CALL FOR CHAPTER PROPOSALS

Proposal Submission Deadline: August 31, 2009
Full Chapter Submission Deadline: November 15, 2009

*Multi-Agent Systems for Education and Interactive Entertainment: Design, Use and Experience*

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To be published by IGI Global: http://www.igi-global.com/requests/details.asp?ID=675
Further details may be obtained from the book website: http://www.windmill-cottage.net/meie10

**Introduction**

Interest in the role of artificial intelligence in interactive systems has grown rapidly in recent years, in part because increasingly powerful consumer hardware makes research-level AI usable in real-world games and/or immersive learning environments. Accompanying this, there has been a sharp escalation in the number of research questions related to the use of agent technologies to shape human experiences in complex environments. A number of tensions accompany the use of agents in these contexts, since the goal is not to simulate autonomous agents for their own sake, but to use them to create an interactive experience with a pre-defined goal for the human user: either to learn a curriculum or to experience an engaging and rich world (or both, in the case of "edutainment"). Unlike fully author-controlled experiences such as films and plays, or fully scripted computer-aided instructional systems, dynamic interactive experiences require a world that can appropriately and meaningfully respond to the user—a natural fit for intelligent and believable agents. At the same time, however, system designers want to shape users' experiences, presenting new research challenges to address the interplay between player autonomy and designer intent. Thus, within this area of research, there is a design space that ranges from complete autonomy for agents to complete control for an agent coordinator. One of the goals of the International Workshop on the Educational Uses of Multi-Agent Systems was to foster a dialog among researchers who are exploring the complex tradeoffs that must be made in designing agent systems for education and interactive entertainment, and especially to bring together researchers focusing on autonomous multi-agent systems with those focusing on more centralized agent coordination for this problem.

There is therefore a need for a published collection of current articles in this area.

**Objective of the Book**

The developing education in the field, over the last few years has seen both researchers and educators:

- develop introductory and follow-up courses on multi-agent systems,
- implement platforms and tools to be used in such courses,
- explore other areas in which the technology can provide innovative learning and entertainment opportunities
- prepare a number of text books, including a number that are now widely used and
- investigate the use of this technology in other curriculum and entertainment areas either to aid subject learning or to assist with other learning issues.

The increased sophistication of the multi-agent software now becoming available is allowing much more sophisticated learning scenarios to be attempted. This book aims to provide a mixture of relevant theoretical and practical understanding of the use of multi-agent systems in educational and entertainment research, together with practical examples of the use of such systems in real application scenarios. It will be written for teachers, producers, directors and other professionals who want to improve their understanding of the opportunities offered by the use of multi-agent systems in teaching and entertainment scenarios of all types.

We anticipate acceptance of papers to be split between edutainment, entertainment (non-learning) and learning (non-entertainment) areas, between the theoretical and applied communities, and addressing users of various ages (from children to adults).

Target Audience
The target audience of this book will be composed of teachers, other professionals and researchers working in the field of Computer Science and related disciplines. The interdisciplinary nature of this work involves research into human vision, cognition, intelligent systems, user interface design, graphics and machine learning. This book is potentially of interest to researchers and developers from, but not restricted to, the following fields, within the context of human learning:

- Knowledge Acquisition
- Knowledge Based Reasoning
- Human Computer Interaction
- Case-Based Reasoning
- User Modelling
- Storytelling/Narrative Engines
- Scenario Analysis
- Game Development
- (Immersive) Virtual Reality/Environment
- Cognitive, Emotion and Personality Modelling
- Embodied Agents
- Language Technology including Speech, Linguistics, Dialogue
- Multi-Agent Environments and Social Systems

It will also be of considerable interest to those working in subjects where multi-agent systems can provide valuable learning tools and experiences such as biological and social sciences, medicine, epidemiology, etc., and where such systems can provide effective and continuing support, such as accessibility.

Recommended topics include, but are not limited to, the following:
- Educational resources, including syllabi, assignments, project ideas, and pedagogical strategies, related to teaching multi-agent systems in post-secondary environments
- Multi-disciplinary curricula highlighting the application of multi-agent in other contexts (computational biology, algorithmic game theory, computational economics, etc.) and/or the theoretical concepts of roots of multi-agent systems from other fields (philosophy, economics, linguistics, psychology, etc.)
• The use of robotics and other tangible media both in multi-agent courses and elsewhere in the curriculum

• Software that assists the teaching/learning process - everything from software to help construct multi-agent systems, simulate cooperative environments, manage trading games to software substrates that can be used by students to do projects including: models of agency and control, levels of agent autonomy, models of user autonomy and control

• Use of multi-agent technology to assist in novel educational and entertainment situations, such as the development of: cognitive, social and emotion models, believable and engaging agents/environments, novel approaches to drama management and/or comparisons of existing approaches and evaluation methodologies

• Resources and strategies for teaching specific multi-agent sub-areas or topics: negotiation, robotics, simulation, robotics, game playing, and many others

• Strategies for appropriately situating multi-agent systems within a wider CS curriculum

• Ways to incorporate or address popular entertainment and media portrayal of multi-agent systems (in games, movies, news, advertisements, new products, etc.)

• Real-world examples of successful multi-agent deployments, described in sufficient detail to provide case studies and/or serve as useful springboards for other practitioners innovative applications of MAS

• Innovative means for integrating research as part of coursework in multi-agent systems

• Ethical issues in the use of intelligent multi-agent systems in educational and entertainment contexts

Submission Procedure

Researchers and practitioners are invited to submit on or before August 31, 2009, a 2-3 page chapter proposal clearly explaining the mission and concerns of his or her proposed chapter. Authors of accepted proposals will be notified by September 30, 2009 about the status of their proposals and sent chapter guidelines. Full chapters are expected to be submitted by November 15, 2009. All submitted chapters will be reviewed on a double-blind review basis. Contributors may also be requested to serve as reviewers for this project.

Publisher

This book is scheduled to be published by IGI Global (formerly Idea Group Inc.), publisher of the “Information Science Reference” (formerly Idea Group Reference), “Medical Information Science Reference” and “IGI Publishing” imprints. For additional information regarding the publisher, please visit www.igi-global.com. This publication is anticipated to be released in late 2010.

Important Dates

August 31, 2009: Proposal Submission Deadline
September 30, 2009: Notification of Acceptance
November 15, 2009: Full Chapter Submission
January 31, 2009: Review Results Returned
March 1, 2010: Revised Chapter Submission
March 15, 2010: Final Acceptance Notifications
March 31, 2010: Final Chapter Submission

Inquiries and submissions can be forwarded **electronically** (Word document) through the following web site:

http://www.easychair.org/conferences/?conf=meie10

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