JIME Special Issue Contents

Adaptation and IMS Learning Design

There is clear trend for everything to be focused on the individual. In the professional market there is strong demand for freelancers able to work alone, with minimal interaction with a root group. Home residences become the workplace. Internet, DSL connections and more powerful and versatile hardware and software all facilitate this trend. Furthermore there is an evolution in personal attitude; self-organization is becoming more and more important and fixed timetables rarer.

In this context, personalized learning, or adaptive learning, is increasing its presence, influence and need. Individuals not only work alone or in collaborative environments but isolated in distance. Individuals must also learn along with work, at the workplace, within a tight schedule. Every person develops different skills, aptitudes, knowledge and interests in his/her life. They each aim at different objectives and have their own personal and professional environment that shapes his/her learning environment. Learning should be aware of these constraints and requirements. Learning should be adapted and adapting to each environment. Therefore, personalized learning becomes a direct answer for specific needs where everything can be adapted: content, style, methodology, itinerary, evaluation, and so on.

IMS Learning Design is an eLearning specification able to model different types of adaptation. In addition, several European projects and international research groups are working with it such as the projects ProLearn, TENCompetence, EU4ALL; the Learning Management Systems .LRN, Moodle, LAMS; the universities Open University of The Netherlands, University of Bolton, Complutense University, UNED, Carlos III University, Open University of United Kingdom; and the companies ATOS Origin, IMC, Giunti Labs. Many of these have contributed to this Special Issue. A common aim is to simplify the authoring and running processes to create and execute Units of Learning. With the goal for best interoperability among systems, notations and specifications that encourage a major focus on the learning process itself no matter what technology an end user could use.

In this Special Issue we approach personalization from several views, in each case addressing aspects of adaptive learning and IMS Learning Design. From user modelling to semantic services through educational games, there are a broad range of topics in these seven selected papers. These articles were initially invited by the guest editor, aware of the high-level research of the authors and their work teams. They fit into a common framework: adaptive learning and IMS Learning Design. We hope this special issue brings to the fore these two hot topics on the research panorama in Educational Technology.

Last, I personally thank Patrick McAndrew for his kind and effective support on making this special issue.

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An open IMS-based user modelling approach for developing adaptive learning management systems
Jesus G. Boticario and Olga C. Santos

Context-Adaptive Learning Designs by Using Semantic Web Services
Stefan Dietze, Alessio Gugliotta and John Domingue

Generative Adaptation and Reuse of Competence Development Programmes
Juan Manuel Dodero, Telmo Zarraonandia, Camino Fernández and David Díez

Adaptive Units of Learning and Educational Videogames
Pablo Moreno-Ger, Pilar Sancho Thomas, Iván Martínez-Ortiz, José Luis Sierra and Baltasar Fernández-Manjón

Leveraging the Semantic Web for Adaptive Education
Miloš Kravčík, Dragan Gašević

Implementation of a Learning Design Run-Time Environment for the .LRN Learning Management System
Jose Pablo Escobedo del Cid, Luis de la Fuente Valentín, Sergio Gutiérrez, Abelardo Pardo and Carlos Delgado Kloos

Modeling Adaptive Educational Methods with IMS Learning Design
Marcus Specht and Daniel Burgos