

# Global Sensor Networks Status

## Integrating Heterogeneous Sensor Networks

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## Goals

- Short overview of Global Sensor Networks.
- New wrapper interaction feature.
- Hardware wrappers status.
- New visualization features and database support.
- Release information at sourceforge.

Software platform for :

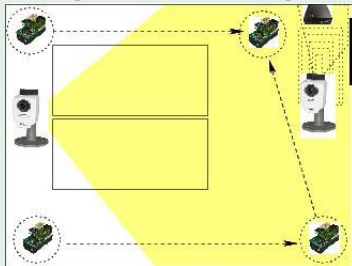
- Rapid deployment of sensor networks.
- Fast integration of heterogeneous sensor networks.
- On-the-fly modification of the sensor networks.
- Supporting heterogeneous sensor networks.
- Declarative configuration.
- Platform for implementing mobility.
- Integrated notification systems.
- Storage management.
- Various optimizations.

# Sensor Network Integration

The power of sensor networks is when one can *combine and correlate* information obtained from *multiple, possible heterogeneous* sensor networks.

## Example

4 Motes (Light and Temperature)[last 10 seconds], 1 RFID reader[last 1 value], 2 Wireless Cam[last 10 seconds]



```
SELECT camera WHERE  
(AVG(Temperature) > 30 OR  
RFIDReader.value NOT IN  
(SELECT TAG_ID  
FROM personnel  
WHERE personnel.lab = LSIR )  
)
```

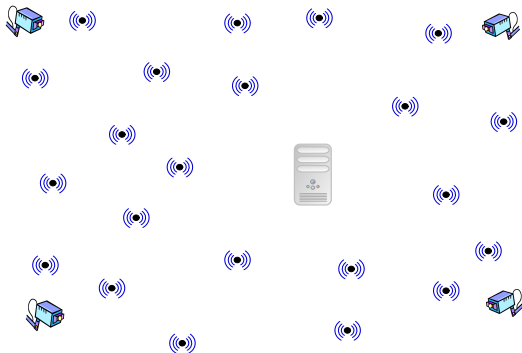
## Main new feature

Possibility of interaction between virtual sensors and the wrappers.

Now one can do the followings :

- Virtual sensor can interact with the sensors inside the sensor network.
- A virtual sensor can interact with the wrapper of another virtual sensor.
- Using web interface, one can interact with the sensors in the network.

# Wrapper Interaction Feature



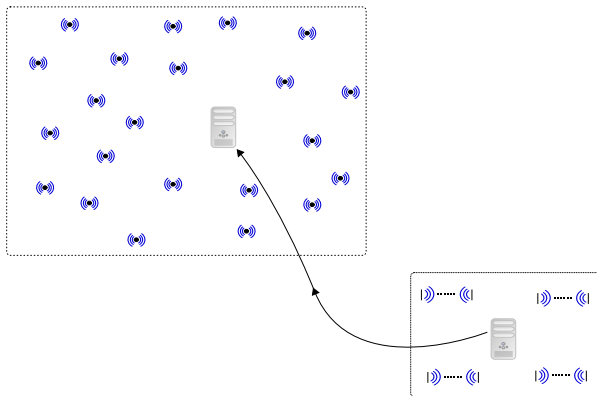
Virtual sensor interacting with **local** sensor network(s) :

Battery powered sound sensors and wired cameras.

Sound sensors should save energy.

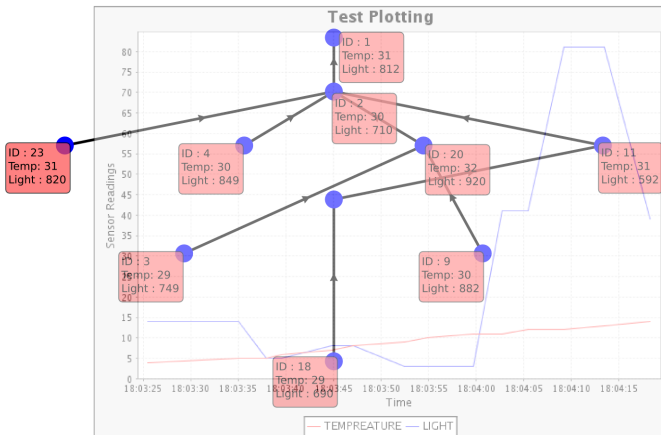
Camera detects a specific face which triggers the sound sensor network to turn on mote(s).

# Wrapper Interaction Feature



Virtual sensor which interacts with sensors in **remote** sensor network(s). A mote in one sensor network can trigger an event on a mote in another sensor network (Common API).

# Wrapper Interaction Feature



Web-interactive virtual sensor and visualization.



Existing and new wrappers :

- **New wrappers** : generalize serial port and UDP wrappers in addition to WiseNode Wrapper (Thanks to WiseNet team).
- **Previous wrappers**: TinyOS family motes (e.g., TinyNodes), TI-RFID readers, wireless (AXIS) and wired (OV511 & OV518) cameras.

# Other improvements

- Several bug-fixes plus support for MySQL in addition to in-memory database.
- Many performance improvements.
- Project is now in Sourceforge (<http://sourceforge.net/projects/globalsn>).

The screenshot shows the SourceForge project page for Global Sensor Networks. At the top, there is a navigation bar with links for SF.net, Projects, My Page, and Help. Below this is a secondary navigation bar with links for Software Map, Create Project, New Releases, Top Projects, New Projects, and Help Wanted. The main content area is titled "Global Sensor Networks" and includes a summary, a navigation menu (Admin, Home Page, Forums, Tracker, Bugs, Support Requests, Patches, Feature Requests, Mail, Tasks, Docs, Screenshots, News, CVS, Files), and a "Download Global Sensor Networks" button. The page also features sections for "Latest News" (no news at the current time), "Public Areas" (listing bugs, support requests, patches, feature requests, public forums, mailing lists, and CVS repository), and "Project Details" (listing project admins, developers, license, project name, registration date, activity percentile, and RSS feeds).

SourceForge .NET

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SF.net » Projects » Global Sensor Networks » Summary

## Global Sensor Networks

Summary | Admin | Home Page | Forums | Tracker | Bugs | Support Requests | Patches | Feature Requests | Mail | Tasks | Docs | Screenshots | News | CVS | Files

### About Global Sensor Networks

Global Sensor Networks project is an infrastructure for fast deployment and integration of heterogenous sensor networks. The project supports various types of sensors including TinyOS family motes, Wireless cameras, Wired Camera, ...

**Download Global Sensor Networks**

Project Admins: ali\_salehi  
Operating System: (None Listed)  
License: GNU General Public License (GPL)

#### Latest News

(No news at the current time)

#### Public Areas

Bugs : (0 open / 0 total)  
Bug Tracking System

Support Requests : (0 open / 0 total)  
Tech Support Tracking System

Patches : (0 open / 0 total)  
Patch Tracking System

Feature Requests : (0 open / 0 total)  
Feature Request Tracking System

Public Forums : (2 messages in 2 forums)

Mailing Lists : (0 total)

CVS Repository : (0 commits, 0 adds)  
Browse CVS

#### Project Details

Project Admins : ali\_salehi

Developers : 2

License : GNU General Public License (GPL)

Project UNIX name : globalsn

Registered : 2006-01-20 08:22

Activity Percentile (last week) : 63.74

[View project activity statistics](#)

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