

# EINLADUNG

## Informatik-Sonderkolloquium

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**TERMIN:** FREITAG, 23. SEPTEMBER 2005

**ORT/ZEIT:** HÖRSAAL HS B, 08.30 UHR

### CONTEXT AWARENESS AND REDUNDANT POSITIONING

#### Abstract:

Context, a major category in pervasively distributed systems, will become a tradeable commodity between cooperating service providers, with Quality of Context (QoC) delivering the required metrics. The definition of context itself has to be adapted to those new requirements.

Within context, Positioning has been a driving factor in the development of ubiquitous computing applications throughout the past two decades. Numerous devices and techniques have been developed - few of them are actually used commercially.

The precision is limited to specific applications, the availability limited to the provider of specific services.

Occasionally, few methods have been combined to recalibrate each other by means of data fusion. A novel architecture for processing the vast amount of location data from pervasive devices penetrating everyday objects provides a massive redundancy and synergy of different recognition principles.

Further location information can be inferred from infrastructure deployed for different purposes, only partly designed for positioning in the first place.

The massive redundancy of such nodes and the synergetic heterogeneity of completely different recognition principles allows to tailor the perceived positioning probability to the specific requirements of the target application. A self-learning and self-adapting approach to misleading, wrong and outdated pieces of information provides a new quality of interworking position and context aware systems.

Privacy and security issues are considered in particular for situations where different administrative domains are crossed, which would be commonplace in mobile computing with users roaming between domains (e.g. work, home) and engaging with a number of context-aware services (e.g. shopping, leisure, business).