Guest Editorial Preface

Social and Personalized Learning in Web-Based Environments

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The advent and omnipresence of information systems has a great impact on society in general and the education in particular. In the world of pervasive Internet, learners are also evolving: the so-called “digital natives” want to be in constant communication with their peers, they expect an individualized instruction and a personalized learning environment, which automatically adapts to their individual needs. In this context, the present special issue deals with new trends and challenges of social and personalization aspects in Web-supported learning communities.

The issue comprises extended versions of best papers from the 2nd International Workshop on Social and Personal Computing for Web-Supported Learning Communities (SPeL 2009), held in conjunction with WI-IAT ‘09 (The 2009 IEEE / WIC / ACM International Joint Conferences on Web Intelligence and Intelligent Agent Technology), 15 – 18 September 2009, Milan, Italy. The workshop aimed to address research in the area of e-learning, social networks and Web personalization, focusing on the application of Web intelligence research paradigm to the next generation of e-learning systems. It provided a successful forum for discussing new trends and initiatives in this area, including research about the planning, development, application, and evaluation of intelligent learning environments, where people can learn together in a personalized way.

The five papers selected for this special issue cover aspects related to: Adaptive and personalized learning environments, Social information retrieval, Knowledge community formation and support, Web 2.0 and social computing for learning, Web-based cooperative learning, and Social software for collaborative learning.

The first paper, “Formal and Informal Learning Flows Cohesion in Web 2.0 Environment”, by Malinka Ivanova and Anguelina Popova, presents the results of an exploratory study examining students’ learning experiences with a new generation learning management system (Edu 2.0). The authors discuss students’ perceptions of formal and informal activities within this environment, as captured through a collection of surveys, activities’ tracking and
assessment. The study highlights ways in which informal learning flows can complement and enrich the formal learning process and points out the positive effects on student engagement and achievements.

The second paper, “Global Teacher Training Based on a Multiple Perspective Assessment: A Knowledge Building Community for Future Assistant Language Teachers”, by Yuri Nishihori, Chizuko Kushima, Yuichi Yamamoto, Haruhiko Sato, and Satoko Sugie, presents a Web-based collaborative learning environment for novice Assistant Language Teachers (ALTs), i.e., young graduates from all over the world coming to Japan to teach English classes. The introduced system, called Forest Forum, facilitates building an online community where novice and experienced teachers can share professional knowledge and expertise, providing a good opportunity for future ALTs to undergo pre-training and enhance their professional development.

The third paper, “Creating a Personalized Artificial Intelligence Course: WELSA Case Study”, by Elvira Popescu and Costin Bădică, illustrates the use of WELSA adaptive educational system for the implementation of an undergraduate Computer Science course which is individualized to the learning style of each student. The focus of the paper is on the course authoring process, the adaptation mechanism, as well as the system validation. The results reported confirm the practical applicability of WELSA and its potential for meeting the personalization needs and expectations of the digital native students.

The fourth paper, “ELIxIR: Expertise Learning & Identification x Information Retrieval”, by Neil Rubens, Dain Kaplan, and Toshio Okamoto, deals with the problem of expert finding (i.e., matching available experts to given tasks). While most expert finding systems operate with either content-based or structure-based approaches, the authors propose to convert structure-based data to a content-based representation and then use a content-based approach. The ELIxIR system can be widely applied in educational settings, where finding the peer and/or trainer with proper expertise for a particular learning task is of great importance.

The fifth paper, “SocialX: Reputation Based Support to Social Collaborative Learning through Exercise Sharing and Project Teamwork”, by Andrea Sterbini and Marco Temperini, deals with the social dimension of learning, based on a reputation system which captures students’ contributions to the group and the course as a whole. The authors focus on aspects such as sharing and reuse of (solutions to) single exercises and development of projects by group-work and social exchange. The reputation system is both a motivational tool for the student and a way to evaluate and understand learners’ critical thinking and self-judgment abilities.

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