2014 IEEE International Conference on Pervasive Computing and Communication Workshops

(PERCOM WORKSHOPS 2014)

Budapest, Hungary
24-28 March 2014
Session 1: Introduction and Opening Session

**Do You Hear What I Hear? Using Acoustic Probing to Detect Smartphone Locations**
Irina Diaconita (Multimedia Communications Lab, Technical University of Darmstadt, Germany); Andreas Reinhardt (The University of New South Wales, Australia); Frank Englert (TU Darmstadt, Germany); Delphine Christin (University of Bonn & Fraunhofer FKIE, Germany); Ralf Steinmetz (Technische Universität Darmstadt, Germany)
pp. 1-9

Session 2: Smart Phone Based Sensing

**Self-Calibration of Walking Speed Estimations Using Smartphone Sensors**
Marco Altini (Holst Centre/imec-nl, The Netherlands); Marijn van Dort (Technical University Eindhoven, The Netherlands); Ruud Vullers (imec-Netherlands, The Netherlands); Chris Van Hoof (IMEC, Belgium); Oliver Amft (University of Passau, Germany)
pp. 10-18

**Personalised phone placement recognition in daily life using RFID tagging**
Florian Wahl (University of Passau, Germany); Oliver Amft (University of Passau, Germany)
pp. 19-26

**RingLearn: Long-term Mitigation of Disruptive Smartphone Interruptions**
Jeremiah Smith (Imperial College, United Kingdom); Naranker Dulay (Imperial College London, United Kingdom)
pp. 27-35

Session 3: Gesture and Activity Recognition

**Dealing with human variability in motion based, wearable activity recognition**
Matthias Kreil (DFKI Kaiserslautern, Germany); Bernhard Sick (University of Kassel, Germany); Paul Lukowicz (DFKI and University of Kaiserslautern, Germany)
pp. 36-40

Session 4: Sensors and Smart Environments

**Itemset-based Mining of Constraints for Enacting Smart Environments**
Viktoriya Degeler (University of Groningen, The Netherlands); Alexander Lazovik (University of Groningen, The Netherlands); Francesco Leotta (Sapienza University of Rome, Italy); Massimo Mecella (SAPIENZA -- Universita’ di Roma, Italy)
pp. 41-46

**Motion-adaptive duty-cycling to estimate orientation using inertial sensors**
Adrian Derungs (Universität Passau, Germany); Han Lin (TU/e, The Netherlands); Holger Harms (Thales, Defence and Homeland Security, Switzerland); Oliver Amft (University of Passau, Germany)
pp. 47-54

**Novel Stochastic Model For Presence Detection Using Ultrasound Ranging Sensors**
Luis I Lopera Gonzalez (University of Passau, Germany); Ulf Grossekathoefer (TU/e, The Netherlands); Oliver Amft (University of Passau, Germany)
pp. 55-60
Session 5: Discussion and Closing Session

In this session the presented papers in the ACOMORE symposium are discussed and the symposium is summed up and closed.
Session 1: Keynote

**Participatory Urban Sensing: Challenges and Opportunities**
Sajal K. Das (Missouri University of Science and Technology, USA)
pg. 61

Session 2: Collecting and Analyzing Crowdsensed Data

**On Efficient Meta-Data Collection for Crowdsensing**
Luke Dickens (Imperial College London, United Kingdom); Emil Lupu (Imperial College, United Kingdom)
pp. 62-67

**The Effectiveness of Centralised Management for Reducing Wasted Effort in Participatory Sensing**
Mattias Linnap (University of Cambridge, United Kingdom); Andrew Rice (University of Cambridge, United Kingdom)
pp. 68-73

**Multitiered Inference Management Architecture for Participatory Sensing**
Stephen Pipes (IBM UK Ltd, United Kingdom); Supriyo Chakraborty (University of California at Los Angeles, USA)
pp. 74-79

Session 3: Supporting Creation of and Contributions to Crowdsensing Applications

**EasyHarvest: Supporting the Deployment and Management of Sensing Applications on Smartphones**
Manos Katsomallos (University of Thessaly, Greece); Spyros Lalis (University of Thessaly, Greece)
pp. 80-85

**CrowdOut: a Mobile Crowdsourcing Service for Road Safety in Digital Cities**
Elian Aubry (Université de Lorraine, France); Thomas Silverston (Université de Lorraine & LORIA, France); Abdelkader Lahmadi (LORIA, France); Olivier Festor (INRIA Nancy - Grand Est, France)
pp. 86-91

**SPREAD, a Crowd Sensing Incentive Mechanism to Acquire Better Representative Samples**
Luis G Jaimes (University of South Florida, USA); Idalides Vergara-Laurens (University of South Florida, USA); Alireza Chakeri (University of South Florida, USA)
pp. 92-97

**Gamification-Based Incentive Mechanism for Participatory Sensing**
Yoshitaka Ueyama (Nara Institute of Science and Technology, Japan); Morihiko Tamai (Nara Institute of Science and Technology, Japan); Yutaka Arakawa (Nara Institute of Science and Technology & NAIST, Japan); Keiichi Yasumoto (Nara Institute of Science and Technology, Japan)
pp. 98-103

Session 4: Panel: Crowdsensing: A Silver Bullet or a Naked Gun?
Session 1: Keynote

Energy, Technologies and Cities
Manuel Serrano (ETRA I+D, Spain)
pg. 104

Session 2: Smart City Applications

Smart Building Management through Augmented Reality
Larissa Suzuki (Department of Computer Science, University College London & Digital City Exchange, Imperial College Business School, United Kingdom); Kevin Brown (IBM UK Ltd, United Kingdom); Stephen Pipes (IBM UK Ltd, United Kingdom); John B Ibbotson (IBM United Kingdom Ltd, United Kingdom)
pp. 105-110

Enabling Reliable and Secure IoT-based Smart City Applications
Elias Z. Tragos (Institute of Computer Science, FORTH, Greece); Vangelis Angelakis (Linköping University, Sweden); Alexandros Fragkiadakis (Institute of Computer Science, FORTH, Greece); David Gundlegård (Linköping University, Sweden); Septimiu Nechifor (Siemens SRL, Romania); George Oikonomou (University of Bristol, United Kingdom); Henrich Pöhls (University of Passau, Germany); Anastasius Gavras (Eurescom GmbH, Germany)
pp. 111-116

Session 3: Smart City Systems

The GAMBAS Middleware and SDK
Wolfgang Apolinarski (University of Duisburg-Essen, Germany); Umer Iqbal (Universität Duisburg-Essen Germany, Germany); Josiane Parreira (DERI, Ireland)
pp. 117-122

A lightweight Linked Data implementation for modeling the Web of Things
Stefano Turchi (CNIT & University of Florence, Italy); Federica Paganelli (National Inter-University Consortium for Telecommunications & Research Unit of Firenze, c/o Dept. of Electronics and Telecommunications, Italy); Lorenzo Bianchi (University of Florence, Italy); Dino Giuli (CNIT - University of Firenze, Italy)
pp. 123-128

Towards WSN-aided Navigation for Vehicles in Smart Cities: An Application Case Study
Roudy Dagher (Inria Lille - Nord Europe & Etineo Company, France); Nathalie Mitton (Inria Lille - Nord Europe, France); Ibrahim Amadou (INRIA Lille - Nord Europe, France)
pp. 129-134

Session 4: General Discussion Round

Pervasive Computing for Smart Cities - Past, Present and Future
Demos

GaitAssist: A Wearable Assistant for Gait Training and Rehabilitation in Parkinson's Disease
Sinziana Mazilu (Swiss Federal Institute of Technology, Switzerland); Michael Hardegger (ETH Zurich, Switzerland); Ulf Blanke (ETH Zürich, Switzerland); Gerhard Tröster (Wearable Computing Lab ETH Zürich, Switzerland); Eran Gazit (Tel Aviv University & Tel Aviv Sourasky Medical Center, Israel); Moran Dorfman (Tel Aviv Sourasky Medical Center, Israel); Jeffrey Hausdorff (Harward Medical School, USA)
pp. 135-137

The Mobile Manufacturing Dashboard
Christoph Gröger (University of Stuttgart, Germany); Christoph Stach (University of Stuttgart, Germany)
pp. 138-140

Participatory Sensing Based Real-time Public Transport Information Service
Karoly Farkas (Budapest University of Technology and Economics, Hungary); Adam Nagy (Budapest University of Technology and Economics, Hungary); Timon Tomás (Budapest University of Technology and Economics, Hungary); Robert Szabo (Budapest University of Technology and Economics, Hungary)
pp. 141-144

RAReFall - Real-time Activity Recognition and Fall Detection System
Hristijan Gjoreski (Jozef Stefan Institute, Slovenia); Simon Kozina (Jozef Stefan Institute, Slovenia); Matjaž Gams (Jozef Stefan Institute, Slovenia); Mitja Lustrek (Jozef Stefan Institute, Slovenia)
pp. 145-147

Code Offloading on Opportunistic Computing
Alan Ferrari (SUPSI, Switzerland); Daniele Puccinelli (University of Applied Sciences of Southern Switzerland, Switzerland); Silvia Giordano (University of Applied Sciences and Arts of Southern Switzerland (SUPSI), Switzerland)
pp. 148-150

Proximity-based reminders using Bluetooth
Håkan Jonsson (University of Lund & Sony Mobile Communications AB, Sweden); Pierre Nugues (Lund University, Sweden); Alex Tavella (Venturus, Brazil); Izabela Amaral (Venturus, Brazil); Marina Tachibana (Venturus, Sweden); Vinicius Santos (Venturus, Brazil)
pp. 151-153

Demo Abstract: A Testbed Infrastructure to Study the Impact of Temperature on WSN
Carlo Alberto Boano (Graz University of Technology, Austria); Kay Römer (Graz University of Technology, Austria); James Brown (Lancaster University, United Kingdom); Utz Roedig (Lancaster University, United Kingdom); Marco Zuniga (Delft University of Technology, The Netherlands)
pp. 154-156

Demo: MadApp: Dynamic Content Support for Delay-Tolerant Web Applications
Venkat Srinivasan (The University of Texas at Austin, USA); Christine Julien (The University of Texas at Austin, USA)
pp. 157-159

Resilient Tree-based Live Streaming for Mobile Scenarios
Giang Nguyen (TU Darmstadt, Germany); Benjamin Schiller (TU Darmstadt, Germany); Thorsten Strufe (TU Dresden, Germany)
pp. 160-162

User-friendly Configuration of Smart Environments
Simon Mayer (ETH Zürich, Switzerland); Nadine Inhelder (ETH Zurich, Switzerland); Ruben Verborgh (Ghent University – iMinds, Belgium); Rik Van de Walle (Ghent University - IBBT, Belgium)
Welcome and Committees

**PhDposter: Poster presentation of PhD forum**

- **A Lightweight and Low-Power Activity Recognition System for Mini-Wearable Devices**
  Lisha Hu (Institute of Computing Technology, Chinese Academy of Sciences, P.R. China)
  pp. 166-167

- **Bayesian Nonparametric Extraction of Hidden Contexts from Pervasive Honest Signals**
  Thuong C. Nguyen (Deakin University, Australia)
  pp. 168-170

- **Fast-Converging Indoor Mapping for Wireless Indoor Localization**
  Zulfazli Hussin (University of Hyogo, Japan)
  pp. 171-173

- **Participatory Sensing Based Optimization of Environmental Parameters Using the Example of Energy Saving in Residential Environments**
  Frank Englert (TU Darmstadt, Germany)
  pp. 174-175

- **Design Method for Developing a Mobile Engineering-Application Middleware (MEAM)**
  Eva Hoos (University of Stuttgart, Germany)
  pp. 176-177

- **Social Pervasive Systems: The Harmonization Between Social Networking and Pervasive Systems**
  Soumaia A. Al Ayyat (The American University in Cairo, Egypt)
  pp. 178-180

- **Physically Informed Assertions for Cyber Physical Systems Development and Debugging**
  Xi Zheng (University of Texas at Austin & Cockrell, USA)
  pp. 181-183

- **Mobile Collaborative Cloudless Computing**
  Nuno Cruz (Instituto Politecnico de Lisboa & Universidade de Lisboa, Portugal)
  pp. 184-186
Work in Progress

**Sensor Network System to Promote Energy Conservation**
Koichi Kuzume (Yuge National College of Maritime Technology, Japan); Masakazu Okada (Yuge National College of Technology, Japan)
pp. 187-190

**New Approach to Emotional Information Exchange: Experience Metaphor Based on Life Logs**
Masanobu Abe (Okayama University, Japan); Daisuke Fujioka (University of Okayama, Japan); Kazuto Hamano (University of Okayama, Japan); Sunao Hara (Okayama University, Japan); Rika Mochizuki (NTT Service Evolution Laboratories, Japan); Tomoki Watanabe (NTT Corporation, Japan)
pp. 191-194

**MemorySense: Reconstructing and Ranking User Memories on Mobile Devices**
Karl Aberer (EPFL, Switzerland); Michele Catasta (EPFL, Switzerland); Horia Radu (EPFL, Switzerland); Jean-Eudes Ranvier (EPFL, Switzerland); Matteo Vasirani (EPFL, Switzerland); Zhixian Yan (Samsung Research America - Silicon Valley, USA)
pp. 195-198

**Deal or No Deal: Catering to User Preferences**
Kartik Muralidharan (Singapore Management University, Singapore); Swapna Gottipati (Singapore Management University, Singapore); Rajesh K Balan (Singapore Management University, Singapore)
pp. 199-202

**Context-aware energy-efficient wireless sensor architecture for body activity recognition**
Tifenn Rault (University of Technology of Compiègne, France); Abdelmadjid Bouabdallah (Université de Technologie - Compiègne, France); Yacine Challal (University of Technology of Compiègne & Heudiasyc lab. UMR CNRS, France); Frederic Marin (University of Technology of Compiègne (UTC), France)
pp. 203-206

**A Cost-Effective Approach to Software-in-the-Loop Simulation of Pervasive Systems and Applications**
Giaccomo Brambilla (University of Parma, Italy); Alessandro Grazioli (University of Parma, Italy); Marco Picone (University of Parma, Italy); Francesco Zanichelli (University of Parma, Italy); Michele Amoretti (University of Parma, Italy)
pp. 207-210

**Architecting Information Centric ETSI-M2M systems**
Luigi Alfredo Greco (Politecnico di Bari, Italy); Mahdi Ben Alaya (LAAS-CNRS, France); Thierry Monteil (LAAS-CNRS and Univ\ de Toulouse, France); Khalil Drira (LAAS-CNRS, France)
pp. 211-214

**Auth-Lite: Lightweight M2M Authentication Reinforcing DTLS for CoAP**
Arijit Ukil (Tata Consultancy Services, India); Soma Bandyopadhyay (TATA Consultancy Services, India); Abhijan Bhattacharyya (Tata Consultancy Services Ltd., India); Arpan Pal (Tata Consultancy Services, India); Tulika Bose (TCS, India)
pp. 215-219

**A Distributed Execution Environment Enabling Resilient Processes for Ubiquitous Systems**
Ronny Seiger (Technische Universitaet Dresden, Germany); Florian Niebling (Technische Universitaet Dresden, Germany); Thomas Schlegel (Technische Universitaet Dresden, Germany)
pp. 220-223

**Machine Learning in District Heating System Energy Optimization**
Samuel O. Idowu (Luleå University of Technology, Sweden); Christer Åhlund (Lulea University of Technology, Sweden); Olov Schelén (Luleå University of Technology & Xarepo, Sweden)
pp. 224-227
Using Human Brain Signals to Navigate Rat Robots
Yipeng Yu (Zhejiang University, P.R. China); Cunle Qian (Zhejiang University, P.R. China); Gang Pan (Zhejiang University, P.R. China); Zhaohui Wu (Zhejiang University, P.R. China)
pp. 228-231

Citizen-Friendly Participatory Campaign Support
Jesse Zaman (Vrije Universiteit Brussel, Belgium); Ellie D'Hondt (Vrije Universiteit Brussel, Belgium); Elisa Gonzalez Boix (Vrije Universiteit Brussel, Belgium); Eline Philips (Vrije Universiteit Brussel, Belgium); Kennedy Kambona (Vrije Universiteit Brussel, Belgium); Wolfgang De Meuter (Vrije Universiteit Brussel, Belgium)
pp. 232-235
Session 1: Keynote

Long-Term Monitoring of Human Mobility on Smartphones
Petteri Nurmi (Helsinki Institute for Information Technology HIIT, Finland)
pp. 236

Session 2: Usage patterns and social networking

Re-identification of Anonymized CDR datasets Using Social Network Data
Alket Cecaj (Università di Modena e Reggio Emilia, Italy); Marco Mamei (Università di Modena e Reggio Emilia, Italy); Nicola Bicocchi (University of Modena and Reggio Emilia, Italy)
pp. 237-242

Community Detection in Opportunistic Networks using Memory-based Cognitive Heuristics
Matteo Mordacchini (IIT, CNR, Pisa, Italy); Andrea Passarella (IIT-CNR, Italy); Marco Conti (IIT-CNR, Italy)
pp. 243-248

The evolution of user mobility on the eduroam network
Nuno Cruz (Instituto Politecnico de Lisboa & Universidade de Lisboa, Portugal); Hugo Miranda (Universidade de Lisboa, Portugal); Pedro Ribeiro (ISEL-IPL, Portugal)
pp. 249-253

Session 3: Understanding Human Mobility

Impact of Location History Collection Schemes on Observed Human Mobility Features
Alicia Rodriguez-Carrion (University Carlos III of Madrid & Missouri University of Science & Technology, USA); Sajal K. Das (Missouri University of Science and Technology, USA); Celeste Campo (University Carlos III of Madrid, Spain); Carlos Garcia-Rubio (University Carlos III of Madrid, Spain)
pp. 254-259

On the key features in human mobility: relevance, time and distance
Matteo Zignani (University of Milano, Italy); Michela Papandrea (University of Applied Sciences of Southern Switzerland Switzerland (SUPSI), Switzerland); Sabrina Gaito (Università degli Studi di Milano, Italy); Silvia Giordano (University of Applied Sciences and Arts of Southern Switzerland (SUPSI), Switzerland); Gian Paolo Rossi (University of Milan, Italy)
pp. 260-265

Navigating MazeMap: indoor human mobility, spatio-logical ties and future potential
Gergely Biczók (Norwegian University of Science and Technology, Norway); Santiago Diez Martinez (NTNU, Norway); Thomas Jelle (Norwegian University of Science and Technology, Norway); John Krogstie (Norwegian University of Science and Technology, Norway)
pp. 266-271

Session 4: Data in Pervasive Mobility

Analyzing the quality of crowd sensed WiFi data
Carlos M Pérez-Penichet (University of Minho, Portugal); Adriano Moreira (University of Minho & Centro Algoritmi, Portugal)
pp. 272-277
Mobile P2P Queries over Temporal Data

Steven Mudda (University of Applied Sciences and Arts of Southern Switzerland (SUPSI), Switzerland); Silvia Giordano (University of Applied Sciences and Arts of Southern Switzerland (SUPSI), Switzerland)

pp. 278-283
Session 1: Keynote

*ChaosFIRE: An experiment with Chaoster, the context-aware collaboration platform for crisis/chaos management*

Laszlo Kovacs (MTA SZTAKI, Institute for Computer Science and Control of the Hungarian Academy of Sciences, Hungary); Balazs Pataki (MTA SZTAKI, Institute for Computer Science and Control of the Hungarian Academy of Sciences, Hungary)

pg. 284

Session 2: Emergency Communication Systems

*Publish-Subscribe Smartphone Sensing Platform for the Acute Phase of a Disaster: A Framework for Emergency Management Support*

Jaziar Radianti (Center for Integrated Emergency Management (CIEM) University of Agder, Norway); Jose J Gonzalez (Center for Integrated Emergency Management (CIEM) University of Agder, Norway); Ole-Christoffer Granmo (University of Agder, Norway)

pp. 285-290

*Routing Diverse Evacuees with Cognitive Packets*

Huibo Bi (Imperial College London, United Kingdom); Erol Gelenbe (Imperial College London, United Kingdom)

pp. 291-296

*Quake Detection System Using Smartphone-Based Wireless Sensor Network For Early Warning*

Ana Zambrano (Universitat Politècnica de València, Spain); Israel Pérez (Universidad Politècnica de Valencia, Spain); Carlos E Palau (Universidad Politecnica Valencia, Spain); Manuel Esteve (Universidad Politecnica Valencia, Spain)

pp. 297-302

Session 3: Algorithms and Models for Emergency Networks

*Qualifying Explore and Exploit for Efficient Data Dissemination in Emergency Adhoc Networks*

Panayiotis Kolios (University of Cyprus, Cyprus); Andreas Pitsillides (University of Cyprus, Cyprus); Osnat (Ossi) Mokryn (Tel Aviv Yaffo Academic College, Israel); Katerina Papadaki (London School of Economics, United Kingdom)

pp. 303-307

*Resource Delivery Path Dependent Deployment Scheduling for Contingency Cellular Network*

Yao-Nan Lien (National Chengchi University, Taiwan); Tsai-I Kao (National Chengchi University, Taiwan); Jyh-Shyan Huang (National Chengchi University, Taiwan)

pp. 308-313

*Near-Optimal Emergency Evacuation*

Erol Gelenbe (Imperial College London, United Kingdom); Qing Han (Imperial College, United Kingdom)

pp. 314-319

Session 4: Emergency Management Systems

*On-body multi-input indoor localization for dynamic emergency scenarios: fusion of magnetic tracking and optical character recognition with mixed-reality display*

Jason Orlosky (Osaka University, USA); Takumi Toyama (German Research Center for Artificial Intelligence, Germany); András Sárkány (Eötvös Loránd University, Hungary); Andras Lorincz (Eötvös Loránd University, Hungary); Daniel Sonntag (DFKI Germany, Germany)
**Time of Flight Error Compensation for In-Tunnel Vehicle Localization**  
Katarina Balać (University of Lugano, Switzerland); Pablo Andres Di Giulio (University of Lugano, Switzerland); Antonio V. Taddeo (University of Lugano & Faculty of Informatics, Switzerland); Mauro Prevostini (University of Lugano, Switzerland)  
pp. 326-331

**Capacity Based Evacuation with Dynamic Exit Signs**  
Antoine Desmet (Imperial College London, United Kingdom); Erol Gelenbe (Imperial College London, United Kingdom)  
pp. 332-337

**Physical Indicators of Cyber Attacks Against a Rescue Robot**  
Tuan Vuong (University of Greenwich, United Kingdom); Avgoustinos Filippoupolitis (University of Greenwich, United Kingdom); George Loukas (University of Greenwich, United Kingdom); Diane E Gan (University of Greenwich, United Kingdom)  
pp. 338-343
Workshop Welcome

Session 1: Keynote

Pervasive Computing for Sustaining Cultural Heritage
Zsófia Ruttkay (Creative Technology Lab, Hungary)
pg. 344

Session 2: World Cafe

Session 3: Healthy Living

Pervasive Stress Recognition for Sustainable Living
Andrey Bogomolov (University of Trento & Telecom Italia Semantic and Knowledge Innovation Lab, Italy); Bruno Lepri (FBK-Irst, Italy); Michela Ferron (FBK, Italy); Fabio Pianesi (FBK, Italy); Alex Pentland (MIT, USA)
pp. 345-350

Ethics of E-Coaching: Implications of Employing Pervasive Computing to Promote Healthy and Sustainable Lifestyles
Joel Anderson (Utrecht University, The Netherlands); Bart Kamphorst (Utrecht University, The Netherlands)
pp. 351-356

Session 4: Adaptive Spaces

Pervasive Connectivity: The Thriving Hotel of the Future
Howard A Hecht (IndustryLabs, Canada); Mahemuti Mayier (Johnson & Wales University, USA); Christine Perakslis (Johnson & Wales University, USA)
pp. 357-363

Using Adaptive Architecture to Support Yoga Practices: Social Considerations for Design
Nils Jäger (University of Nottingham & University Of Nottingham, United Kingdom); Stuart Moran (University of Nottingham, United Kingdom); Holger Martin Schnädelbach (University of Nottingham, United Kingdom)
pp. 364-369

Session 5: Collecting and Sharing Data

Social Networks and Ubiquitous Monitoring: An Application of the PSA-BI Model
Stuart Moran (University of Nottingham, United Kingdom)
pp. 370-375

Field Testing a Rare Species Bioacoustic Smartphone Application: Challenges and Future Considerations
Nadia Pantidi (University of Nottingham, United Kingdom); Stuart Moran (University of Nottingham, United Kingdom); Khaled Bachour (University of Nottingham, United Kingdom); Tom Rodden (University of Nottingham, United Kingdom); Davide Zilli (University of Southampton, United Kingdom); Geoff V Merrett (University of Southampton, United Kingdom); Alex Rogers (University of Southampton, United Kingdom)
pp. 376-381
Session 6: Communities and Choice

Can we reduce waste and waist together through EUPHORIA?
Veranika Lim (Eindhoven University of Technology, The Netherlands); Fulya Yalvaç (Eindhoven University of Technology, The Netherlands); Mathias Funk (Eindhoven University of Technology, The Netherlands); Jun Hu (Eindhoven University of Technology, The Netherlands); Matthias Rauterberg (Eindhoven University of Technology, The Netherlands)
pp. 382-387

The Value of Consent: discussions with designers of ubiquitous computing systems
Ewa Luger (University of Nottingham, United Kingdom); Tom Rodden (University of Nottingham, United Kingdom)
pp. 388-393
Session 1: Keynote

Community Sense-and-Response Systems: Your Phone as Seismometer
Andreas Krause (ETH Zurich, Switzerland)
pg. 394

Session 2: Exploiting and Analyzing Social Networks

ClariSense: Clarifying Sensor Anomalies using Social Network Feeds
Prasanna Giridhar (UIUC, USA); Md Tanvir A Amin (University of Illinois at Urbana-Champaign, USA); Tarek Abdelzaher (University of Illinois, Urbana Champaign, USA); Lance Kaplan (US Army Research Laboratory, USA); Jemin George (Army Research Laboratory, USA); Raghu Ganti (IBM T J Watson Research Center, USA)
pp. 395-400

Impact of Socially Based Demand on the Efficiency of Caching Strategy
Buster Holzbauer (Rensselaer Polytechnic Institute, USA); Boleslaw K Szymanski (Rensselaer Polytechnic Institute, USA); Eyuphan Bulut (Cisco Systems, USA)
pp. 401-406

A BSP Approach to Composite Network Analysis
Mudhakar Srivatsa (IBM T.J. Watson Research Center, USA); Raghu Ganti (IBM T J Watson Research Center, USA); Steven A. Borbash (US Government, USA); Dakshi Agrawal (IBM Research, USA)
pp. 407-412

Session 3: On QoS and QoE

Developing a QoS-based Tasklet Trading System
Janick Edinger (University of Mannheim, Germany); Sebastian VanSyckel (University of Mannheim, Germany); Christian Krupitzer (University of Mannheim, Germany); Justin Mazzola Paluska (MIT, USA); Christian Becker (Universität Mannheim, Germany)
pp. 413-418

On the Limited Potential of Buffers to Improve Quality of Experience
Markus Fiedler (Blekinge Institute of Technology, Sweden)
pp. 419-424

Mobile Quality of Experience: Recent Advances and Challenges
Vasilios A. Siris (Athens University of Economics and Business / ICS-FORTH, Greece); Konstantinos Balampekos (Nokia Solutions and Networks, Greece); Mahesh K Marina (The University of Edinburgh, United Kingdom)
pp. 425-430

Session 4: Semantics and Quality

Semantic Index Assignment
Basak Guler (The Pennsylvania State University, USA); Aylin Yener (Pennsylvania State University, USA)
pp. 431-436

Enriching sensor data processing with quality semantics
Christian Michael Kuka (Carl von Ossietzky Universitaet Oldenburg, Germany); Daniela Nicklas (University of Bamberg & Faculty Information Systems and Applied Computer Science, Germany)
Why is indoor localization still so hard?
Brieuc Viel (Linköping University - RTS Lab, France); Mikael Asplund (Trinity College Dublin, Sweden)
pp. 443-448
Session 1: Keynote

Software Defined Systems for Management of Ubiquitous Communications and Services - How and What to Virtualize and Programme

The ossification of Telecom Networks and Computing Clouds is creating several difficulties for Service Providers and Network and/or Cloud Operators to develop and deploy, flexibly, any innovative network, services and management functionalities, which are essential to benefit from the increasing dynamism of the ICT markets. Operating the networks & clouds and launching new services are still time-consuming and requires expensive efforts: this is preventing any rapid roll-out of new businesses models and opportunities.

Virtualisation and programmability of systems are becoming cost effective and if properly designed, deployed and integrated, could help in fulfilling the above mentioned ossification requirements including the enablement of greater flexibility in services/applications management/provisioning, the realization of a deeper integration of networks and cloud domains, and the agility in related system operations.

This talk will first review the state of the art in virtualisation and programmability including Application Programming Interfaces, Programmable Networks, Software Defined Networks (SDN), Network Functions Virtualization (NFV), Software Defined Data Centres, Mobile Cloud Computing (MCC) environments, Dynamic Service Chaining.

Then a review and a description of a list of the most important technical and architectural challenges for the development and deployment of future networks and services will be given where such system would need to move from being merely defined by software to be programmable by software.

Session 2: Applications

Semantics-Empowered Middleware Implementation for Home Ecosystem Gateway
Jasvinder Singh (Nimbus Centre for Embedded System Research & Cork Institute of Technology, Ireland); Navid Hassanzadeh (Cork Institute of Technology, Ireland); Susan Rea (Cork Institute of Technology, Ireland); Dirk Pesch (Cork Institute of Technology, Ireland)
pp. 449-454

Sensor Knowledge Representation with SpatioTemporal Annotation: An Energy Sensor Ontology Use Case
Sounak Dey (TCS, India); Ranjan Dasgupta (Tata Consultancy Services Ltd, India)
pp. 455-459

A Semantic Workflow Engine Powered by Grid Reasoning
Sam Coppens (Ghent University - iMinds, Belgium); Ruben Verborgh (Ghent University – iMinds, Belgium); Erik Mannens (Ghent University, Belgium); Rik Van de Walle (Ghent University - IBBT, Belgium)
pp. 460-465

Session 3: Context-based Systems

Multi-User Context Inference Based on Neural Networks
Ioannis Papaioannou (National Technical University of Athens, Greece); Nick Kalatzis (National Technical University of Athens, Greece); Ioanna Roussaki (National Technical University of Athens, Greece); Nicolas Liaropoulos (National Technical University of Athens, Greece); Pavlos Kosmides (National Technical University of Athens, Greece)
pp. 466-471

Context-aware Heterogeneous Network Performance Analysis: Test-bed Development
Zhenhui Yuan (Dublin City University, Ireland); John Keeney (LM Ericsson, Ireland); Sven van der Meer (Ericsson LM, Ireland); Gabriel Hogan (Dublin City University, Ireland); Gabriel-Miro Muntean (Dublin City University, Ireland)
pp. 472-477
Session 4: Social Networks

**Trustworthy Service Discovery for Mobile Social Network in Proximity**
Chii Chang (University of Tartu, Estonia); Satish N Srirama (University of Tartu, Estonia); Sea Ling (Monash University, Australia)
pp. 478-483

**Personalizing System Behaviour in a Pervasive Social Networking System**
Elizabeth Papadopoulou (Heriot-Watt University, United Kingdom); Sarah Gallacher (University College London, United Kingdom); Nick K Taylor (Heriot-Watt University, United Kingdom); Howard Williams (Heriot-Watt University, United Kingdom)
pp. 484-488

Session 5: Panel
Welcome from the organizers

Session 1: Paper presentations

**Social Object Labels**
Marcus Winter (University of Brighton, United Kingdom)
p. 499-494

**Integrating Interactive Applications with Digital Signage: Towards a Scheduling Framework for Pervasive Displays**
Ivan Elhart (University of Lugano (USI), Switzerland); Marc Langheinrich (University of Lugano (USI), Switzerland); Nemanja Memarovic (University of Lugano (USI), Switzerland)
p. 495-499

**Understanding the Use of Web Technologies for Applications in Open Display Networks**
Constantin Taivan (University of Minho & Centro Algoritmi, Portugal); Rui Jose (University of Minho, Portugal); Bruno Silva (Universidade do Minho, Portugal)
p. 500-505

Session 2: Paper presentations (continued)

**MoCHA: Augmenting Pervasive Displays through Mobile Devices and Web-based Technologies**
Elena Oat (Aalto University, Finland); Mario Di Francesco (Aalto University & University of Texas at Arlington, Finland); Tuomas Aura (Aalto University, Finland)
p. 506-511

**UbiBroker: Event-based Communication Architecture for Pervasive Display Networks**
Tommi Heikkinen (University of Oulu, Finland); Petri Luojus (University of Oulu, Finland); Timo Ojala (University of Oulu, Finland)
p. 512-518

**UniDisplay - A Research Prototype to Investigate Expectations Towards Public Display Applications**
Florian Alt (University of Munich, Germany); Nemanja Memarovic (University of Lugano (USI), Switzerland); Miriam Greis (University of Stuttgart, Germany); Niels Henze (University of Stuttgart, Germany)
p. 519-524

**Light-Keypad, Interaction through Coated Double Glazing**
Lei Ye (University of Nottingham, United Kingdom); Holger Martin Schnädelbach (University of Nottingham, United Kingdom); Steve North (University of Nottingham, United Kingdom)
p. 525-530

Session 3: Identification of potential applications to be designed/developed

Participants will jointly decide which application(s) will be designed at the workshop.

Session 4: Application design in group

Session 5: Application design in group (continued)

Session 6: Plenary session: Discussion, consolidation, action plan
Session 1: Keynote

Virtual co-location: As if being there?
Stephan G. Lukosch (Delft University of Technology, The Netherlands)
p. 531

Session 2: Social Networks and Crowdsensing

WiFi Authentication through Social Networks - a Decentralized and Context-aware Approach
Yunus Durmus (Delft University of Technology, The Netherlands); Koen Langendoen (Delft University of Technology, The Netherlands)
p. 532-538

Distributed protocols for Ego Betweenness Centrality computation in DOSNs
Barbara Guidi (University of Pisa, Italy); Marco Conti (IIT-CNR, Italy); Andrea Passarella (IIT-CNR, Italy); Laura Ricci (University of Pisa, Italy)
p. 539-544

FlySensing: A Case for Crowdsensing in the Air
Osarieme Omokaro (The University of North Carolina at Charlotte, USA); Jamie Payton (University of North Carolina at Charlotte, USA)
p. 545-550

Session 3: Pervasive Social Networks

Towards Efficient Group Management and Communication for Large-Scale Mobile Applications
Rafael Oliveira Vasconcelos (PUC-Rio, Brazil); Lincoln David (PUC-Rio, Brazil); Markus Endler (PUC-Rio, Brazil)
p. 551-556

Direct Migrator: eliminating borders between Personal Mobile Devices and Pervasive Displays
Huiliang Jin (Ecole Centrale de Lyon, France); Tao Xu (Ecole Centrale de Lyon, France); Bertrand David (Ecole Centrale de Lyon & LIRIS Lab, France); René Chalon (Ecole Centrale de Lyon, France)
p. 557-562
Session 1: Welcome from the organizers

Session 2: Social and Community Intelligence

Supervised-Learning Link Recommendation in the DBLP co-authoring network
Jose Rodrigues, Jr (University of Sao Paulo & ICMC-USP, Brazil); Gabriel Gimenes (University of Sao Paulo, Brazil); Hugo Gualdron (University of Sao Paulo, Brazil); Thiago R Raddo (University of Sao Paulo, Brazil)
pp. 563-568

The Quest for User Similarity in Mobile Societies
Mai ElSherief (University of California, Santa Barbara & Faculty of Engineering, Cairo University, USA); Tamer ElBatt (Faculty of Engineering, Cairo University & WINC, Nile University, Egypt); Ahmed H. Zahran (Nile University, Egypt); Ahmed Helmy (University of Florida, USA)
pp. 569-574

Visualization of Wireless Sensor Networks using Zigbee's Received Signal Strength Indicator (RSSI) for Indoor Localization and Tracking
Flora D Salim (RMIT University, Australia); Mani Williams (RMIT University, Australia); Nishant Sony (RMIT University, Australia); Mars Pena (RMIT University, Australia); Yury Petrov (RMIT University, Australia); Abdelsalam Saad (RMIT University, Australia); Bo Wu (RMIT University, Australia)
pp. 575-580

Session 3: Mobile Crowd Sensing

Expectation-based spatio-temporal clusters formed during opportunistic sensing
Matthew Orlinski (Fraunhofer IAIS, Germany); Nicholas Paul Filer (University of Manchester, United Kingdom)
pp. 581-586

Earthquake emergency management by Social Sensing
Marco Avvenuti (University of Pisa, Italy); Stefano Cresci (CNR, Istituto di Informatica e Telematica, Italy); Mariantonietta Noemi La Polla (IIT-CNR, Italy); Andrea Marchetti (IIT-CNR, Italy); Maurizio Tesconi (IIT - National Research Council, Italy)
pp. 587-592

From Participatory Sensing to Mobile Crowd Sensing
Guo Bin (Northwestern Polytechnical University, P.R. China); Zhiwen Yu (Northwestern Polytechnical University, P.R. China); Daqing Zhang (Institut Télécom, Télécom SudParis, France); Xingshe Zhou (Northwestern Polytechnical University, P.R. China)
pp. 593-598

D2SC: Data-Driven Smarter Cities
Chao Chen (Institut TELECOM & Management SudParis, France); Daqing Zhang (Institut Télécom, Télécom SudParis, France); Guo Bin (Northwestern Polytechnical University, P.R. China)
pp. 599-603
Opening Remarks

Session 1: Attacks on Online Social Networks

**Susceptibility to URL-based Internet Attacks: Facebook vs. Email**
Zinaida Benenson (University of Erlangen-Nuremberg, Germany); Anna Girard (University of Erlangen-Nuremberg, Germany); Nadina Hintz (University of Erlangen-Nuremberg, Germany); Andreas Luder (University of Erlangen-Nuremberg, Germany)
pp. 604-609

**Measuring Importance of Seeding for Structural De-anonymization Attacks in Social Networks**
Gabor Gulyas (Budapest University of Technology and Economics, Hungary); Sándor Imre (Technical University of Budapest, Hungary)
pp. 610-615

Session 2: Defensive Solutions for Online Social Networks

**Collaborative Joint Content Sharing for Online Social Networks**
Filipe Beato (KU Leuven, Belgium); Roel Peeters (ESAT/COSIC - KU Leuven, Belgium)
pp. 616-621

**Access Control in Decentralized Online Social Networks: Applying a Policy-Hiding Cryptographic Scheme and Evaluating Its Performance**
Oleksandr Bodriagov (KTH Royal Institute of Technology, Sweden); Gunnar Kreitz (KTH - Royal Institute of Technology, Sweden); Sonja Buchegger (KTH, Sweden)
pp. 622-628

**Personal DLP for Facebook**
Martin Stopczynski (Technische Universität Darmstadt & CASED, Germany); Marco Ghiglieri (Technische Universität Darmstadt, Germany); Michael Waidner (TU Darmstadt, Germany)
pp. 629-634