

The Ninth International Conference on Advances in Mobile Computing and Multimedia

(MoMM2011)



## David Taniar, Eric Pardede, Hong-Quang Nguyen, Wenny Rahayu, Ismail Khalil

### **MoMM2011**

# The 9<sup>th</sup> International Conference on Advances in Mobile Computing and Multimedia

December 5 - 7, 2011 Ho Chi Minh city, Vietnam



# The Association for Computing Machinery 2 Penn Plaza, Suite 701 New York, New York 10121-0701



Copyright © 2011 by the Association for Computing Machinery, Inc (ACM). Permission to make digital or hard copies of portions of this work for personal or classroom use is granted without fee provided that the copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. **Copyrights for components of this work owned by others than ACM must be honored**. Abstracting with credit is permitted. To copy otherwise, to republish, to post on servers or to redistribute to lists, requires prior specific permission and/or a fee. Request permission to republish from: Publications Dept. ACM, Inc. Fax +1-212-869-0481 or E-mail permissions@acm.org.

For other copying of articles that carry a code at the bottom of the first or last page, copying is permitted provided that the per-copy fee indicated in the code is paid through the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

#### **Notice to Past Authors of ACM-Published Articles**

ACM intends to create a complete electronic archive of all articles and/or other material previously published by ACM. If you have written a work that was previously published by ACM in any journal or conference proceedings prior to 1978, or any SIG Newsletter at any time, and you do NOT want this work to appear in the ACM Digital Library, please inform permissions@acm.org, stating the title of the work, the author(s), and where and when published.

**ACM ISBN:** 978-1-4503-0785-7

# Table of Contents

Proceedings of MoMM2011

Table of Contents	
Preface	X
The Committees	xi
MoMM	
Keynotes	
New Challenges for Universities in the Knowledge Triangle Gabriele Kotsis (Johannes Kepler Universität Linz, Austria)	1
Cloud Architecture: A Preliminary Look Won Kim (Kyungwon University, South Korea)	2
How the Cloud Computing Paradigm Could Shape the Future of Enterprise Information Processing Amin Anjomshoaa, A Min Tjoa (Vienna University of Technology, Austria)	7
Data Integration in a Collaborative Decision Support System: a three-way collaboration effort between University, Industry, and International Standard Body J. Wenny Rahayu (La Trobe University, Australia)	11
Multimedia Computing for Security	
A Novel Technique for Singular Point Detection Based on Poincaré Index Li Wang, Nandita Bhattacharjee, Bala Srinivasan (Monash University, Australia)	12
On the commonality of iris biometrics  Parman Sukarno, Nandita Bhattacharjee, Bala Srinivasan (Monash University, Australia)	19
Implicit Context Awareness by Face Recognition Seiji TAKEDA, Tsutomu TERADA, Masahiko TSUKAMOTO (Kobe University, Japan)	26
Long Term Carefully Learning for Person Detection Application to Intelligent Surveillance System Nguyen Dang Binh (Hue University of Sciences, Vietnam)	34
Untraceable, Anonymous and Fair Micropayment Scheme Isern-Deyà Andreu Pere, Payeras-Capellà M., Mut-Puigserver Macià, Ferrer-Gomila Josep L (Universitat de les Illes Balears, Spain)	. 42

#### Wireless Sensor Networks

On Detection of Changes in Sensor Data Streams  Dang-Hoan Tran, Kai-Uwe Sattler (Ilmenau University of Technology, Germany)	50
Data Gathering Using Mobile Agents in Dense Mobile Wireless Sensor Networks Keisuke Goto, Yuya Sasaki, Takahiro Hara, Shojiro Nishio (Osaka University, Japan)	58
Efficient In-network Aggregation for Wireless Sensor Networks with fine grain Location-based Cluster Maznah Kamat, Abdul Samad Ismail (Universiti Teknologi Malaysia, Malaysia) Stephan Olariu (Old Dominion University, USA)	66
Web-enabled Smart Home Using Wireless Node Infrastructure Teddy Mantoro, Media A. Ayu, Elbara E. Elnour (International Islamic University Malaysia Kuala Lumpur, Malaysia)	72
Neighborhood Discovery in a Wireless Sensor Networks Shazirawati Mohd Puzi, Shaharuddin Salleh (Universiti Teknologi, Malaysia) Ruzana Ishak (Full Time Program UTMSPACE UTM International Campus, Malaysia) Stephan Olariu (Old Dominion University, USA)	80
Performance Issues in Mobile Computing	
A Generic Middleware Framework for Handling Process Intensive Hybrid Cloud Services from Mobiles Huber Flores, Satish Narayana Srirama, Carlos Paniagua (University of Tartu, Estonia)	87
Improving travel information access with semantic search application on mobile environment <i>Tuan-Dung CAO</i> , <i>Nguyen-Dat TUAN</i> (Hanoi University of Science and Technology, Vietnam)	95
A Multimedia Quorum-based (MQB) Protocol in P2P Overlay Networks  Tadateru Ohkawara, Ailixier Aikebaier, Makoto Takizawa (Seikei University, Japan)  Tomoya Enokido (Risho University, Japan)	103
Performance Evaluation for Different Settings of Crossover and Mutation Rates Considering Number of Covered Users: A Case Study Leonard Barolli, Evjola Spaho, Tetsuya Oda (Fukuoka Institute of Technology, Japan) Admir Barolli, Makoto Takizawa (Seikei University, Japan) Fatos Xhafa (Technical University of Catalonia, Spain)	110
A Method to Reduce Waiting Time for Close-range Broadcasting Yusuke Gotoh, Hideo Taniguchi (Okayama University, Japan) Tomoki Yoshihisa (Osaka University, Japan) Masanori Kanazawa (The Kyoto College of Graduate Studies for Informatics, Japan) Wenny Rahayu, Yi-Ping Phoebe Chen (La Trobe University, Australia)	116
Multimedia and Mobile Computing Applications	

#### $\mathbf{N}$

A Method to Control LED Blinking for Position Detection of Devices on Conductive Clothes Naoya ISOYAMA, Tsutomu TERADA, Masahiko TSUKAMOTO (Kobe University, Japan) Junichi AKITA (Kanazawa University, Japan)

	Online Multiple Tasks One-Shot Learning of Object Categories and Vision  Nguyen Dang Binh (Hue University of Sciences, Vietnam)	131
(	QoS-aware Multipath-TCP extensions for mobile and multimedia applications  Codé Diop, Guillaume Dugué, Christophe Chassot, Ernesto Exposito  (Université de Toulouse, France)	139
	Robust GME in Encoded MPEG Video Vahid Kiani, Hamid Reza Pourreza (Ferdowsi University of Mashhad, Iran)	147
(	Can Skype be used beyond video calling? Georgios Exarchakos, Vlado Menkovski, Antonio Liotta (Technische Universiteit Eindhoven, The Netherlands)	155
M	Iobile Databases	
	Query-Based Data Aggregation within WSN through Monte Carlo Simulation Sami J. Habib, Paulvanna N. Marimuthu (Kuwait University, Kuwait)	162
	A routing strategy for non-cooperation wireless multi-hop ad hoc networks  Dung T. Tran, Trang T. M. Truong (University of Science, Vietnam)	169
	Online Multiple Object Tracking by Hierarchical Association of Detection Responses Loc Huynh, Dat Nguyen, Thang Ba Dinh, Tien Ba Dinh (University of Science, Vietnam)	175
	A Pure P2P Paradigm for Query Processing in Mobile Ad-hoc Networks Thao P. Nghiem, Agustinus Borgy Waluyo (Monash University, Australia)	182
C	ontemporary Issues in Mobile Computing and Multimed	ia
	An Efficient Audio Fingerprint Design for MP3 Music Chih-Chin Liu, Po-Feng Chang (Chung Hua University, Taiwan)	190
	Model driven development for data-centric sensor network applications  Nguyen Xuan Thang, Michael Zapf, Kurt Geihs (University of Kassel, Germany)	194
]	Analysis of ISB Watermarking Model: Block based Methods Vs Embedding Repetition Methods Akram M. Zeki, Shayma'a S. Mahmod (International Islamic University, Malaysia) Azizah A. Manaf (University Technology Malaysia, Malaysia)	198
	Issues on Information Dissemination and Routing in Wireless Sensor Networks  Quan Le-Trung, Minh-Son Nguyen (International University, Vietnam)	202
-	Technique for Privacy Preserving Real-Time Vehicle Tracking using 802.11p Technology Jaipal Singh (Curtin University of Technology, Australia)	206
	A Simple Modeling Method for Mobile Password Schemes and Its Analysis Sung-Hwan Kim, Kwanghwi Kim, Hwan-Gue Cho (Pusan National University, Korea)	210
	Can altruism spare energy in ad hoc networking?  Minh Tri Tran, Vilmos Simon (Budapest University of Technologies and Economics, Hungary)	214

#### **Context-Aware Computing**

	Smart Books – Adding context-awareness and interaction to electronic books  Wolfgang Beer (Software Competence Center, Austria)  Alexander Wagner (ZAINOO, Austria)	218
	TASKREC: A Task-Based User Interface for Smart Spaces Vo, C.C., Loke, S.W., Torabi, T. (La Trobe University, Australia) Nguyen, T. (University of Information Technology, Vietnam)	223
	Situation Semantics for Things: Everyday Artifacts that Come with Pre-Specified Behaviours Seng W. Loke (La Trobe University, Australia)	227
	Pag Cloud: a method to show an image set  Emanuela De Vita, Ivan Marcialis, Valentina Marotto, Gavino Paddeu (Parco Tecnologico, Italy)	231
	Adaptation for enriching services taking into account mobile contextual features  Maria Paula Arias-Baez, Angela Carrillo Ramos, Alexandra Pomares, Enrique González  (Pontificia Universidad Javeriana. Bogotá, Colombia)	236
	Automatic Player Detection, Tracking and Mapping to Field Model for Broadcast Soccer Videos Quang Tran, Bac Vo, Tien Dinh, Duc Duong (University of Science, Vietnam)	240
E	ERPAS	
	A Framework for Long-Term Archiving of Pervasive Device Information Reza Rawassizadeh, Amin Anjomshoaa (Vienna University of Technology, Austria) Martin Tomitsch (The University of Sydney, Australia)	244
	Multimedia Curriculum for an Introductory Course for Information Technologist  Tony de Souza-Daw, Ondris Pui (RMIT University, Vietnam)  Ngoc Hoang Le (La Trobe University, Australia)	248
	Advanced Images Research based on an ontological extension  Yassine AYADI, Ikram AMOUS, Faiez GARGOURI (MIRACL ISIMS, Tunisia)	252
	Mobile Phones Security: The Spread of Malware via MMS and Bluetooth, Prevention Methods. Mohamed GHALLALI, Mohammad ESSAAIDI (Abdelmalek Essaadi University, Morocco) Driss EL OUADGHIRI (Moulay Ismail University, Morocco) Mohamed BOULMALF (International University of Rabat, Morocco)	256
	Puebla in the palm of your hands Fernando Zacarias, Rosalba Cuapa, Iris Cerecedo (Benemérita Universidad, Mexico) Antonio Sánchez (Universidad de Puebla, Mexico)	260
	Application Development of Mobile Transjakarta Route Map (Case Study: Jakarta Indonesia) Qurrotul Aini, Bakri La Katjong, Elsy Rahajeng dan Kartika Sari Puteri (Syarif Hidayatullah State Islamic University, Indonesia)	264
	Feature Interaction Analysis in Mobile Phones On the Borderline between Application Functionalities and Platform Components Michael Lettner, Michael Tschernuth, Rene Mayrhofer	

(University of Applied Sciences, Austria)	268
A Highly Flexible and Light Mobile Service Oriented Architecture Steven Rigby, Victor Guana, Francisco Rueda (Universidad de Los Andes, Colombia)	273
Featured Concurrency of Mobile ad hoc Computing Phan Cong Vinh (NTT University, Vietnam)	277
Material Detection Based on Fractal Approach Do Nang Toan (Institute Of Information Technology, Vietnam) Le Thi Kim Nga (Quy Nhon University, Vietnam)	281
Designing Gestures for Hands and Feet in Daily Life Tetsuya Yamamoto, Tsutomu Terada, Masahiko Tsukamoto (Kobe University, Japan)	285
Exploring End-User Preferences of 3D Mobile Interactive Navigation Design Adamu I. Abubakar, Teddy Mantoro, Media A. Ayu, Murni Mahmud (International Islamic University Malaysia, Malaysia)	289
Policy-based Security Management in Mobile Environments  Mhammed Chraibi, Hamid Harroud (Al Akhawayn University in Ifrane, Morocco)  Ahmed Karmouch (University of Ottawa, Canada)	293
Surrogate Object Based Data Mining for Distributed Mobile Systems Ravimaran Shanmugam, Maluk Mohamed.M.A (Anna University Tiruchirappalli, India)	297

# Author Index

Index

301