

CFP: International Journal of Parallel, Emergent, and Distributed Systems - Special Issue on Information Retrieval in Sensor Networks

06/04/2008 17:16 by Web Master



Call for papers: Special Issue on Information Retrieval in Sensor Networks
[Journal for Parallel, Emergent, and Distributed Systems](#)

ISSN: 1744-5779 (electronic) 1744-5760 (paper), Publisher: Taylor & Francis

Important Dates

Submission deadline: 9/1/2008
Notification deadline: 11/15/2008
Camera-ready deadline: 1/1/2009
Publication: 2nd quarter, 2009 (tentatively)

Topics of Interest

We live in an era of natural and human-made disasters, such as global warming and terrorism, which can have devastating impacts on people's lives. It is best that we prevent these unwanted events from happening, but in many cases, little can be done. As important is the effort to detect the events, keep track of them and mitigate their impacts. Thanks to sensor technologies, which allow for cheaper sensors with increasing sensing capability, there is a growing trend of deploying sensor nodes in the physical world to form a network for monitoring events of interest.

Critical to such a sensor network is a functionality that allows for efficient storage and fast retrieval of information. There are two types of information retrieval: request/response and publish/subscribe. In request/response retrieval, the information that needs to be stored for later retrieval is the data readings produced by sensor nodes; the network returns with data only when it is requested by a user. In publish/subscribe retrieval, queries are subscribed to the network in advance so that a querying user can be notified when satisfactory data becomes available. The request/response model is suitable for applications that are interested in what already happened in the network, while the publish/subscribe model is for applications that want to be notified when a future event of interest occurs.

Despite various efforts, research on techniques that enable information retrieval for sensor networks is still in an infancy stage and mostly ad hoc. It is understandable, though. Compared to information retrieval systems already existing on the Internet, that designed for sensor networks poses unseen challenges due to limitations in sensor storage, processing, and communication capacities. Adding to the aforementioned issues is the curse of dimensionality. In practice, due to their sophistication, sensor events are usually identified by more than one attribute. Management of multi-dimensional data is already a difficult problem in information systems. Doing so under the resource constraints of sensor networks is even much harder.

This IJPEDS Special Issue solicits original contributions aimed to significantly advance the state of the art in the area of information retrieval in sensor networks. The topics of interest are listed below, but not limited to:

- Distributed MAC/networking/overlay protocols in support of information retrieval services for sensor networks
- Distributed storage and indexing in sensor networks
- Distributed data aggregation and query processing in sensor networks
- Impact of energy/failure/noise/ambiguity/mobility/privacy/security in design of information retrieval techniques in sensor networks
- Programming, simulation tools, and testbeds for information retrieval in sensor networks

- Case studies, implementations, and novel applications of information retrieval in sensor networks

Submission Guidelines

Manuscripts should be prepared following IJPEDS's [instructions](#) where both Word and Latex style templates can be downloaded. Using either template, the number of pages including all figures, tables, and references should not exceed 20 pages. Email the paper in PDF format to the guest editors. Submitted papers must not have been published or currently be under consideration for publication at another venue.

Guest Editors

Duc A. Tran, CS Dept., UMass Boston (duc@cs.umb.edu)

Jun Suzuki, CS Dept., UMass Boston (jxs@cs.umb.edu)

[Go back](#)