Call for Papers

Elsevier Journal of Pervasive and Mobile Computing
Special Issue on
"Vehicular Sensor Networks and Mobile Sensing over Wide-Scale Deployment Environments"

The development of Vehicle-to-Vehicle (V2V) and Vehicle-to-Infrastructure (V2I) based Vehicular Ad hoc Networks (VANETs) is one of the most interesting and active research area nowadays, which is attracting significant efforts from both the industry and the academia, not only from the automotive and Intelligent Transportation Systems (ITSs) communities, but also from the fields of wireless and mobile sensor networks, smart environments, and mobile collaborative applications in general. In this context, many national and international collaboration projects currently ongoing practically demonstrate the relevant government, industry, and academia interest in the field.

In particular, Vehicular Sensor Networks (VSNs) are becoming increasingly interesting and popular due to recent advances in inter-vehicular communication technologies and decreasing cost of communication devices. Differently from traditional wireless sensor nodes, vehicles are not typically affected by energy constraints and can easily be equipped with powerful processing units, wireless communication devices, GPS, and sensing devices such as chemical detectors, still/video cameras, vibration and acoustic sensors. Thus, they enable brand new and promising sensing applications, such as traffic reporting, relief to environmental monitoring, distributed surveillance, only to mention a few promising (and not the most visionary) service provisioning scenarios.

The design, implementation, and deployment of dynamic, opportunistic, collaborative, scalable, efficient, reliable, robust, and secured mobile sensing applications for VSNs, especially over realistic and large-scale deployment environments such as municipalities, presents extraordinary challenges to the pervasive and mobile computing research community. This special issue intends to disseminate the latest research results in this emergent research area, by providing a fresh snapshot of the current state-of-the-art in VANETs, VSNs, and mobile sensing. To this purpose, we are seeking high-quality papers reporting original research results and practical experiences of system design/prototyping/deployment related to topics that include, but are not limited to:

- Original algorithms and protocols for VSN mobile sensing
- Original middleware and platforms for the support of VSN applications
- Case studies of mobile sensing applications over wide-scale urban environments
- Vehicular network architectures and protocols for mobile sensing
- Intra-vehicular sensor network and integration with (possibly legacy) embedded systems
- Efficient integration with wide-area networks and with municipal mesh networks
- Routing, addressing, and transport-layer issues for mobile sensing
- Efficient QoS support for quality-sensitive mobile sensing applications
- Delay-tolerant and real-time supports for VSN mobile sensing
- Data dissemination solutions for VSN mobile sensing applications
- Performance, scalability, reliability, and efficiency of VSN supports and applications

- Safety, enhanced navigation, and car alert supports/services
- Vehicular collision avoidance using distributed sensing technologies
- Human-machine interface for VSN mobile sensing applications
- Mobility models and vehicle traffic models
- Simulation aspects of V2V, V2I, and VSNs
- Emulation and testbeds for large-scale VSNs
- Practical experience with standards (802.11p, CALM, P1609, …), standard development and evolution
- Security, encryption, and privacy for VSNs

Submission process:
Authors should prepare and submit manuscripts according to the Guide for Authors as published in the Journal Web site at http://www.ees.elsevier.com/pmc/. Manuscripts must not have been previously published or currently under consideration for publication elsewhere. If a similar version of the paper has been published in a conference, the submitted version should contain significant additions/enhancements; in that case, authors are requested to submit their published conference articles and a summary document explaining the enhancements made in the journal version.

Important Dates:
- Paper submission deadline: October 30, 2010
- Notification to authors: March 15, 2011
- Submission of camera-ready versions of accepted manuscripts: April 15, 2011
- Special issue: August 2011

Guest Editors of the Special Issue:

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