Multiagent Systems

0. Organization

B. Nebel, C. Becker-Asano, S. Wölfl

Albert-Ludwigs-Universität Freiburg

30th of April 2014

Organization

Lectures & tutorials: when and where

Lectures

Wednesday, 4pm c.t.-6pm, and Friday, 2pm c.t.-3pm
Building 051, HS 02-026

Tutorials

Friday, 3pm c.t.-4pm
TBA

Pfingstpause

10th of June until 14th of June 2014

Last lecture/tutorial

1st of August 2014

Website

www.informatik.uni-freiburg.de/
~ki/teaching/ss14/multiagent-systems

Lecturer

Prof. Dr. Bernhard Nebel

Büro: Gebäude 052, Raum 00-029
Telefon: 0761/203-8221
E-mail: nebel@uni-freiburg.de
Web: www.informatik.uni-freiburg.de/~nebel
Sprechstunde: Di 12-13 Uhr und nach Vereinbarung (E-mail)

Assistants

Dr. Christian Becker-Asano

Büro: Gebäude 052, Raum 00-042
Telefon: 0761/203-8251
E-mail: basano@informatik.uni-freiburg.de
Web: www.informatik.uni-freiburg.de/~basano
Sprechstunde: Di 13-14 Uhr und nach Vereinbarung (E-mail)

Dr. Stefan Wölfl

Büro: Gebäude 052, Raum 00-043
Telefon: 0761/203-8228
E-mail: woelfl@informatik.uni-freiburg.de
Web: www.informatik.uni-freiburg.de/~woelfl
Sprechstunde: Di 13-14 Uhr und nach Vereinbarung (E-mail)

Tutors

Andreas Hertle

Büro: Gebäude 052, Raum 00-045
Telefon: 0761/203-8219
E-mail: hertle@informatik.uni-freiburg.de
Web: www.informatik.uni-freiburg.de/~hertle
Sprechstunde: Di 13-14 Uhr und nach Vereinbarung (E-mail)

Dr. Christian Becker-Asano

Büro: Gebäude 052, Raum 00-042
Telefon: 0761/203-8251
E-mail: basano@informatik.uni-freiburg.de
Web: www.informatik.uni-freiburg.de/~basano
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Tutorials (Übungen)

- At least one hour tutorial per week, sometimes two hours
- Tutorials start on Friday, May 9th
- Participation strongly encouraged
- Sign up by internet (HIS-LSF or HIS-QIS)
- Friday, May 2nd: lecture

Exercise sheets

- New exercise sheets on Fridays, watch the website
- Hand in solutions on Friday, before 2pm
- Solutions can be given in English and German
- Students can work in pairs and hand in one solution
- Larger groups and copied results will not be accepted

Examination

- An oral or written examination takes place in the semester break.
- The examination is obligatory for all Bachelor/Master/ACS Master students.
- **Admission to the exam:** necessary to have reached at least 50% of the points on exercises and implementation projects.

Course prerequisites & goals

Goals

- Acquiring skills in the modelling of MAS
- Understanding the basic principles behind current MAS technologies
- Being able to read and understand research literature in the area of MAS
- Being able to complete a project in this research area

Prerequisites

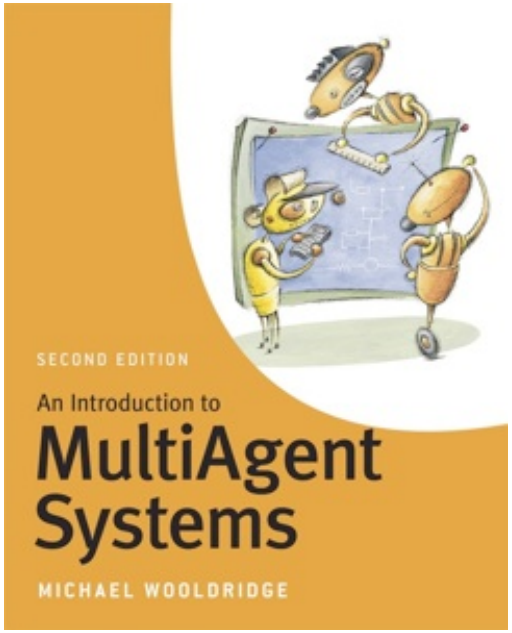
- Basic knowledge of AI techniques
- Basic knowledge in OOP/Java

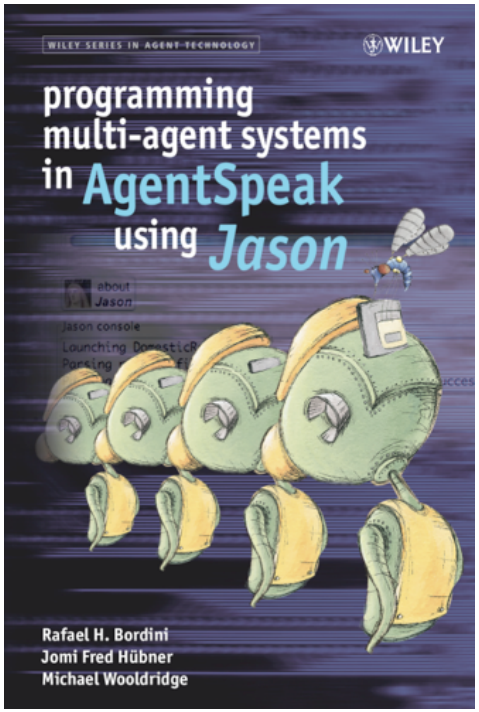
Topics of the lecture

- Organization & Introduction to MAS
- Abstract agent architectures
- Deductive reasoning agents
- Practical reasoning agents
- Reactive and hybrid agent architectures
- Logics for multiagent systems
- Agent communication & ontologies
- Multiagent interactions
- Social choice
- Coalition formation
- Resource allocation
- etc.

Literature

- Michael Wooldridge: **An Introduction to MultiAgent Systems**, John Wiley & Sons, 2nd edition 2009.
- Rafael H. Bordini, Jomi Fred Hübner, Michael Wooldridge: **Programming Multi-Agent Systems in AgentSpeak using Jason**, Wiley, 2007.





Acknowledgments/Resources

The lecture slides are partly based on slides developed by Dr. Michael Rovatsos, The University of Edinburgh, for his lecture on “Agent-based systems” used with permission.