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Authoring of Adaptive and Adaptable Hypermedia

J.UCS Special Issue

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Authoring of Adaptive Hypermedia has been long considered as secondary to adaptive hypermedia delivery. However, authoring is not trivial at all. There exist some approaches to help authors to build adaptive-hypermedia-based systems, yet there is a strong need for high-level approaches, formalisms and tools that support and facilitate the description of reusable adaptive websites. Only recently have we noticed a shift in interest, as it became clearer that the implementation-oriented approach would forever keep adaptive hypermedia away from the 'layman' author. The creator of adaptive hypermedia cannot be expected to know all facets of this process, but can be reasonably trusted to be an expert in one of them. It is therefore necessary to research and establish the components of an adaptive hypermedia system from an authoring perspective, catering for the different author personas that are required. This type of research has proven to lead to a modular view on the adaptive hypermedia.

Authoring adaptive and adaptable hypermedia is, as mentioned, an extremely difficult task, and researchers from around the world are investigating different ways to facilitate it. This subject is important enough that a series of workshops, called A3H (Authoring of Adaptive and Adaptable Hypermedia) and dealing with this specific topic, have been successfully held during the last few years: A3H at User Modeling 2007 (UM'07); A3H at Adaptive Hypermedia 2006 (AH'06), in Dublin; at the 12th International Conference on Artificial Intelligence in Education (AIED 2005), in Amsterdam; at Adaptive Hypermedia 2004 (AH'04), in Eindhoven; and at the IASTED International Conference on Web-Based Education (WBE 2004), in Innsbruck. The best papers from this series of workshops are invited to re-submit to special issues, and go through a process of extensions, improvement, and thorough peer reviewing.

The current special issue is addressing authoring of adaptive hypermedia, by analyzing aspects of it together with topical subjects such as:

- Intelligent tutoring systems, authoring systems, constraint-based modeling, domain models, Ontology, represented by the paper: *ITS Domain Modelling with Ontology*, by Brent Martin, Antonija Mitrovic and Pramuditha Suraweera

- Authoring support, adaptive educational hypermedia, data mining applications, represented by the paper *Improving AEH Courses through Log Analysis*, by César Vialardi, Javier Bravo and Alvaro Ortigosa
- Authoring; Adaptive Educational Hypermedia; CAF (common adaptation format); Evaluation; Metadata; RDF; Semantic Desktop; Semi-automatic adding, represented by the paper *A Waterfall Model for Adding Automatic, Adaptive Authoring to Adaptive Hypermedia*, by Maurice Hendrix and Alexandra Cristea
- Sequencing Graph, IMS Learning Design, translation, sequencing represented by the paper *Authoring Courses with Rich Adaptive Sequencing for IMS Learning Design*, by Sergio Gutierrez, Abelardo Pardo and Carlos Kloos
- Hypermedia Authoring, Collaboration, Ambient Intelligence, Active Spaces, Task Scheduling, Social-aware computing represented by the paper *Authoring Social-aware Tasks on Active Spaces*, by Roberto F. Arroyo, M. Gea, J.L. Garrido, Pablo A. Haya and Rosa M. Carro
- Metadata and Learning, Learning Objects, Learning Activities, Learning Design, Semantic Web, Pedagogy guidelines, Educational standards, Design templates, Adaptive eLearning, User Modelling represented by the paper *A Standards-based Modelling Approach for Dynamic Generation of Adaptive Learning Scenarios*, by Jesus G. Boticario and Olga C. Santos
- Hypermedia systems, Adaptive Hypermedia, Adaptive Educational Hypermedia, Culture, Cultural Education, CAE, represented by the paper *Authoring & Culture in Online Education*, by Craig Stewart
- Adaptive environments, Authoring tools, E-Learning, Game based learning, represented by the paper *Creating Adaptive e-Learning Board Games for School Settings Using the ELG Environment*, by Symeon Retalis

Thus, design (via ontologies), analysis (via logs), automation, IMS-LD and other standards connections, social and cultural aspects, and game technology approaches are presented in this special issue, showing once again the many facets of authoring for personalization and adaptation. The special issue editors would like to extend their thanks to authors, reviewers (who took their task very seriously and returned many useful comments that helped in improving the quality of the papers) and the JUCS editorial team, for keeping us on track.

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