.

Printed by Curran Associates, Inc. (2013)

International Academy, Research, and Industry Association (IARIA)
412 Derby Way
Wilmington, DE 19810

Phone: (408) 893-6407
Fax: (408) 527-6351

petre@iaria.org

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2634
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

AMBIENT 1: USER FRIENDLY INTERFACES

| | |
|---|----|
| Expressing the Personality of an Intelligent Room through Ambient Output Modalities | 1 |
| <i>Jean-Paul Sansonnet, Yacine Bellik</i> | |
| Analysis of Psychological Stress Factors and Facial Parts Effect on Intentional Facial Expressions | 7 |
| <i>Kazuhito Sato, Hiroaki Otsu, Hirokazu Madokoro, Sakura Kadowaki</i> | |
| Respiration-Posture Feedback System for Breathing Control | 17 |
| <i>Shusaku Nomura, Akira Kusumi</i> | |
| Ambient Storytelling Experiences and Applications for Interactive Architecture | 23 |
| <i>Jennifer Stein, Scott Fisher</i> | |

AMBIENT 2: AMBIENT COMPUTING

| | |
|--|----|
| Robot Localization With DASH7 Technology | 29 |
| <i>Jan Stevens, Rafael Berkvens, Willy Looockx, Maarten Weyn</i> | |
| Cross-Device Interaction | 35 |
| <i>Florian Scharf, Christian Wolters, Jörg Cassens, Michael Herczeg</i> | |
| Indoor Localization Using a Magnetic Flux Density Map of a Building | 42 |
| <i>Dries Vandermeulen, Charles Vercauteren, Maarten Weyn</i> | |
| Classification of Driver's Head Posture by using Unsupervised Neural Networks | 50 |
| <i>Momoyo Ito, Kazuhito Sato, Minoru Fukumi</i> | |

AMBIENT 3: AMBIENT SERVICES, TECHNOLOGY AND PLATFORMS

| | |
|--|----|
| Exergame Design Guidelines for Enhancing Elderly's Physical and Social Activities | 58 |
| <i>Rainer Planinc, Isabella Nake, Martin Kampel</i> | |
| Persuasion Mobility in Ambient Intelligence | 64 |
| <i>Lukas Ruge, Andreas Schrader</i> | |
| Positionally Exclusive Broadcasting | 68 |
| <i>Tomáš Žižka, Athanasios Podaras</i> | |
| Real-Time Environmental Sensing - Adaptive Surfaces for Architecture | 73 |
| <i>Nancy Diniz, Hai-Ning Liang</i> | |
| Author Index | |