

Multi-Agent Systems

– Syllabus –

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“Web Intelligence” Master — September 2014

Content

- Existing models defining multi-agent oriented programming paradigm: Agent, Interaction, Environment, Organisation Models
- Existing programming languages and platforms supported by these models
- Special focuses on:
 - A Multi-Agent Oriented Programming Approach and Platform
 - Multi-Agent Based Simulation

Objective

- To get a brief overview of the multi-agent systems research domain
- To understand the problems, the questions that are addressed in this domain
- To practice existing multi-agent technologies
- To acquire some skill in multi-agent oriented programming

“Web Intelligence” Master, September 2014

2 / 6

Timings

- September 25, 2014:
 - 8h00-10h00: Introduction, Multi-Agent Programming, *JaCaMo* Platform – Agents' models & *Jason*
 - 10h00-12h00: Agent Oriented Programming – Practical Work on *JaCaMo* [*Jason*]
- October 02, 2014:
 - 8h00-10h00: Distributed Problem Solving
 - 10h00-12h00: Distributed Problem Solving – Practical Work
- October 09, 2014:
 - 8h00-10h00: Environment Oriented Programming – Environments' models & *CARTAGO*
 - 10h00-12h00: Environment Oriented Programming – Practical Work on *JaCaMo* [*CARTAGO*]
- October 23, 2014:
 - 8h00-10h00: Organisation Oriented Programming – Organisations' models & *MOISE*
 - 10h00-12h00: Organisation Oriented Programming – Practical Work *JaCaMo* [*MOISE*]

Timings (Continued)

- November 13, 2014:
 - 8h00-10h00: Distributed Problem Solving – Practical Work
 - **Practical Work PW_{DPS} counts for the evaluation.**
 - **Practical Work finishes at the end of the session.**
 - 10h00-12h00: Interaction Oriented Programming – Interactions' models
- November 20, 2014:
 - 8h00-10h00: Multi-Agent Based Simulation
 - 10h00-12h00: Multi-Agent Based Simulation – Practical Work
- End of January 2015:
 - **Practical Work PW_{MAOP} is due at that time and counts for the evaluation.**
 - **Evaluation of Theoretical Work.**

Grading Policy

- DPS Practical Work (PW_{DPS}), MAOP Practical Work (PW_{MAOP})
- Oral Presentations (OP) : by group of 2, study of a research paper, oral presentation of 20 min. + 5 min. of questions/answers
- $\text{Grade} = ((PW_{DPS} + 2 * PW_{MAOP})/3 + 2 * OP)/3$