Purposive Multi-Agent Systems

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resumen:

Multi-agent systems (MAS) have now existed for more than 20 years… In the first 10 years, the community was asked to build usable MAS… In the following 10 years, it was asked to build useful MAS… It is now time to build MAS that are regularly used. This mainly concerns specifying: the purpose of the domain, and the purpose of the user. In this lecture, we will first discuss the VOWELS paradigm (Agent, Environment, Interaction, Organisation) as was introduced for design purposes in the 90's. We show how it has evolved from design to programming to contribute to the trend of multi-agent oriented programming. Such a traditional way of design and programming multi-agents has been highly successful and we illustrate this with two examples from geographical information systems and reconfigurable modular robotics. We then focus on the purpose of the domain and show how the design of MAS can be so different moving from computer science to economic sciences. The evolution of the MAS paradigm beyond that is questionable. We then focus on the purpose of the user. The user has been highly neglected in the design of MAS for the last 20 years. He or she should take a better place. We will discuss the role of the user within the VOWELS paradigm and in interactive games. We will illustrate it through two examples in playware and artistic creation. Playing with the vowels and including the user is not only an exercise; it also contributes to the evolution of computing towards creativity concerns, and more generally to the service to the person. This line of thought is driving our work agenda for the next years as well as pushing the MAS community towards practical applications.

sobre Yves Demazeau

Yves Demazeau is currently Director of Research at CNRS and External Professor at the Faculty of Science and Engineering of the University of Southern Denmark since 2002. He is member and the coordinator of the MAGMA research group on Multi-Agent Systems at the LIG Computer Science Laboratory in Grenoble, and external member of the Maersk Mc-Kinney Moller Institute in Odense since its creation in 1997.

Yves Demazeau has been active in the research and development of Multi-Agent Systems (MAS) for 23 years the introduction of interaction protocols for Agent Communication Languages as adopted by the FIPA, the introduction of the concept of organisations as a ground component of MAS, and the overall VOWELS multi-agent oriented framework. He is also well known for the large-scale and original applications in various domains: autonomous robotics, computer vision, language processing, geographical information systems, telecommunications, interactive games, artistic creation and web intelligence.

Since March 2004, Yves Demazeau has expanded his research to more general Artificial Intelligence issues. His current basic research activities in Artificial Intelligence address four themes: trust and privacy, MAS dynamics, MAS evaluation, user centring. Applications are also at number of four: agenda agents, service to the person, artistic creation, and production management.