Table of Contents

Foreword by the General Chairs
Welcome from the Program Chairs
Conference Officers
Program Committee Members
External Reviewers
Sponsor List

=================================================================================

KEYNOTES

ExScal: A Perspective on Large Scale Wireless Sensor Networks
Anish Arora

The Changing Face of Web Search
Prabhakar Raghavan

=================================================================================

RESEARCH SESSIONS

Research Session 1: Context Awareness
Efficient Context-Aware Service Discovery in Multi-Protocol Pervasive Environments
Pierre-Guillaume Raverdy, Oriana Riva, Agnès de La Chapelle, Rafik Chibout, and Valérie Issarny

Discovering Causal Dependencies in Mobile Context-Aware Recommenders
Ghim-Eng Yap, Ah-Hwee Tan, and Hwee-Hwa Pang

Context Integration for Mobile Data Tailoring
C. Bolchini, C. Curino, F. A. Schreiber, and L. Tanca

Research Session 2: MANETs
Time Geography for Ad hoc Shared-Ride Trip Planning
Stephan Winter and Martin Raubal

An Efficient Resilience Mechanism for Data Centric Storage in Mobile Ad hoc Networks
Dominique Dudkowski, Pedro José Marrón, and Kurt Rothermel
On the Content Predictability of Cooperative Image Caching in Ad hoc Networks
Bo Yang, Ali R. Hurson, and Yu Jiao

**Research Session 3: Mobile Cooperation**

Cooperative Device Browsing through Portable Private Area Network
Yutaka Kidawara and Katsumi Tanaka

Ad-Hoc Collaboration Between Messengers: Operations and Incentives
Zakaria Maamar, Qusay H. Mahmoud, and Abdelouahid Derhab

Access Control and Privacy in Location-aware Services for Mobile Organizations
Maria Luisa Damiani and Elisa Bertino

**Research Session 4: Moving Objects**

Robust B+-Tree-Based Indexing of Moving Objects
Christian S. Jensen, Dalia Tiešytė, and Nerius Tradisūkas

LUGrid: Update-Tolerant Grid-based Indexing for Moving Objects
Xiaopeng Xiong, Mohamed Mokbel, and Walid G. Aref

k-Closest Pair Query Monitoring Over Moving Objects
Manli Zhu, Dik Lun Lee, and Jun Zhang

**Research Session 5: Mobile Broadcast**

Global Cache Management in Nonuniform Mobile Broadcast
Wei Wu and Kian-Lee Tan

Efficient Object Retrieval from Parallel Air Channels in the Presence of Replicated Objects
Padmapriya Ayyagari, Prasenjit Mitra, and Ali Hurson

Evaluation of Dual-Structure Key-Management Scheme Suitable for Mobile Services
Kazuhide Fukushima, Shinsaku Kiyomoto, and Toshiaki Tanaka

Update-Aware Scheduling Algorithms in Hierarchical Data Dissemination Systems
Adesola Omotayo, Moustafa Hammad, and Ken Barker
Research Session 6: Adaptation

u-Cam: A User-Driven Control Mechanism for Ubiquitous Cameras and Its Content Management
Shumian He, Yukiko Kawai, Yutaka Kidawara, Koji Zettsu, and Katsumi Tanaka

A Mobile Information Service Adapted to Vague and Situational Requirements of Individual
Sineenard Pinyapong, Hiroko Shoji, Akihiro Ogino, and Toshikazu Kato

A Rule-Based Approach to Content Delivery Adaptation in Web Information Systems
Roberto De Virgilio, Riccardo Torlone, and Geert-Jan Houben

Detecting the Sufficient Display Resolution for Image Browsing
Xin Fan, Xing Xie, and Wei-Ying Ma

Research Session 7: Sensor Networks (I)

CAR: Controlled Adjustment of Routes and Sensor Networks Lifetime
Goce Trajcevski, Oliviu Ghica, and Peter Scheuermann

Efficient Online State Tracking Using Sensor Networks
M. Halkidi, V. Kalogeraki, D. Gunopulos, D. Papadopoulos, D. Zeinalipour-Yazti, and M. Vlachos

Data Stream Query Optimization Across System Boundaries of Server and Sensor Network
Wolfgang Lindner, Holger Velke, and Klaus Meyer-Wegener

In-Network Data Processing for Wireless Sensor Networks
Yingwen Chen, Hong Va Leong, Ming Xu, Jiannong Cao, Keith C. C. Chan, and Alvin T. S. Chan

Research Session 8: Resource Management

Service Maps for Heterogeneous Network Environments
Dirk Kutscher and Jörg Ott
Efficient Querying and Resource Management Using Distributed Presence Information in Converged Networks
Dipanjan Chakraborty, Koustuv Dasgupta, and Archan Misra

Distributed Leader Election in P2P Systems for Dynamic Sets
Dominic Heutelbeck and Matthias Hemmje

Efficient Access to Wireless Web Services
Xu Yang and Athman Bouguettaya

**Research Session 9: Sensor Networks (II)**

Processing Precision-Constrained Approximate Queries in Wireless Sensor Networks
Minji Wu, Jianliang Xu, and Xueyan Tang

On In-network Synopsis Join Processing for Sensor Networks
Hai Yu, Ee-Peng Lim, and Jun Zhang

A Coverage-Based Maximum Lifetime Data Gathering Algorithm in Sensor Networks
Xiaoyuan Wang, Qing Zhang, Weiwei Sun, Wei Wang, and Baile Shi

**Research Session 10: Cellular Networks**

User Pattern Analysis in Cellular Systems
Xiang Li and Qing Li

Data Delivery System with Convergence of Terrestrial Digital Broadcasting and Communication for Cellular Phone
Arei Kobayashi, Toshiaki Uemukai, Atsushi Koike, and Satoshi Nishiyama

Nearly Lossless Audio Watermark Embedding Techniques to be Extracted Contactlessly by Cell Phone
Toshio Modegi

Data Dissemination to a Large Mobile Network: Simulation of Broadcast Clouds
Aslihan Celik, JoAnne Holliday, and Zachary Hurst
Research Session 11: Query Processing

BMQ-Index: Shared and Incremental Processing of Border Monitoring Queries over Data Streams
Jinwon Lee, Youngki Lee, Seungwoo Kang, SangJeong Lee, Hyunju Jin, Byoungjip Kim, and Junehwa Song

Window Query Processing with Proxy Cache
Xing Gao, John Sustersic, and Ali R. Hurson

To Broadcast Push or Not and What?
J. Beaver, P. K. Chrysanthis, K. Pruhs, and V. Liberatore

On Mining Moving Patterns for Object Tracking Sensor Networks
Wen-Chih Peng, Yu-Zen Ko, and Wang-Chien Lee

INDUSTRIAL PAPER SESSION
Macroscopic Structural Summarization of Road Networks for Mobile Traffic Information Services
Akinori Asahara, Shigeru Shimada, and Kishiko Maruyama

Context-Aware Information Provision to the Mobile Phone Standby Screen
Takeshi Nakatsuru, Koji Murakami, and Hiroshi Sakai

Developing a Web Crawler for Massive Mobile Search Services
Hiroshi Takeno, Makoto Muto, Noriyuki Fujimoto, and Kenichi Hagihara

DEMO SESSIONS
u-Cam: Ubiquitous Camera in Real World with User-Driven Control
Shumian He, Yukiko Kawai, Koji Zettsu, and Katsumi Tanaka

Photo-to-Search: Using Camera Phones to Inquire of the Surrounding World
Menglei Jia, Xin Fan, Xing Xie, Mingjion Li, and Wei-Ying Ma

Querying Moving Objects in SECONDO
Victor Teixeira de Almeida, Ralf Hartmut Güting, and Thomas Behr
P2P-Based Semantic Service Management in Mobile Ad hoc Networks
Peter Baumung, Stefan Penz, and Michael Klein

Security Management for Mobile Devices by Face Recognition
Yoshihisa Ijiri, Miharu Sakuragi, and Shihong Lao

ANNATTO: Adaptive Nearest Neighbor Queries in Travel Time Networks
Wei-Shinn Ku, Roger Zimmermann, Haojun Wang, and Trung Nguyen

Cell-Phone Based User Activity Recognition, Management and Utilization
Daisuke Morikawa, Masaru Honjo, Akira Yamaguchi, Satoshi Nishiyama, and Masayoshi Ohashi

Two Approaches to Browse LargeWeb Pages Using Mobile Devices
Takuya Maekawa, Takahiro Hara, and Shojiro Nishio

Self-Organizing Location Estimation Method using Ad hoc Networks
Yasuhisa Takizawa, Peter Davis, Makoto Kawai, Hisato Iwai, Akira Yamaguchi, and Sadao Obana

Wireless Information Sharing in Ubiquitous Environments
Satoko Itaya, Jun Hasegawa, Peter Davis, Naoto Kadowaki, and Sadao Obana

MobiREAL : Scenario Generation and Toolset for MANET Simulation with Realistic Node Mobility
Kumiko Maeda, Takaaki Umedu, Hiroyumi Yamaguchi, Keiichi Yasumoto, and Teruo Higashino

A User-Driven Device Handover System in PAN Environments
Eiji Kamioka, Shigeki Yamada, Shigeru Morifuku, Makoto Gozu, Shigeo Takifuji, and Makoto Okita

Location-Based Information Delivery Using Stream Processing Engine StreamSpinner
Shinichi Yamada, Yousuke Watanabe, Hiroyuki Kitagawa, and Toshiyuki Amagasa

An Energy-Aware Video Streaming System for Portable Computing Devices
Morihiko Tamai, Naoki Shibata, Keiichi Yasumoto, and Minoru Ito
Demonstration of a Cellular Phone Application Based on Context-Aware Group Formation
Kouji Nishigaki, Keiichi Yasumoto, Takaaki Umedu, Teruo Higashino, and Minoru Ito

A System for Analyzing Life Rhythm Using Wireless Sensors on Mules
Tomohiro Uchiyama, Yuichi Uehara, Masato Mori, Hiroki Saito, and Yoshito Tobe

u-PaV: Automatic Transformation of Web Content into TV-Like Video Content for Ubiquitous Environment
Akiyo Nadamoto, Tadahiko Kumamoto, Hiromi Uwada, Toru Hamabe, Makoto Yokozawa, and Katsumi Tanaka

A Real-World Event Search System in Sensor Network Environments
Takeshi Okadome, Takashi Hattori, Kaoru Hiramatsu, and Yutaka Yanagisawan

SEMINARS
TinyOS: An Open Operating System for Wireless Sensor Networks
Philip Alexander Levis
(Invited Seminar)

Data Access Techniques for Location-Based Services
Jianliang Xu, Baihua Zheng, and Wang-Chien Lee

Network-Aware Wireless Sensor Data Management
Vladimir I. Zadorozhny and Panos K. Chrysanthis

Author Index