Embedded WiSeNts

Overview of the Embedded WiSeNts European Coordination Action

Silvia Santini, 28.04.2005
Outline

- WiSeNts Project Description
- WiSeNts Goals
- ETHZ Contribution to the Project
What’s WiSeNts?

**Embedded WiSeNts**

“Cooperating **Embedded** Systems for Exploration and Control featuring **Wireless Sensor Networks**”

European bison → wisent

American bison
Embedded WiSeNts - Basics

European Coordination Action (FP6, IST)

12 partners from: Germany, Sweden, Netherlands, UK, Turkey, Italy, France, Switzerland (ETHZ)

September 1st, 2004 → August 31st, 2006

Industry Cooperation Board
Embedded WiSeNts - Goals

1. Research Integration

2. Research Roadmap

3. Dissemination

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http://www.embedded-wisents.org
Embedded WiSeNts - Goals

1. Research Integration

2. Research Roadmap

3. Dissemination
Dissemination

➡ Teaching
  • share experience
  • share teaching material (www)

➡ Students Mobility

➡ Events
  • Summer School

➡ Distinguished Visitors Program
Dissemination - Summer School

International Summer School on Wireless Sensor Networks and Smart Objects

Dagstuhl Castle, Germany, August 28-September 3, 2005

http://www.vs.inf.ethz.ch/events/dag2005/
Embedded WiSeNts - Goals

1. Research Integration

2. Research Roadmap

3. Dissemination
Research Roadmap

➢ Studies
• Application and Application Scenarios
• Paradigms for Algorithms and Interactions
• Vertical System Functions
• System Architectures and Programming Models

➢ Vision for Innovative Applications

➢ Research Roadmap preparation
ETHZ Contribution to the Study
“System Architectures and Programming Models”

Motivation

- Our background in infrastructure for distributed systems, ubiquitous computing and wireless sensor networks
- Traditional distributed programming abstractions cannot be simply applied to sensor networks
- Programming sensor networks: several different approaches within the sensor network community

Programming Models for Sensor Networks
Programming Models for Sensor Networks

Outline:

- **Database View** (TinyDB, Cougar)
- **Event Detection** (DSWare)
- **Spatial Programming** (Smart Messages)
- **Mobile Code and Mobile Agents** (SensorWare)
- **Region-based approach** (Abstract Regions, Hood)
- **Role-based Models** (Generic Role Assignment)
- **Virtual Markets** (MBM)
- **Virtual Machines** (Matè, MagnetOS)
- **Shared Information Space** (SWARMS)
Embedded WiSeNts - Goals

1. Research Integration

2. Research Roadmap

3. Dissemination
Research Integration

- Research Facilitation
  - Platforms and tools

- Distinguished Visitors Program

- Events
  - EWSN 2006
Research Integration - Platforms and Tools

- WiSeNts Platforms
- European Platforms
- Other Platforms

Survey Document
ETH Platform

BTnode rev3

www.btnode.ethz.ch
Research Integration - EWSN 2006

European Workshop on Wireless Sensor Networks

EWSN 2006
ETH Zurich, Switzerland
Feb 13-15, 2006

http://www.ewsn.org/?index
Thank you!