

# A Context-Aware Multi-Agent System for Aml Environments

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Ambient Intelligence – or Aml – is an ubiquitous electronic environment that supports people in their daily tasks, in a proactive, but "invisible" and non-intrusive manner.

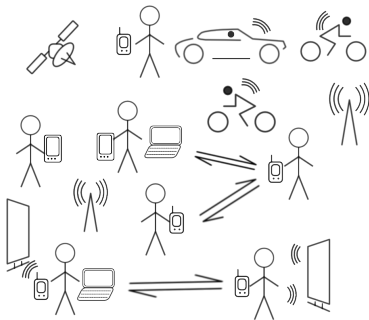
## ■ What is Aml?

■ Challenges

■ Layers

■ Approach

■ Research Steps



People · Devices · Communication

· How to make Aml **reliable** and **dependable**?

## ■ Introduction

### ■ Challenges of Aml

· How to **manage** the huge quantity of **information** generated by sensors and devices?

### ■ Layers

· How to provide only **interesting information** to the user in every situation?

### ■ Approach

### ■ Research Steps

· How to make Aml **privacy-aware** and **trustable**?



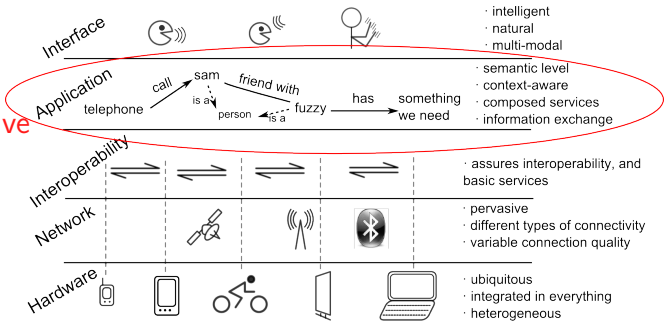
Introduction

Challenges

A Layered Perspective

Approach

Research Steps



■ Introduction

■ Challenges

■ Layers

■ Approach

■ Research Steps

## System Distribution

- decentralization
- reduced central components

## Self-Organization

- local interaction
- coherent global properties
- robustness & flexibility

## Multi-Agent Systems

- autonomy
- proactivity
- reasoning

## Context-Awareness

- detection of compatible contexts
- adaptivity and anticipation



## ■ Introduction

## ■ Challenges

- Develop a **multi-agent system based model** for Aml's application layer.

## ■ Layers

- Propose **scenarios** that emphasize the **requirements** of real-scale Aml.

## ■ Approach

- Develop a **simulation testbed** that implements the scenarios.

## ■ Research Steps

- Implement the developed model and **experiment** with the scenarios.



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Thank you!

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Any Questions?

