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Agents and Multiagent Systems

Academic Year: (2023 / 2024) **Review date: 22-05-2023**

Department assigned to the subject: Computer Science and Engineering Department

Coordinating teacher: CARBO RUBIERA, JAVIER IGNACIO

Type: Electives ECTS Credits : 3.0

Year : 1 Semester : 1

REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

Programming

OBJECTIVES

The goal of the subject is to provide the student with enough ability and knowledge about agents and multiagent systems through its application on a board game. These kind of games often have distributed nature, require privacy, intelligence and planning. In order to achieve such goal, students have to acquire understanding of agents.

DESCRIPTION OF CONTENTS: PROGRAMME

- Introduction to agents: basic concepts and its role in actual AI.
- Identifying key aspects of a problem domain from the agent perspective: Designing an agent system
- Communication and coordination among agents: FIPA
- Intelligence of agents: BDI
- Electronic Institutions: Norms and obligations.

LEARNING ACTIVITIES AND METHODOLOGY

Learning activities:
* Theoretical lectures: Mainly oriented to the acquisition of the theoretical knowledge of the subject' competences
* Practical lectures: Mainly oriented to problem solving.
* Partial exams: Oriented to prove the understanding of theoretical lectures
* Practical teamwork: Oriented to prove the understanding of practical lectures, and towards the competences related to work in teams in a practical case.
organization and written communication (in written reports)
* (online or onsite) Personal Tutoring (asked by email in advance)
Methodology:
* Oral lectures in classroom
* Teamwork
* Problem solving

ASSESSMENT SYSTEM

The final score of both the ordinary and the extraordinary evaluations is computed from combining the scores obtained by the students both in their practical teamwork and the partial exams. The computation takes the form of a weighted sum with the following weights:
2 Practical teamwork: 66.66% (33.3 each one) in weeks 4 and 7.
2 Partial exams: 33.33% (16.66 each one) in week 5 and in the final exam day (but it is a partial exam, not a final one)
Minimal grade in any part: None

% end-of-term-examination: 0

% of continuous assessment (assigments, laboratory, practicals…): 100

BASIC BIBLIOGRAPHY

- Gerhard Weiss MultiAgent Systems, MIT Press, 2013

- Michael J. Wooldridge Reasoning about rational agents, MIT Press , 2000

- Michael J. Wooldridge An introduction to multiagent systems, John Wiley & Sons , 2002