

**Review Form: 1st International Workshop on
Services and Infrastructure for the Ubiquitous and Mobile Internet (SIUMI'05)**



SIUMI 2005

WEB MINDS

Columbus, Ohio,
USA, June 6th, 2005

In conjunction with the 25th Int. Conference on Distributed Computing Systems (**ICDCS'05**)

Paper Number: #17

Paper Title: Integrated context aware with sensor network

Authors: Qin Huaifeng et al.

Reviewer1:

| | | | | | |
|---|------------------------|----------------|--------------------------|--------------------|---------------|
| Familiarity Rate your familiarity with the topic | 1 | 2 | 3xx | | 4 |
| | Novice | Some knowledge | Familiar xx | | Expert |
| Significance Technical relevance and practicality of ideas in the paper | 1 xx | | 2 | 3 | |
| | Not significant | | Somewhat significant | Highly significant | |
| Novelty How original the problem and/or solution method is | 1 xx | | 2 | 3 | |
| | Not novel | | Somewhat novel | Highly novel | |
| Quality of Presentation Writing and presentation style/accuracy | 1 | | 2 xx | | 3 |
| | Poorly written | | Could be improved | | Well written |
| Overall Recommendation | 1 xx | 2 | 3 | 4 | 5 |
| | Strong reject | Weak reject | Weak accept | Accept | Strong accept |

Contributions

The paper addresses the integration of context information derived from a sensor network. The authors address a middleware engine via which some of the context information is processed and correlated to derive valuable information that will allow the sensor nodes to perhaps adapt and adjust its network.

Strengths and weaknesses

The concept of integrating context information within a sensor network is not novel. It has been addressed in various forms. Context information can take the form of location, pressure, environmental etc. The authors should look at work already done in this area of middleware engine and integration of context information.

The presentation of the material has to improve considerably. There are a lot of grammatical and sentence construction errors. It is difficult to understand the paper without reading it several times.

Detailed public comments

This paper needs considerable work. The work has to come to fruition by putting the ideas in a cohesive manner. The work itself has to look at other aspects of the middleware engine (high performance, scalability, monitoring and correlation engines). How does context affect the middleware engine in a unique way?

Reviewer2:

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|---|-----------------|----------------------|--------------------|--------|---------------|
| Familiarity 3 Rate your familiarity with the topic | 1 | 2 | 3 | 4 | |
| | Novice | Some knowledge | Familiar | Expert | |
| Significance 1 Technical relevance and practicality of ideas in the paper | 1 | 2 | 3 | | |
| | Not significant | Somewhat significant | Highly significant | | |
| Novelty 1 How original the problem and/or solution method is | 1 | 2 | 3 | | |
| | Not novel | Somewhat novel | Highly novel | | |
| Quality of Presentation 3 Writing and presentation style/accuracy | 1 | 2 | 3 | | |
| | Poorly written | Could be improved | Well written | | |
| Overall Recommendation 2 | 1 | 2 | 3 | 4 | 5 |
| | Strong reject | Weak reject | Weak accept | Accept | Strong accept |

Contributions

Discusses a lot about the need for sensor networks for being context-aware (which we know well: by the very definition of sensorial activities!!!). Short elaboration on a possible architecture for context-aware sensor network which is not implemented nor evaluated. The technical contribution is nearly void.

Strengths and weaknesses

There is not actual technical contribution in this paper.

Detailed public comments

The authors should first be aware that all work in sensor network concerns context.-awareness. SO I do not really see what's new in their concept of Context-aware sensor networks. If there is something new, they missed in outlining.

The system is not implemented, only a generic architecture is sketched, which is not enough for publication in IEEE proceedings.

The authors should consult the book edited by Victor Lesser and published by Kluwer where several "social" and "context-awareness" issues of sensor networks are developed in very interesting ways by a variety of authors.

Reviewer3:

| | | | | | |
|---|-----------------|----------------------|--------------------|--------|---------------|
| Familiarity 3 Rate your familiarity with the topic | 1 | 2 | 3 | 4 | |
| | Novice | Some knowledge | Familiar | Expert | |
| Significance 2 Technical relevance and practicality of ideas in the paper | 1 | 2 | 3 | | |
| | Not significant | Somewhat significant | Highly significant | | |
| Novelty 1 How original the problem and/or solution method is | 1 | 2 | 3 | | |
| | Not novel | Somewhat novel | Highly novel | | |
| Quality of Presentation 1 Writing and presentation style/accuracy | 1 | 2 | 3 | | |
| | Poorly written | Could be improved | Well written | | |
| Overall Recommendation 1 | 1 | 2 | 3 | 4 | 5 |
| | Strong reject | Weak reject | Weak accept | Accept | Strong accept |

Contributions

The issue addressed is how to construct a context-aware sensor network. Adapting to changes in the context of a sensor is important. However, the paper is just a research proposal. As indicated in the title, the paper only describes the “motivation” and “proposal”. The paper is not well written. And there is not much technical content in it.

Strengths and weaknesses

The major reason to reject this submission is: There is not much in it.

Detailed public comments

There are many weaknesses in this submission. (1) The paper is poorly written. Many sentences in the paper do not read. For example, the 1st sentence of the abstract, “...sensor nodes that integrating...” should be “...sensor nodes that integrate...” (2) In the 4th paragraph of Introduction, the authors argue that few of the existing self-adaptive solutions give a “systemic solution”. What is a “systemic solution?” Why is it so important? (3) Section 3 should have contained more content. More detailed elaboration is needed on how you are going to use role context, resource context, environment context, data context and task context.

Reviewer4:

| | | | | | |
|---|-----------------|----------------|----------------------|--------------------|---------------|
| Familiarity Rate your familiarity with the topic | 1 | 2 | 3 | (4) | |
| | Novice | Some knowledge | Familiar | Expert | |
| Significance Technical relevance and practicality of ideas in the paper | (1) | | 2 | 3 | |
| | Not significant | | Somewhat significant | Highly significant | |
| Novelty How original the problem and/or solution method is | (1) | | 2 | 3 | |
| | Not novel | | Somewhat novel | Highly novel | |
| Quality of Presentation Writing and presentation style/accuracy | 1 | | (2) | | 3 |
| | Poorly written | | Could be improved | | Well written |
| Overall Recommendation | (1) | 2 | 3 | 4 | 5 |
| | Strong reject | Weak reject | Weak accept | Accept | Strong accept |

Contributions

The authors propose a Context Aware Sensor Network (CASN) which shall bridge the gap between sensor networks and Context Aware programming. First, they provide an introduction into Sensor Networks and Context Aware Computing. Later, they define all sensor nodes participating in a Sensor Network as a “Sensor Society” and assign up to four roles (Listener, Sensor, Router, and Gateway) a sensor node can be in. Furthermore, they define six types of context (Role, Resource, Location, Environment, Data, Task) to be used within their CASN. They continue by describing the conceptual architecture and a overview of related work.

Strengths and weaknesses

The background and ideas presented in this paper are very shallow. The authors fail to give details on the design or the benefits of CASN.

Detailed public comments

The roles and context types are just mentioned without providing further information about their assignment within the framework. Furthermore, the author seem to lack the full comprehension of context aware computing despite the valid quotes from Dey and others. Implying that sensor nodes are the new users in Sensor Networks alone is, unfortunately, nothing novel. Any detail about context generation and context exploitation accompanied with appropriate algorithms would have been advisable.