2012 IEEE International Conference on Pervasive Computing and Communications

(PerCom 2012)

Lugano, Switzerland
19-23 March 2012
Technical Program

K1: Keynote

Keynote: Computing for the Future of the Planet
Andy Hopper (Cambridge University, United Kingdom)

S1: Tracking with Phones

FTrack: Infrastructure-free Floor Localization via Mobile Phone Sensing
Haibo Ye (Nanjing University, P.R. China); Tao Gu (University of Southern Denmark, Denmark); Xiaorui Zhu (Nanjing University, P.R. China); Jingwei Xu (Nanjing, P.R. China); Xiaping Tao (Nanjing University, P.R. China); Jian Lu (Nanjing University, P.R. China); Ning Jin (University of Southern Denmark, Denmark)
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Smartphone-based Wi-Fi Pedestrian-Tracking System Tolerating the RSS Variance Problem
Yungeun Kim (Yonsei University, Korea); Hyojeong Shin (Yonsei University, Korea); Hojung Cha (Yonsei University, S. Korea, Korea)
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Crowds replace Experts: Building Better Location-based Services using Mobile Social Network Interactions
Pravin Shankar (Rutgers University, USA); Woody Huang (Research Staff Member, USA); Paul Castro (IBM T.J. Watson Research Center, USA); Badri Nath (Rutgers University, USA); Liviu Iftode (Rutgers University, USA)
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S2: Context and Data-driven applications

Formal Specification and Runtime Detection of Temporal Properties for Asynchronous Context
Hengfeng Wei (Nanjing University, P.R. China); Yu Huang (Nanjing University, P.R. China); Jiannong Cao (Hong Kong Polytechnic Univ, Hong Kong); Xiaoxing Ma (Nanjing University, P.R. China); Jian Lu (Nanjing University, P.R. China)
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Your Mobility can be Injurious to Your Health: Analyzing Pervasive Health Monitoring Systems under Dynamic Context Changes
Ayan Banerjee (Arizona State University, USA); Sandeep Gupta (Arizona State University, USA)
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Bridging Vision and Commonsense for Multimodal Situation Recognition in Pervasive Systems
Nicola Bicocchi (University of Modena and Reggio Emilia, Italy); Matteo Lasagni (University of Lubeck, Germany); Franco Zambonelli (University of Modena and Reggio Emilia, Italy)
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Ad-hoc Symbiotic Interactive Displays through DLNA
Jannick Bitsch (Aarhus University, Denmark); Niels Olof Bouvin (Aarhus University, Denmark)
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K2: Keynote

Keynote: Context to the People
Paul Lukowicz (University of Passau, Germany)
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S3: Best Papers

SmartCap: Flattening Peak Electricity Demand in Smart Homes
Sean K Barker (University of Massachusetts Amherst, USA); Aditya Kr Mishra (University of Massachusetts Amherst, USA); David Irwin (University of Massachusetts, Amherst, USA); Prashant Shenoy (University of Massachusetts, Amherst, USA); Jeannie R Albrecht (Williams College, USA)
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NaviComf: Navigate Pedestrians for Comfort Using Multi-modal Environmental Sensors
Congwei Dang (The University of Tokyo & Institute of Industrial Science, Japan); Masayuki Iwai (the University of Tokyo & Institute of Industrial Science, Japan); Kazunori Umeda (Chuo University, Japan); Yoshito Tobe (Tokyo Denki University, Japan); Kaoru Sezaki (University of Tokyo, Japan)
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What Does Model-Driven Data Acquisition Really Achieve in Wireless Sensor Networks?
Usman Raza (University of Trento, Italy); Alessandro Camerra (University of Trento, Italy); Amy L Murphy (Fondazione Bruno Kessler - IRST, Italy); Themis Palpanas (University of Trento, Italy); Gian Pietro Picco (University of Trento, Italy)
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S4a: Mobility (concise papers)

**Mobile Sensing of Pedestrian Flocks in Indoor Environments using WiFi Signals**
Mikkel Baun Kjærgaard (ETH Zürich, Switzerland); Martin Wirz (ETH Zurich, Switzerland); Daniel Roggen (ETH Zürich, Switzerland); Gerhard Tröster (Wearable Computing Lab ETH Zürich, Switzerland)
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**A Location-Based Incentive Mechanism for Participatory Sensing Systems with Budget Constraints**
Luis Jaimes (University of South Florida, USA); Idalides Vergara-Laurens (University of South Florida, USA); Miguel A. Labrador (University of South Florida, USA)
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**A Hybrid Method for achieving High Accuracy and Efficiency in Object Tracking using Passive RFID**
Lei Yang (The Hong Kong Polytechnic University, Hong Kong); Jiannong Cao (Hong Kong Polytechnic Univ, Hong Kong); Weiping Zhu (The Hong Kong Polytechnic University, Hong Kong); Shaojie Tang (Illinois Institute of Technology, USA)
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S4b: Systems and Sensing (concise papers)

**An Efficient Dataflow Execution Method for Mobile Context Monitoring Applications**
Younghyun Ju (KAIST, Korea); Chulhong Min (KAIST, Korea); Youngki Lee (KAIST, Korea); Jihyun Yu (KAIST, Korea); Junehwa Song (KAIST, Korea)
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**How Close is Close Enough? Understanding the Role of Cloudlets in Supporting Display Appropriation by Mobile Users**
Sarah Clinch (Lancaster University, United Kingdom); Jan Harkes (Carnegie Mellon University, USA); Adrian Friday (Lancaster University, United Kingdom); Nigel Davies (Lancaster University, United Kingdom); Mahadev Satyanarayanan (Carnegie Mellon University, USA)
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**Directional Handoff using Geomagnetic Sensor in Indoor WLANs**
Sangyup Han (KAIST, Korea); Myungchul Kim (KAIST, Korea); Ben Lee (Oregon State University, USA); Sungwon Kang (KAIST, Korea)
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S5: Privacy

*IncognitoSense: An Anonymity-preserving Reputation Framework for Participatory Sensing Applications*
Delphine Christin (Technische Universität Darmstadt, Germany); Christian Roßkopf (Technische Universität Darmstadt, Germany); Matthias Hollick (Technische Universität Darmstadt & Secure Mobile Networking Lab, Center for Advanced Security Research Darmstadt, Germany); Leonardo A. Martucci (Linköping University, Sweden); Salil Kanhere (University of New South Wales, Australia)
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*Enhancing Privacy in Participatory Sensing Applications with Multidimensional Data*
Michael M Groat (University of New Mexico, USA); Benjamin Edwards (University of New Mexico, USA); James Horey (Oak Ridge National Laboratory, USA); Wenbo He (University of Nebraska-Lincoln, USA); Stephanie Forrest (University of New Mexico, USA)
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*PShare: Position Sharing for Location Privacy based on Multi-Secret Sharing*
Marius Wernke (University of Stuttgart IPVS, Germany); Frank Dürr (University of Stuttgart, Germany); Kurt Rothermel (University of Stuttgart, Germany)
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S6: Indoor Localisation

*Optimal Tag Placement for Indoor Localization*
Stephan J Wagner (University of Duisburg-Essen, Germany); Marcus Handte (University of Duisburg-Essen, Germany); Marco Antonio Zuniga (University Of Duisburg-Essen, Germany); Pedro Jose Marrón (University of Duisburg-Essen and Fraunhofer FKIE, Germany)
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*Investigation of indoor localization with ambient FM radio stations*
Andrei Popleteev (Create-Net, Italy); Venet Osmani (Create-Net, Italy); Oscar Mayora (CreateNet, Italy)
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*RASID: A Robust WLAN Device-free Passive Motion Detection System*
Ahmed E. Kosba (Alexandria University, Egypt); Ahmed M Saeed (Egypt-Japan University of Science and Technology, Egypt); Moustafa Youssef (Egypt-Japan University of Science and Technology (E-JUST), Egypt)
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**S7a: Context for Applications (concise papers)**

Leveraging smart meter data to recognize home appliances
Markus Weiss (ETH Zurich, Switzerland); Adrian Helfenstein (ETH Zurich, USA); Friedemann Mattern (ETH Zürich, Switzerland); Thorsten Staake (ETH Zurich, Switzerland)
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Enabling Energy-Efficient Context Recognition with Configuration Folding
Umer Iqbal (Universität Duisburg-Essen, Germany, Germany); Marcus Handte (University of Duisburg-Essen, Germany); Stephan J Wagner (University of Duisburg-Essen, Germany); Wolfgang Apolinarski (University of Duisburg-Essen, Germany); Pedro Jose Marrón (University of Duisburg-Essen and Fraunhofer FKIE, Germany)
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Evaluating Mobility Models for Temporal Prediction with High-Granularity Mobility Data
Yohan Chon (Yonsei University, Korea); Hyojeong Shin (Yonsei University, Korea); Elmurod Talipov (Yonsei University, Korea); Hojung Cha (Yonsei University, S. Korea, Korea)
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**S7b: Applications in Sensing (concise papers)**

GymSkill: A Personal Trainer for Physical Exercises
Andreas Möller (Technische Universität München, Germany); Luis Roalter (Technische Universität München, Germany); Stefan Diewald (Technische Universität München, Germany); Johannes Scherr (Technische Universität München, Germany); Matthias Kranz (Technische Universität München, Germany); Nils Hammerla (Newcastle University, United Kingdom); Patrick Olivier (Newcastle University, United Kingdom); Thomas Plötz (Newcastle University, United Kingdom)
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Encounter-based Noise Cancelation For Cooperative Trajectory Mapping
Wei Chang (Temple University, USA); Jie Wu (Temple University, USA); Chiu C. Tan (Temple University, USA)
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Sensing-Enabled Defenses to RFID Unauthorized Reading and Relay Attacks without Changing the Usage Model
Tzipora Halevi (Polytechnic Institute of New York University, USA); Sein Lin (Polytechnic Institute of New York University, USA); Di Ma (University of Michigan-Dearborn, USA); Anudath Prasad (University of Michigan-Dearborn, USA); Nitesh Saxena (Polytechnic Institute of New York University, USA); Jonathan Voris (Columbia University, USA); Tuo Xiang (University of Michigan-Dearborn, USA)
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