Technische Universität München
Network Architectures and Services
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05.06.2012

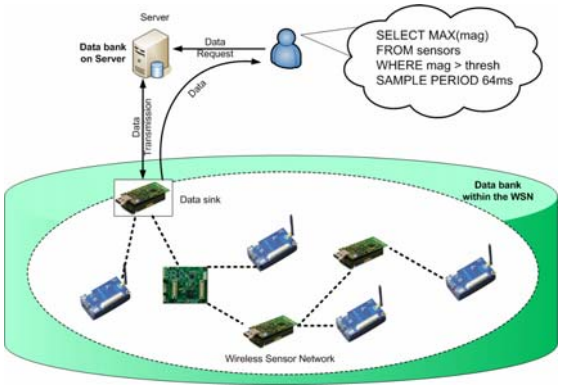
SEP / IDP
MA / BA

Development of a data management and storage solution for wireless sensor network

Motivation

The application range of wireless sensor networks rises together with the amount of collected data. In order to save the recorded data and to use the data independently of the real system for analysis purposes the data must be stored.
The established wireless sensor network infrastructure at our department works with the operating system TinyOS and uses the TinyIPFIX protocol for data collection and transmission. The used application is a building scenario where different environmental data (e.g. temperature, light, humidity, acoustic) is measured. Depending on the defined measurement intervals and application the amount of recorded data is huge. In order to allow an offline evaluation and/or visualisation of the data the recorded data must be stored efficient. The storage solution must include all needed information for the data interpretation and should allow an easy way to request a subset of the data.

Your task …



…will be the evaluation of existing data base solutions such as TinyDB or Flask for a first step. A data bank solution for the used operating system TinyOS 2.1.1 must be implemented and integrated into the existing infrastructure. The developed data base must be established within the wireless sensor network and on the server itself.
Currently the existing system can be configured and access by an existing graphical user interface. The implemented data base solution in this thesis should be integrated into the GUI additionally.
Finally the implementation should be evaluated.

Regulated by thesis type the complexity will be attached!

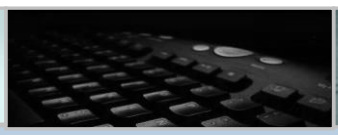
Requirements

- Knowledge of nesC and TinyOS a plus
- Integration into an existing implementation
- Knowledge of data base systems and SQL a plus

Keywords

Wireless Sensor Networks, Standardization, Database Management, SQL





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