Teaching Assistant Demonstrator
- Contribution -

Jan Beutel, Michael Eisenring, Marco Platzner, Christian Plessl, Lothar Thiele
Computer Engineering and Networks Lab
Swiss Federal Institute of Technology (ETH) Zurich

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Reconfigurable Contribution

• Results that can be used in the demonstrator:
  – Simulator for reconfigurable CPU, considering performance, power and area
  – Exploration of different implementation alternatives
  – Prototype for alternative implementation of a wearable component using dynamically reconfigurable devices

• Expectations from other groups:
  – Clearly defined scenario including algorithms
Communication Contribution

• Bluetooth node for body area communication/sensors
  – Self contained BAN node with interfaces
  – Serial, IrDA, I2C, general purpose IO digital and analog, PCM

• Software for Bluetooth node
  – Lightweight real-time OS
  – Bluetooth protocol stack
  – Configurable multihop ad-hoc network
  – Drivers for different sensors/actors

• Software for host system
  – Protocol stacks and drivers for different communication interfaces
    (GSM, GPRS, IEEE 802.11a, IEEE 802.11b, Bluetooth)
  – Access to other networks

• Integrated cell based positioning service
  – Topological information (neighbors)
  – Near-Far distance resolution
Demonstrator Scenario Requirements

• Scenario:
  – Simple
  – Tasks and algorithms must be described in full detail
  – Essentially wearable (not portable, ubiquitous etc...)

• Architecture:
  – Distributed
  – Multiple actors/sensors
  – Multiple processing units
  – Adaptive configurable system architecture
  – Dynamic utilization/availability of components