

Message from the General Chairs	iii
Message from the Program Chairs	iv
Organizing Committee.....	v
Program Committee.....	vi
Sponsors	vii
How to Build Your Own Moving Objects Database System	1
<i>R.H. Güting, Fernuniversität Hagen, Germany</i>	
Smart Earth: From Pervasive Observation to Trusted Information.....	3
<i>K. Aberer, EPFL, Switzerland</i>	
Session 1: Mobile P2P and Sensor Networks	
Phenomenon-aware Stream Query Processing.....	8
<i>M.H. Ali, Purdue University, USA; M.F. Mokbel, University of Minnesota, USA; W.G. Aref, Purdue University, USA</i>	
Mobile Peer-to-peer Data Dissemination with Resource Constraints	16
<i>O. Wolfson, B. Xu, R. Michael Tanner, University of Illinois at Chicago, USA</i>	
Optimizing Energy-Efficient Query Processing in Wireless Sensor Networks.....	24
<i>R. Rosemark, W.-C. Lee, B. Urgaonkar, The Pennsylvania State University, USA</i>	
Collaboratively Querying Sensor Networks through Handheld Devices	30
<i>T.W. Chiu, Q. Luo, The Hong Kong University of Science and Technology, China</i>	
Session 2: Query Processing for Moving Objects	
BORA: Routing and Aggregation for Distributed Processing of Spatio-Temporal Range Queries	36
<i>G. Trajcevski, H. Ding, P. Scheuermann, Northwestern University, USA; I.F. Cruz, University of Illinois at Chicago, USA</i>	
PLACE*: A Distributed Spatio-temporal Data Stream Management System for Moving Objects	44
<i>X. Xiong, H.G. Elmongui, X. Chai, W.G. Aref, Purdue University, USA</i>	
Semantics of Spatially-aware Windows over Streaming Moving Objects	52
<i>K. Patroumpas, T. Sellis, National Technical University of Athens, Greece</i>	
Session 3: Privacy and Security	
Privacy-Preserving Data Mining on Moving Object Trajectories	60
<i>G. Gidofalvi, X. Huang, T.B. Pedersen, Aalborg University, Denmark</i>	
Anonymity in Location-based Services: Towards a General Framework	69
<i>C. Bettini, S. Mascetti, University of Milan, Italy; X.S. Wang, University of Vermont, USA</i>	
Enforcing Data Integrity in Very Large Ad Hoc Networks	77
<i>D. Gavidia, M. van Steen, Vrije Universiteit Amsterdam, The Netherlands</i>	
Session 4: Broadcast Environments	
An Adaptive Control Method in the Hybrid Wireless Broadcast Environment	86
<i>J. Cai, T. Terada, T. Hara, S. Nishio, Osaka University, Japan</i>	
Variant Bandwidth Channel Allocation in the Data Broadcasting Environment	94
<i>C.-H. Chu, H.-P. Hung, M.-S. Chen, National Taiwan University, Taiwan</i>	
A Multi-Resolution Data Management Scheme for Opportunistic Information Diffusion	102
<i>I. Carreras, D. Tacconi, D. Miorandi, I. Chlamtac, CREATE-NET, Italy</i>	
Exploiting Our Computational Surroundings for Better Mobile Collaboration.....	110
<i>J. Barreto, P. Ferreira, Technical University of Lisbon, Portugal; M. Shapiro, INRIA Rocquencourt/LIP6, France</i>	
Data Replication Considering Power Consumption in Ad Hoc Networks	118
<i>M. Shinohara, T. Hara, Shojiro Nishio, Osaka University, Japan</i>	

Group Anti-Entropy - Achieving Eventual Consistency in Mobile Service Environments	126
<i>K. Herrmann, University of Stuttgart, Germany</i>	
Session 6: Query Processing and Data Management	
ConQuer: A Peer Group-based Incentive Model for Constraint Querying in Mobile-P2P Networks.....	134
<i>A. Mondal, University of Tokyo, Japan; S.K. Madria, University of Missouri-Rolla, USA; M. Kitsuregawa, University of Tokyo, Japan</i>	
Integrated Data Modeling for Querying Physical Objects in RFID-Enabled Pervasive Computing	140
<i>S. Liu, IBM Silicon Valley Lab, USA; F. Wang, P. Liu, Siemens Corporate Research, USA</i>	
Advanced Evasive Data Storage in Sensor Networks	146
<i>Z. Benenson, F.C. Freiling, University of Mannheim, Germany; P.M. Cholewinski, SAP - Research and Breakthrough Innovation, Germany</i>	
Distributed Histograms for Processing Aggregate Data from Moving Objects	152
<i>H. Xie, E. Tanin, L. Kulik, University of Melbourne, USA</i>	
Session 7: Data Management for Ad Hoc and Sensor Networks	
A Failure Tolerating Atomic Commit Protocol for Mobile Environments.....	158
<i>S. Böttcher, University of Paderborn, Germany; L. Gruenwald, The University of Oklahoma, USA; S. Obermeier, University of Paderborn, Germany</i>	
Q-NiGHT: Adding QoS to Data Centric Storage in Non-Uniform Sensor Networks.....	166
<i>Michele Albano, University of Pisa, Italy; S. Chessa, University of Pisa, and CNR, Italy; F. Nidito, S. Pelagatti, University of Pisa, Italy</i>	
Quantifying Network Partitioning in Mobile Ad Hoc Networks	174
<i>J. Hähner, Leibniz Universität Hannover, Germany; D. Dudkowski, P.J. Marrón, K. Rothermel, Universität Stuttgart, Germany</i>	
Session 8: Query Processing in Sensor Networks	
MINT Views: Materialized In-Network Top-k Views in Sensor Networks	182
<i>D. Zeinalipour-Yazti, P. Andreou, University of Cyprus, Cyprus; P.K. Chrysanthis, University of Pittsburgh, USA; G. Samaras, University of Cyprus, Cyprus</i>	
On Join Location in Sensor Networks.....	190
<i>A. Coman, M.A. Nascimento, J. Sander, University of Alberta, Canada</i>	
Infrastructure for Data Processing in Large-scale Interconnected Sensor Networks.....	198
<i>K. Aberer, Ecole Polytechnique Federale de Lausanne, Switzerland; M. Hauswirth, National University of Ireland; A. Salehi, Ecole Polytechnique Federale de Lausanne, Switzerland</i>	
Demonstrations	
Audio and Image Browser for Mobile Devices	206
<i>T. Lahti, Nokia Research Center, Finland; P. Pietarila, VTT Electronics, Finland; L. Yingfei, T. Pylvänäinen, Nokia Research Center, Finland; O. Vuorinen, VTT Electronics, Finland</i>	
A Sensed-Point-Oriented Geographic Routing for Camera Networks.....	209
<i>H. Ishizuka, Y. Tobe, Tokyo Denki University, Japan</i>	
iPDA: Supporting Privacy-Preserving Location-Based Mobile Services.....	212
<i>J. Du, J. Xu, Hong Kong Baptist University, China; X. Tang, Nanyang Technological University, Singapore; H. Hu, Hong Kong Baptist University, China</i>	
Moppy - Mobile Object Position Prediction Application.....	215
<i>Ł. Rosikiewicz, Logos, Poland; M. Morzy, Poznan University of Technology, Poland</i>	

A Testbed for the Exploration of Novel Concepts in Mobile Service Delivery	218
<i>R. Wind, C.S. Jensen, K.H. Pedersen, K. Torp, Aalborg University, Denmark</i>	
CADD: A Tool for Context Modeling and Data Tailoring	221
<i>C. Bolchini, C.A. Curino, G. Orsi, E. Quintarelli, Politecnico di Milano, Italy</i>	
Distribution of Fingerprints for 802.11-based Positioning Systems.....	224
<i>T. King, T. Butter, M. Brantner, S. Kopf, T. Haenselmann, A. Biskop, A. Färber, W. Effelsberg, University of Mannheim, Germany</i>	
Seminars	
Location-Aware Wireless Sensor Networks.....	227
<i>W.-C. Lee, Pennsylvania State University, USA; Y. Xu, Cisco Systems, Inc, USA</i>	
Privacy in Location-based Services: State-of-the-art and Research Directions	228
<i>M.F. Mokbel, University of Minnesota, USA</i>	
Location-aware Query Processing and Optimization	229
<i>M.F. Mokbel, University of Minnesota, USA; W.G. Aref, Purdue University, USA</i>	
MDM 2007 Workshops	
Organizing and Program Committees of the MDM 07 Workshops	230
The International Workshop on Privacy-Aware Location-based Mobile Services (PALMS).....	232
FragDB – Secure Localized Storage Based on Super-Distributed RFID-Tag Infrastructures	233
<i>Marc Langheinrich (ETH Zurich, Switzerland)</i>	
Privacy (Regimes) Do not Threaten Location Technology Development.....	238
<i>Bastiaan van Loenen and Jaap Zevenbergen (Delft University of Technology, Netherlands)</i>	
Extending P3P/Appel for Friend Finder	243
<i>Emin Islam Tatlı (Universität Mannheim, Germany)</i>	
Privacy Preserving Computation of Shortest Path in Presence of a Single Convex Polygonal Obstacle	248
<i>Ananda Swarup Das, Kannan Srinathan, Ritesh Kumar Tiwari, Vaibhav Srivastava (International Institute of Information Technology, India)</i>	
Privacy-Aware RNN Query Processing on Location-Based Services	253
<i>Yang Du (Northeastern University, USA)</i>	
A Comparison of Spatial Generalization Algorithms for LBS Privacy Preservation	258
<i>Sergio Mascetti, Claudio Bettini (Università degli Studi di Milano, Italy)</i>	
Location Privacy Pricing and Motivation	263
<i>Vasek Matyas, Marek Kumpost (Faculty of Information Technology, Czech Republic)</i>	
Hiding Location Information from Location-Based Services	268
<i>Urs Hengartner (University of Waterloo, Canada)</i>	
Analysis of Security and Privacy Issues in RFID-based Reference Point Systems.....	273
<i>Oranat Sangratanachaiikul, Leping Huang, Shin'ichi Konomi, Kaoru Sezaki (University of Tokyo, Japan)</i>	
Protect Moving Trajectories with Dummies	278
<i>Tun-Hao You, Wen-Chih Peng (National Chiao Tung University, Taiwan), Wang-Chien Lee (The Pennsylvania State University, USA)</i>	
Privacy-Aware Knowledge Discovery from Location Data.....	283
<i>Maurizio Atzori, Francesco Bonchi, Fosca Giannotti, Dino Pedreschi (ISTI - CNR and Dipartimento di Informatica, Italy), Osman Abul (TOBB University, Ankara, Turkey)</i>	

Second International Workshop on Managing Context Information and Semantics in Mobile Environments (MCISME 07)	288
On Relaxing Contextual Preference Queries	289
<i>Kostas Stefanidis, Evaggelia Pitoura and Panos Vassiliadis (University of Ioannina, Greece)</i>	
An RFID-based Platform Supporting Context-aware Computing in Complex Spaces	294
<i>Ayis Ziotopoulos, Margarida Jacome and Gustavo de Veciana (University of Texas at Austin, USA)</i>	
Situation Inference for Mobile Users: A Rule Based Approach	299
<i>Laurent Walter Goix, Massimo Valla (Telecom Italia Lab, Italy); Laura Cerami and Paolo Falcarin (Politecnico di Torino, Italy)</i>	
Using a Folksonomy Approach for Location Tagging in Community based Presence Systems	304
<i>Martin Jonsson (Stockholm University, Sweden)</i>	
Metropolitan Active Space: Introducing Context- Aware Services in GSM Networks	309
<i>Saira Parvez Khan and Sana Ismaeel (National University of Science & Technology, Pakistan)</i>	
Context Life Cycle Management Scheme in Ubiquitous Computing Environments	315
<i>Hyunjun Chang, Seokkyoo Shin and Changshin Chung (Telecommunications Technology Association , Korea)</i>	
International Workshop on Data Intensive Sensor Networks 2007 (DISN'07	320
Scheduling Transmission of Bulk Data in Sensor Networks using a Dynamic TDMA Protocol.....	321
<i>Volker Turau, Christoph Weyer (Hamburg University of Technology, Germany)</i>	
Distributive Energy Efficient Adaptive Clustering Protocol for Wireless Sensor Networks	326
<i>Udit Sajjanhar, Pabitra Mitra (Indian Institute of Technology, India)</i>	
Session 2: Query Processing	
<i>Chair: Volker Turau, Hamburg University of Technology (Germany)</i>	
On the Integration of Data Stream Clustering into a Query Processor for Wireless Sensor Networks	331
<i>Uwe Röhm, Bernhard Scholz, (The University of Sydney, Australia) Mohamed Medhat Gaber (CSIRO, Australia)</i>	
Optimal Locations for Join Processing in Sensor Networks	336
<i>Mirco Stern (Universitat Karlsruhe, Germany)</i>	
Parallelized Simulated Annealing for Model Updating in Ad-Hoc Wireless Sensing Networks.....	341
<i>Andrew T. Zimmerman, Jerome P. Lynch (University of Michigan, USA)</i>	
Session 3: Efficient Data Delivery	
<i>Chair: Uwe Röhm, University of Sydney (Australia)</i>	
State-Filters for Enhanced Filtering in Sensor-based Publish/Subscribe Systems.....	346
<i>Salman Taherian, Jean Bacon (Cambridge University, USA)</i>	
The MicroPulse Framework for Adaptive Waking Windows in Sensor Networks.....	351
<i>Demetrios Zeinalipour-Yazti, Panayiotis Andreou, Panos K. Chrysanthis, George Samaras, Andreas Pitsillides (University of Cyprus, Greece)</i>	
Near Optimal Update-broadcast of Data Sets	356
<i>Sachin Agarwal (Deutsche Telekom A.G., Germany); Andrew Hagedorn, Ari Trachtenberg (Boston University, USA)</i>	
Energy-efficient Medium Access for Data Intensive Wireless Sensor Networks.....	361
<i>Zdravko Karakehayov, Niels Lervad Anderse (University of Southern Denmark)</i>	
Scalable Hybrid Routing in Very Large Sensor Networks	366
<i>Tao Wu, Subir Biswas (Michigan State University, USA)</i>	
2nd Workshop on Tools and Applications for Mobile Contents (TAMC 07).....	371
Image-identification Methods for Camera-equipped Mobile Phones.....	372
<i>Takehito Abe, Tomonori Takada, Harumi Kawamura, Takayuki Yasuno and Noboru Sonehara (NTT, Japan)</i>	
Isolating Transactions on Replicated Content Going Mobile.....	377
<i>J.E. Armendáriz-Iñigo, H. Decker and F.D. Muñoz-Escoí (Universidad Politecnica de Valencia, Spain)</i>	

A Wireless Sensor Network for Distribution Bus Protection	382
<i>Huang Xuyong, Miao Shihong and Liu Pei (Huazhong University of Science and Technology, China)</i>	
International Workshop on Mobile Service-oriented Architectures and Ontologies (MOSO).....	387
Towards Entity-centric Wide-area Context Discovery.....	388
<i>Florian Fuchs, Dominik Berndt, Georg Treu (Ludwig-Maximilians-University Munich, Germany)</i>	
Implementing OMA DRM using Web Services-An Approach to Integrate OMA DRM and Web Services on Mobile Units.....	393
<i>Lukas Grittner, Carsten Kleiner and Daniel Kadenbach (University of Applied Science Hannover, Germany)</i>	
Developing Mobile Ontologies; Who, Why, Where, and How?	398
<i>Jari Veijalainen (University of Jyväskylä, Finland)</i>	
A Framework and Tool for Personalisation of Mobile Services	402
<i>Ivar Jørstad (Ubisafe, Norway); Do van Thanh (Norwegian University of Science and Technology, Norway)</i>	
An Ontology Based Approach to Interaction Ambient Design	407
<i>Augusto Celentano, Andrea Okroglic and Fabio Pittarello (Universita Ca Foscari di Venezia, Italy)</i>	
Mobile Service Development and Deployment with Remotely Launched Service-oriented Mobile Agents.....	412
<i>Harve Paulino, Universidade Nova de Lisboa, Portugal</i>	