Workshop Abstract

Global Sensor Networks:
A Software Architecture for Wireless Sensor Networks and Other Wireless Devices

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Abstract: Although there a lot of research and improvement in electromechanical and performance aspects of WSN sensor devices and communication protocols but its integration with some well defined software framework and data dissemination and analysis is still a challenge. GSN (for Global Sensor Networks) is a software project that started in 2005 at EPFL in the LSIR Lab. The initial goal was to provide a reusable software platform for the processing of data streams generated by wireless sensor networks. The project was successful, and was later reoriented towards a generic stream processing platform. GSN acquires data, filters it with an intuitive, enriched SQL syntax, runs customisable algorithms on the results of the query, and outputs the generated data with its notification subsystem. GSN can be configured to acquire data from various data sources which include sensor motes, cameras, routers etc.. The high number of data sources in GSN allows for sophisticated data processing scenarios. In the unlikely event that your data sources are not supported, it is very easy to write a wrapper to make any hardware work with GSN. GSN offers advanced data filtering functionalities through an enhanced SQL syntax. It is assumed that the reader has some knowledge of the Standard Query Language (SQL). The working of WSN will be demonstrated with real crossbow motes and front end web applications in Java.