Guest Editorial: Special Issue on EC-TEL 2007

Eric Duval, Member, IEEE Computer Society, and Ralf Klamma

The theme of the Second European Conference on Technology Enhanced Learning was “Creating new learning experiences on a global scale.”

As David Bloom from Harvard University put it, the average number of years spent in school in developing countries has more than doubled between 1965 and 1990, from 2.1 to 4.4, among those age 25 and over. Despite this impressive improvement, there are still millions of children with no access to primary or secondary education.

Even in the more “developed” world, students often experience schools and universities as disconnected from “real life” and thus lose interest, do not achieve deep learning, and drop out. And the vision of “life-long learning,” within and outside corporations, remains largely unfulfilled.

This is all the more worrying as learning can be considered a “root solution” to many of the more pressing problems of our times: Getting better at learning is—in Engelbart terminology—truly “getting better at getting better.”

Moreover, we should not forget the planetary dimension of the problem. Rooted in a deep humanitarian tradition, learning technologies should respect different cultures, different viewpoints, and different approaches to learning, as illustrated by the installation “El crocodile de Humboldt no es el crocodile de Hegel” by the Columbian artist José Alejandro Restrepo.

It is in the context of these urgent problems that we positioned the discussions about technology enhanced learning at the Second European Conference on Technology Enhanced Learning. Indeed, with the advance of metadata standards, learning objects, Web 2.0 approaches to rip, mix, and burn learning, wikis, blogs, syndication, user-generated content, interactive TV, games, and the ubiquitous availability of computing devices, we now can and have to offer more flexible learning services.

We invited extended versions of the 14 best papers of the conference for a second, even more rigorous reviewing process. In this special issue, we have selected seven papers out of these 14. We are proud that this first issue of the new IEEE Transactions on Learning Technologies supports the vision of the EC-TEL conference as a forum for the best research on technology enhanced learning.

“Detecting Self-Regulated Learning in Online Communities by Means of Interaction Analysis” by Giuliana Dettori and Donatella Persico uses interaction analysis to help understand the practice and development of self-regulated learning, which is becoming more important as open educational resources become more available world-wide.

“What Do You Prefer? Using Preferences to Enhance Learning Technology” by Philipp Kärger, Daniel Olmedilla, Fabian Abel, Eelco Herder, and Wolf Siberski underpins the first paper with decision support for learners. By taking the learner preferences into account, the search of learning objects can be enhanced significantly.

“Relevance Ranking Metrics for Learning Objects” by Xavier Ochoa and Erik Duval introduces new concepts for uniting human relevance with computed relevance factors in assessing learning objects.

“Building Domain Ontologies from Text for Educational Purposes” by Amal Zouaq and Roger Nkambou focuses on the creation of concept maps and the following ontologies from textual descriptions. It combines computational linguistics with Semantic Web technologies to support learning environments.

“Evaluating Spatial Representations and Skills in a Simulator-Based Tutoring System” by Philippe Fournier-Viger, Roger Nkambou, and André Mayers covers the cognitive processes of learners. It provides modeling and evaluation support for spatial representations of knowledge in the human mind.

“Capture, Management, and Utilization of Lifecycle Information for Learning Resources” by Lasse Lehmann, Tomas Hildebrandt, Christoph Rensing, and Ralf Steinmetz explores the necessary change processes learning objects are subject to.

“Control Your eLearning Environment: Exploiting Policies in an Open Infrastructure for Lifelong Learning” by Juri Luca De Coi, Philipp Kärger, Arne Wolf Koesling, and Daniel Olmedilla is a comprehensive study about policies and reasoning about them in learning environments.

Significantly, all of the papers include evaluations of implementations in real life experiments.

Our thanks go to all of the authors of EC-TEL 2007, the invited authors for this special issue, and the reviewers who did a fantastic job of providing constructive feedback to the
authors. Also, we thank Wolfgang Nejdl and Peter Brusilovsky for the invitation to edit this special issue as the inaugural issue of the new IEEE Transactions on Learning Technologies. We additionally thank Marion Wicht and all the people at the IEEE Computer Society for their editorial and technical support.

Most of all, we hope and trust that you, valued reader, will find these papers of interest to your research and we look forward to hearing from you about your further work in this area that can make such a significant difference in the lives of so many.

Erik Duval
Ralf Klamma
Guest Editors

Erik Duval is a professor in the research unit on hypermedia and databases of the Computer Science Department at the Katholieke Universiteit Leuven, Belgium. His research interests include metadata, learning objects, and a global learning infrastructure based on open standards and mass personalization (“The Snowflake Effect”)—topics on which he regularly delivers keynote speeches. Dr. Duval teaches courses on human-computer interaction, multimedia modeling and programming, and problem solving and design. He is the president of the ARIADNE Foundation, chair of the IEEE Learning Technology Standards Committee working group on Learning Object Metadata, and a fellow of the AACE. He cofounded two spin-offs that apply research results for access to music and scientific output. He is a member of the IEEE Computer Society.

Ralf Klamma has a diploma degree and a doctoral degree, both in computer science, from the Rheinisch-Westfälische Technische Hochschule (RWTH) Aachen University. Currently, he leads the research group Metadata in Community Information Systems at RWTH Aachen University. He spent several months as a visiting fellow at the MIT Entrepreneurship Center of the Sloan School of Management, Massachusetts Institute of Technology, to experience entrepreneurship teaching and research. He is a project leader in the Media and Cultural Communication collaborative research center and was a work package leader for Social Software in the EU IST Network of Excellence on Professional Training PROLEARN. In addition, he is a member of the research clusters Ultra High Speed Mobile Information and Communication (UMIC) and Context-Adaptive Interaction in Knowledge-Intensive Processes (CONTICI). He had stand-in professorships for media informatics at the Technische Universität Chemnitz and dialog-oriented systems at the University of Passau. His research covers information systems theory, the application of information systems in engineering, cultural sciences, and virtual communities, social software, social network analysis, technology enhanced learning, geographic information systems, cultural heritage management, and new product development. He is the editor-in-chief of the Central European Information Server SunSITE CEUR, the PRO-LEARN Academy, and the Multimedia Metadata Community. He serves as an associate editor for international journals such as the International Journal of Applied Systemic Studies (IJAASS), the International Journal of Technology Enhanced Learning (IJTEL), and the International Journal of Social and Humanistic Computing (IJSHC). He has also been a reviewer for international journals such as Communications of the ACM, IEEE Multimedia, IEEE Transactions on Knowledge and Data Engineering, IEEE Internet Computing, Information Systems, and Information Systems Frontiers, and conferences including ICIS, ECIS, CAiSE, CHI, EC-TEL, ACM GROUP, ACM Hypertext, CSCL and others. He is a member of the German Informatics Society (GI-29676).