Agent-Oriented Computing: Agents & Multiagent Systems as a Paradigm for Building Complex Software Systems

Presentation

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Alma Mater Studiorum—Università di Bologna

Scuola di Dottorato in Ingegneria e Scienza dell’Informazione
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About the Lecturers

- aliCE Research Group at DEIS
  - agents, languages, infrastructures for Complexity Engineering
  - Located in Cesena and Bologna

- Members and contributors
  - Professors — E. Denti, A. Natali, A. Omicini
  - Researchers — A. Ricci, M. Viroli
  - Post-doc Associates — M. Casadei, A. Molesini, E. Oliva
  - PhD Students — S. Montagna, E. Nardini, A. Santi
Agents and Multi-Agent Systems Paradigm

Models, theories, architectures, languages, methodologies for modelling, designing, building complex systems

- artificial systems in general
- software systems in particular

General View

Modelling/designing/building systems as societies of autonomous entities called agents that interact and cooperate inside a common environment

- decentralisation of control & autonomy
- interaction & coordination
Bakery Metaphor
Objective of the Course

- Overview of the motivations and of the general concepts behind the notions of agents and MAS
- Some insight on Agent-oriented Computing
  - designing and programming software systems adopting an agent-oriented paradigm
**Structure of the Course**

- **Module 1** — Introduction (day 1)
- **Module 2** — Models (day 1)
- **Module 3** — Agent-Oriented Software Engineering (day 2)
- **Module 4** — Programming Agents and Multi-Agent Systems (day 3)
- **Module 5** — Applications and Wrap-up (day 4)
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