

International Workshop on Enabling User Experience with Future Interactive Learning Systems (UXFUL 2010)

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Abstract. Nowadays most educational institutions use learning systems in order to provide blended or fully online courses in a formal setting with high similarity to learning in a classroom. However, new technologies such as mobile, pervasive and ubiquitous technologies can enable learners to have richer learning experiences through learning that can take place whenever learners are interested in learning, at anytime and anywhere. Multimodal, smart and intelligent devices make the interaction between the learners and the system more natural and intuitive and considering the learners' current situation and characteristics allows the personalization and adaptation of learning material and activities, leading to more effective learning by providing learners with information that is relevant for them. This workshop brings together researchers from Psychology and Computer Science, aiming at discussing research on using and incorporating such new technologies in learning systems and therefore, providing learners with rich learning experiences at anytime and anywhere, in a more intuitive and personalized way.

Keywords: User experience, multimodal devices, mobile/pervasive/ubiquitous learning, adaptivity & personalization, smart & intelligent technologies, learning environments/systems.

1 Introduction and Motivation

Standard information systems for learning purposes have matured, technology is stable and masses of information can be made available to the learner. However, Data is not Information, Information is not Knowledge. The increasing amount of information and the shorter time for learning processes with respect to higher quality forces us to think about possibilities of finding new ways to optimize learning management systems (e.g. [1, 2, 3, 4]).

Most educational institutions are already using such learning systems either in a blended or purely online way for delivering parts of courses or fully online courses to their students. These systems allow the management and presentation of online courses, which include different types of resources and activities such as learning material, quizzes, forums, etc. Most of these systems are desktop-based, supporting a formal way of learning, which is in many matters similar to learning in traditional classrooms. However, new technologies provide us with much more opportunities, supporting learning in a more informal way, whenever a learner wants to learn, in the real world, from real learning objects and in a personalized way considering the learners' current situation, previous knowledge and experiences as well as their individual characteristics [5].

We are surrounded by multimodal interfaces which enable the inclusion of all human senses, and mobile, ubiquitous and pervasive technology is available everywhere and at all time [6]. Current research deals with using such new technologies for the purpose of learning, integrating them in current learning systems, and building learning environments where students are provided with more authentic learning experiences both inside and outside of the classroom. Through using mobile devices as well as sensors that communicate with those mobile devices, learners can learn from real-life objects, having learning experiences in real life situations at the time learners are interested in learning. Furthermore, new technologies allow students to interact with the learning environment in more natural and intuitive ways, using multimodal and smart interfaces from various types of devices ranging from mobile phones to smart boards/tables and ubiquitous computing [7] and to interactive simulations [8]. By using all these devices and sensors, a huge amount of information about learners as well as their environment can be detected and stored. Such rich information can be used to make learning more personalized and adaptive to learners' needs by considering data available about a learner's current context/situation (e.g., location, environment, surrounding people, surrounding real-life learning objects etc.) as well as data about a learner's characteristics (e.g., interests, experiences, prior knowledge, cognitive abilities, learning styles, etc.), enabling provision of adaptive and personalized learning resources and activities. While there are masses of learning resources, activities and information available, concrete data about learners' situation and characteristics enables new technologies to filter and decide on how to present relevant information, resources and/or activities to learners, avoiding the provision of irrelevant materials.

The focus of this workshop is on the provision of enhanced user experience (UX), including making information, resources and activities more useful, usable and enjoyable. This is a challenge for interdisciplinary research on the intersection of Psychology and Computer Science, aiming at using technology in the way it is most effective for supporting the learning process of learners.

2 The Workshop Papers at a Glance

In this section, we briefly introduce the papers of this workshop. The first paper, by Giovannella, Spadavecchia and Camusi, deals with ubiquitous learning environments, liquid places and the "organic" era, discussing the design in education and educational

experiences in such environments. Furthermore, the paper presents a set of tools and methodologies that can help monitoring the social level of the interactions and the quality of social emotions in such environments.

The second paper by Granić and Nakić focuses on user modelling and identifying individual differences of learners in order to provide adaptivity and personalization. Based on a comprehensive literature review, individual characteristics of learners, which are used in adaptive systems, are discussed and a framework for their classification is proposed.

The next two papers are in the area of technology enhanced language learning. The paper by Eimler, von der Pütten, Schächtle, Carstens and Krämer deals with using a robot for supporting children in starting to learn English as second language. The paper introduces the robot rabbit Nabaztag and presents an evaluation of the robot with respect to hedonic aspects, motivating function, as well as the general usability and overall impression evoked by the robot. On the other hand, the paper by Romero, Zarraonandia, Aedo and Díaz, discusses design and usability aspects for courses delivered through mobile learning. The paper describes the design process for creating courses to develop English grammar, reading and listening skills through mobile learning scenarios and presents respective guidelines.

The paper by Tomberg, Laanpere and Lamas deals with enhancing blog-based learning environments with functionality that brings such environments closer to traditional learning management systems and therefore proposes the incorporation of learning flow management and semantic data exchange in blog-based learning environments.

3 Program Committee

We are most grateful for the support of this workshop to

Reinhold Behringer, Leeds Metropolitan University, UK

Maiga Chang, Athabasca University, Canada

Nian-Shing Chen, National Sun Yat-sen University, Taiwan

Matjaz Debevc, University of Maribor, Slovenia

Carlo Giovannella, SculaIaD University di Roma Tor Vergata, Italy

Vlado Glavinic, University of Zagreb, Croatia

Ray Yueh-Min Huang, National Cheng-Kung University, Taiwan

Gwo-Jen Hwang, National University of Taiwan, Taiwan

Jiyou Jia, Peking University, China

Charalambos Karagiannidis, University of Thessaly, Greece

Vive Kumar, Athabasca University, Canada

Chung Hsien Lan, Nanya Institute of Technology, Taiwan

Chien-Sing Lee, Georgia Institute of Technology, USA

Jimmy Lee, The Chinese University of Hong Kong, Hong Kong

Gerd Mietzel, University Duisburg-Essen, Germany

Toshio Okamoto, University of Electro-Communications, Japan

Elvira Popescu, University of Craiova, Romania

Carsten Roecker, RWTH Aachen, Germany

Demetrios Sampson, University of Piraeus & CErTH, Greece

Jean Underwood, Nottingham Trent University, UK

Geoff Underwood, Nottingham University, UK

Stephen J.H. Yang, National Central University, Taiwan

Martina Ziefle, RWTH Aachen, Germany.

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