**The Fourth Annual International Conference on
Mobile and Ubiquitous Systems: Computing, Networking and Services**
（**MOBIQUITOUS 2007**）
August 6 –10, 2007 • Philadelphia, Pennsylvania, USA

Technical Program

Full-day workshops (concurrent, check individual workshop schedules)

● The First International Workshop on Mobile and Ubiquitous Context Aware Systems and Applications (MUBICA)

● The 2nd International Workshop on Advances in Wireless Sensor Networks (IWASN)

8:30 - 9:00AM: Welcome

9:00 - 10:00AM: Keynote
Challenges and opportunities in mobile communication service
Tim Greisinger, Vice President, IBM

10:00 - 10:30AM: Break

10:30 - 12:00PM: Session 1: Mobile Applications
Session Chair: Mario Gerla

Musicology: Bringing Personal Music into Shared Spaces,
Trevor Pering and Roy Want (Intel Research), Lamar Gardere and Kristin Vadas (Georgia Institute of Technology), and Evan Welbourne (University of Washington)

Large Surface Area Electronic Textiles for Ubiquitous Computing: A System Approach,
David Graumann (Intel Corp.), Meghan Quirk, Braden Sawyer and Justin Chong (Virginia Tech), Giuseppe Raffa (University of Bologna, Italy), and Mark Jones and Tom Martin (Virginia Tech)

A Wireless Sensor Network and Incident Command Interface for Urban Firefighting,
Joel Wilson, Vikas Bhargava, Andrew Redfern, and Paul Wright (University of California, Berkeley)

Bypassing Bluetooth Device Discovery using a Multimodal User Interface,
Jonathan R. Engelsma and James C. Ferrans (Motorola Labs)

12:00 - 1:30PM: Lunch

1:30 - 3:00PM: VANET Panel
The Bright Future of Network-Connected Vehicles
Moderator: Liviu Iftode (Rutgers University)
  Panelists: Samir Das (Stony Brook)
        Mario Gerla (UCLA)
        Max Kicherer (BMW)
        Jim Misener (UC Berkeley, PATH)
        Raj Rajkumar (CMU)

3:00 - 3:30PM: Break
3:30 - 5:00PM: Session 2: Localization
Session Chair: Robert Harle

Improving Wireless Positioning with Look-ahead Map-matching,
Kipp Jones and Ling Liu (Georgia Tech) and Farshid Alizadeh-Shabdiz (Skyhook Wireless)

Energy-efficient Tracking of Mobile Objects with Early Distance-based Reporting,

Tobias Farrell, Ralph Lange, and Kurt Rothermel (Universitat Stuttgart, Germany)

Combining GPS and GSM Cell-ID Positioning for Proactive Location-based Services,

Nico Deblauwe (Vrije Universiteit Brussel, Belgium), and Peter Ruppel (Ludwig-Maximilians-Universit at Munich, Germany)

Battery-aware Embedded GPS receiver Node,

Dejan Raskovic and David Giessel (University of Alaska Fairbanks)

5:00 - 8:00PM: Posters/Demos and Reception

Posters

- *Scalable Service-Oriented Telemetry Acquisition and Distribution*,

  JuHee Bae, Young Ju Tak, and WonIl Lee (IBM Korea), and Christopher Howson and Jonathan Munson (IBM T.J. Watson Research Center)

- *A User-centered Approach to Context-awareness in Mobile Computing,*

  Yaser Mowafi and Dongsong Zhang (University of Maryland, Baltimore County)

- *A new Routing & Mobility Management Solution for Wireless Mesh Network,*

  Mehdi Sabeur, Ghazi Alsukkar, Badii Jouaber, Djamal Zeghlache, and Hossam Afifi (INT, France)

- *Data Redundancy Aware Topology Control in Wireless Sensor Networks,*

  Hao Han (Nanjing University, China), Tao Gu (Institute for Infocomm Research, Singapore), and Sanglu Lu (Nanjing University, China)

- *P2P search routing concepts for mobile object tracking,*

  Michel Maximilian, Zoran Despotovic, Wolfgang Kellerer, Qing Wei, Jorg Widmer, Norihiro Ishikawa, Takeshi Kato, and Tomoyuki Osano

- *Lightweight and Distributed Algorithms for Efficient Data-Centric Storage in Sensor Networks,*

  Ghazi Al Sukkar and Hossam Afifi (INT, France), and Sidi-Mohammed Senouci (France Telecom R&D, France)

- *Hierarchical Trustworthy Authentication for Pervasive Computing,*

  Hannan Xiao, James A. Malcolm, and Bruce Christianson (University of Hertfordshire, United Kingdom), and Ying Zhang (University of Cambridge, United Kingdom)

- *On Hybrid Routing Protocol for Wireless Mesh Network,*

  Muhammad Shoaib Siddiqui and Choong Seon Hong (Kyung Hee University)

Demos

- *Implementation of Information-Provision Service with Smart Phone and Field Trial in Shopping Area,*

  Michiharu Takemoto, Yuki Yokohata, Tetsuro Tokunaga, Makoto Hamada, and Toshirou Nakamura (NTT Corporation)

- *Sensor Relocation with Mobile Sensors,*

  Jie Teng, Guohong Cao, and Thomas F. La Porta (Pennsylvania State University)

WEDNESDAY, AUGUST 8

9:00 - 10:00AM: Keynote
The Vision and Reality of Ubiquitous Computing
Henning Schulzrinne, Columbia University

10:00 - 10:30AM: Break

10:30 - 12:00PM: Session 3: Mobile Data Access
Session Chair: Chris Poellabauer

A SpatioTemporal Placement Model for Caching Location Dependent Queries,

Anand Murugappan and Ling Liu (Georgia Institute of Technology)

Assessing Standard and Inverted Skip Graphs Using Multi-Dimensional Range Queries and Mobile Nodes,

Gregory J. Brault (Air Force Information Operations Center), and Christopher J. Augeri, Barry E. Mullins, Christopher B. Mayer, and Rusty O. Baldwin (Air Force Institute of Technology)

Application-based Distance Measurement for Context Retrieval in Ubiquitous Computing,

Shaxun Chen (Nanjing University, China), Tao Gu (Institute for Infocomm Research, Singapore), and Xianping Tao and Jian Lu (Nanjing University, China)

Content Source Selection in Bluetooth Networks,

Liam McNamara, Cecilia Mascolo, and Licia Capra (University College London, United Kingdom)

12:00 - 1:30PM: **Lunch**

1:30 - 3:00PM: **Session 4: Service and Route in Ad Hoc Networks**
Session Chair: Tao Gu

Distributed Service Deployment in Mobile Ad Hoc Networks,

Artin Avanes and Johann-Christoph Freytag (Humboldt-Universit at zu Berlin, Germany), and Christof Bornhoevd (SAP Labs)

Minimum Disruption Service Composition and Recovery over Mobile Ad Hoc Networks,

Shanshan Jiang, Yuan Xue, and Douglas C. Schmidt (Vanderbilt University)

Route Discovery in Mobile Ad Hoc Networks: From Unilaterality to Bilaterality,

Rendong Bai and Mukesh Singhal (University of Kentucky)

DETOUR: Delay- and Energy-aware Multi-path Routing in Wireless Ad Hoc Networks,

Nadine Shillingford, David Salyers, Christian Poellabaue, and Aaron Striegel (University of Notre Dame)

3:00 - 3:30PM: **Break**

3:30 - 5:00PM: **WIP Papers**
Session Chair: Al Harris

On Improving Dynamic Source Routing for Intermittently Available Nodes in Static MANETs

Pramita Mitra and Christian Poellabauer (University of Notre Dame), and Shivajit Mohapatra (Motorola Labs)

Using Weighted Graphs for Computationally Efficient WLAN Location Determination

Rene Hansen and Bent Thomsen (Aalborg University, Denmark)

Self-Managed Cell: A Middleware for Managing Body-Sensor Networks

Sye Loong Keoh, Naranker Dulay, Emil Lupu, Kevin Twidle, Alberto E.Schaeffer-Filho, and Morris Sloman (Imperial College London, United Kingdom), and Steven Heeps, Stephen Strowes, and Joe Sventek (University of Glasgow, United Kingdom)

Temporary Interconnection of ZigBee Personal Area Network (PAN)

Sewook Jung, Alexander Chang, and Mario Gerla (University of California, Los Angels)

High Performance AODV Routing Protocol for Hybrid Wireless Mesh Networks

Asad Amir Pirzada (National ICT Australia Limited, Australia) and Marius Portmann (The University of Queensland, Australia)

6:30 - 9:00PM: **Banquet**

THURSDAY, AUGUST 9

8:30 - 9:30AM: **Keynote**
Mobility in Wireless Networks: Blessing or Curse
Jie Wu, Program Director, National Science Foundation

9:30 - 10:00AM: **Break**

10:00 - 11:30AM: **Session 5: Privacy and Trust**
Session Chair: Sye Loong Keoh

Anonymous Data Collection in Sensor Networks,

James Horey, Michael M. Groat, and Stephanie Forrest (University of New Mexico), and Fernando Esponda (Yale University)

Privacy-preserving Detection of Sybil Attacks in Vehicular Ad Hoc Networks,

Tong Zhou and Romit Roy Choudhury (Duke University), Peng Ning (NC State University), and Krishnendu Chakrabarty (Duke University)

Network-layer Assisted Mechanism to Optimize Authentication Delay During Handoff in 802.11 Networks,

Rafa Marin Lopez (Toshiba America Research Lab), Ashutosh Dutta (Telcordia), Yoshihiro Ohba (Toshiba America Research Lab), Henning Schulzrinne (Columbia University), and Antonio Skarmeta (University of Murcia, Spain)

TRULLO - Local Trust Bootstrapping for Ubiquitous Devices,

Daniele Quercia, Stephen Hailes, and Licia Capra (University College London, United Kingdom)

11:30 - 1:00PM: Lunch

1:00 - 2:30PM: Session 6: Mobile Platforms
Session Chair: Zhen Jiang

Design and Evaluation of a Hybrid Physical Space Service for Pervasive Computing Applications,

Nancy Miller and Peter Steenkiste (Carnegie Mellon University)

NORS: An Open Source Platform to Facilitate Participatory Sensing with Mobile Phones,

Dirk Trossen (BT Research) and Dana Pavel (Nokia Research)

Dynamic Channel Assignment and Link Scheduling in Multi-radio Multi-channel Wireless Mesh Networks,

Hua Yu, Prasant Mohapatra, and Xin Liu (University of California, Davis)

Towards Scalable and Robust Service Discovery in Ubiquitous Computing Environments via Multi-hop Clustering,

Wei Gao (Arizona State University)

2:30 - 3:00PM: Break

3:00 - 4:15PM: Session 7: Mobile System Analysis
Session Chair: Hao Zhu

Contextual Usage-level Analysis of Mobile Services,

Hannu Verkasalo (Helsinki University of Technology, Finland)

The Analysis of Publish/Subscribe Systems over Mobile Wireless Ad Hoc Networks,

Thadpong Pongthawornkamol and Klara Nahrstedt (University of Illinois at Urbana-Champaign), and Guijun Wang (Boeing)

Cooperative Dynamic Voltage Scaling using Selective Slack Distribution in Distributed Real-Time Systems,

Dinesh Rajan, Christian Poellabauer, Andrew Blanford, and Bren Mochocki (University of Notre Dame)

FRIDAY, AUGUST 10

Full-day workshops (concurrent, check individual workshop schedules)
- Workshop on Personalized Networks (PerNets)
- First Workshop on the Security and Privacy of Emerging Ubiquitous Communication Systems (Speucs)

Note:

All the technical sessions for Tuesday and Wednesday: **Grand Ball room**

All the technical sessions for Thursday: **Chestnut room**

Poster/Demo session: **Pine and Juniper room**

Lunch: **Warwick room**