

Evaluation of needs of Data gathering WSN Applications in MICS Projects

Questionnaire

Intention

The Sensor Network Platform Kit will be providing a demonstration application that is able to gather sensor data over a multihop network.

To get an overview of current demands on such an application in the MICS community, you are invited to fill out the following questionnaire.

Thank you for your time.

Questions

Name:

Project:

Network profile

How important are the following features for your application (QoS)

| | Not important | less important | more important | very important | |
|----------------------|--------------------------|--------------------------|--------------------------|--------------------------|---|
| Low latency | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | * |
| Low power / Lifetime | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | * |
| High bandwidth | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | * |
| Low packet loss | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Multi hop | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Multi sink | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

* If one of these points is important, specify an approximate target value:

What are the characteristics of the (sensor-) data traffic? (Multiple answers possible)

| | |
|-------------------|--------------------------|
| Bursts | <input type="checkbox"/> |
| Periodic traffic | <input type="checkbox"/> |
| Low data rate | <input type="checkbox"/> |
| High data rate | <input type="checkbox"/> |
| Unicast traffic | <input type="checkbox"/> |
| Broadcast traffic | <input type="checkbox"/> |
| Unidirectional | <input type="checkbox"/> |
| Bidirectional | <input type="checkbox"/> |

What is the expected size of the network?

Number of devices: About _____ nodes

Density: High (1/m²) Medium (0.1/m²) Low (0.01/m²)

Deployment

What terms describe the deployment scenario best? (Multiple answers possible)

| | |
|------------------------|--------------------------|
| Indoors | <input type="checkbox"/> |
| Outdoors | <input type="checkbox"/> |
| Short term (< 1 month) | <input type="checkbox"/> |
| Medium term | <input type="checkbox"/> |
| Long term (>1 year) | <input type="checkbox"/> |
| Mobile devices | <input type="checkbox"/> |

How important are the following features for network maintenance?

| | Not important | less important | more important | very important |
|------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Network reprogramming | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Runtime-configurable | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Network status queries | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Network reprogramming | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Sensor-data

Are data sanity checks reasonable for your application? Yes No

What is the needed accuracy of sensor data timestamps?

Order of seconds

Order of milliseconds

Order of microseconds

Event order preserving

Software / Hardware

What is your preferred node platform?

How familiar are you with the following WSN frameworks?

| | Never heard | Beginner | Advanced | Expert |
|------------|--------------------------|--------------------------|--------------------------|--------------------------|
| TinyOS 1.x | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| TinyOS 2.x | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Boomerang | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Remarks