Editorial

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Biographical notes: A.Y. Al-Zoubi is a Professor at the Communications Engineering Department at Princess Sumaya University for Technology, Jordan. He received his BSc and PhD in Electrical and Electronics Engineering from University of Nottingham, UK, in 1983 and 1987 respectively. In 2000, he joined Princess Sumaya University for Technology, where he is currently the Dean of Scientific Research. His current research interest is technology enhanced learning, particularly engineering education, mobile learning and remote labs. He is an IEEE member, Vice President of the online engineering association, co-editor of the *International Journal of Emerging Technologies in Learning* and co-founder of the international conference on 'Interactive Mobile and Computer Aided Learning (IMCL)'. He serves in a number of international conferences program committees.

1 Introduction

It is a great honour for me to have been invited by Professor Jason C.H. Chen to present before you the editorial remarks for this special issue of the *International Journal of Mobile Learning and Organisation* (*IJMLO*). The issue is dedicated to six selected papers which were presented in the second international conference on "*Interactive Mobile and Computer aided Learning*", *IMCL2007*, which was organised by Princess Sumaya University for Technology (PSUT), Jordan, in collaboration with Carinthia University of Applied Sciences, (CUAS), Austria and the Royal Institute of Technology, (KTH), Sweden, in the period 18–20 April 2007. The conference is the first of its kind in the Middle East and comes at a time when many share the vision that learning would soon become possible 'anywhere anytime', particularly with the advancement of wireless technology which provides natural access to services for all. Consequently, mobile learning (m-learning) is starting to contribute to the realisation of this vision. The conference was a very convenient forum to investigate how this type of technology-enhanced learning can facilitate learning process in different learning situations for diverse groups of learners. In fact, researchers from over 45 countries have met during IMCL2007 and exchanged results, findings, tools and ideas that may contribute to knowledge and growth in this new and fast evolving field. The participants were provided with the newest state-of-the-art, on-portable devices and their role in university education and potential benefits for learning purposes. Examples of the implementation by laptops, palmtops, mobile phones, PDA, smartphones, WAPs, GPS and a navigational system, WWW-access via Bluetooth, WLAN or GPRS were

presented, accompanied by experimentations to demonstrate their coherence and feasibility. The conference has also hosted a number of international workshops and demonstrations of the latest technologies, systems and exciting new learning materials.

The conference covered the following topics:

- Design and development of course content
- M-learning emerging hardware and software
- M-learning applications
- Mobile technology support for educator and student
- Mobile Web and video conferencing
- M-learning objects and development tools
- Service providers for mobile networks
- M-learning standards
- Life-long m-learning
- Impact of m-learning on social change
- Future trends in m-learning
- Web and Computer-based learning
- Tools for interactive learning and teaching
- Platforms and authoring tools
- New learning models and applications
- Applications of the Semantic Web
- Adaptive learning environments
- Methods of content adoption
- Project-based learning
- Virtual campus and e-learning
- Remote and virtual laboratories
- Remote measurement technologies
- Concepts for remote engineering
- Multimedia and virtual environments
- Cost-effectiveness
- Real-world experiences
- Pilot projects, products and applications.

2 Inside this issue

This special issue of the *IJMLO* contains six papers related to mobile learning and organisation fields.

The first paper, 'Feed-oriented awareness services for e-logbook mobile users', by El Helou et al. takes a look at the e-logbook, which is a collaborative web-based environment deployed by the Swiss Federal Institute of Technology in Lausanne (EPFL). It consists of an activity-oriented space where a community of educators, teaching assistants and students can form groups, conduct activities and perform several actions over stored and shared assets. The e-logbook offers awareness services to sustain collaboration and coordination among the community members. The paper presents adaptive feed-oriented services designed and implemented to deliver awareness to mobile users, taking into account their device limitations and their activity context.

The second paper, 'Mobile technology in collaboration: evaluation of a web-based discussion board', by Mac Callum and Kinshuk, assesses the effectiveness of discussion forums and how well these forums performed when viewed on four different mobile devices. The paper focuses on how the device influences the interaction with the discussion board. The guiding questions are:

- What functionality or typical activities do the different devices support?
- What features offered by the different devices best support the users when viewing a discussion forum on a mobile device?

The results of this analysis will help determine how different devices support users interacting with a discussion board.

The third paper, 'Video-based e-learning in groups: combining SIP and multicast in a mobile learning internet infrastructure', by Cycon et al., reports on various distributed collaborative synchronous and asynchronous video-based teaching and learning scenarios using stationary and mobile technologies over IP. This is audio-/video-based distance learning on a lowest technical level. The scenarios are realised by a multimedia communication system including a Video Conferencing over IP (VCoIP) software with hybrid architecture derived from a SIP initiated peer-to-peer model. The system is based on a fast, highly efficient H.264/AVC video codec implementation. Recorded sessions can be displayed on any mobile device. For nomadic users changing networks, we introduce and investigate new concepts and experiments to IPv6 user and session mobility, with the special focus on real-time video group communication.

The fourth paper, 'A new Mobile Business Sales Transaction System', by Otair and Al-Zoubi, describes a new sales system, utilising wireless technologies and mobile devices, which aims to provide companies with centralised applications to reduce cost and increase profits. The system allows an administrator to control payment processes, monitor daily transactions, item handing and picking as well as selling procedures carried out by sales persons. The system is anticipated to save efforts, time and resources and is expected to be resilient to change and adaptation. A feasibility study conducted to arrive at a better understanding of the system performance revealed its suitability as an efficient business procedure with relevant modifications and changes that need to be addressed as appropriate.

The fifth paper, 'Mobile e-learning course scenario model on PDA', by Schreurs sets to discuss experimentation with learning path scenarios, based on the e-mindmap

concept. Handling of learning materials is a challenge and web-based services mobile learning can enable collaborative learning and access to different information sources in actual problem-solving situations. The PDA's are now designed to be smaller and sleeker and are popular owing to their portability and facility for wireless connection. Hand-held computers can become an integral part of the learning activities. But, owing to the very small screen, limited memory capacity and a large diversity of mobile devices, a hand-held seems to obstruct a good learning experience.

The last paper, 'Collaborating and learning a second language in a Wireless Virtual Reality Environment', by Garcia-Ruiz et al., has two purposes: to provide an introduction to Virtual Reality (VR) applications to Computer-Assisted Language Learning (CALL), and to describe the implementation of a Collaborative Virtual Reality Environment (CVRE) running on a wireless network, which is currently being assessed by Mexican Engineering students for listening comprehension practice of the English language. VR can be used to promote language learning and practice as it simulates reality, while offering a stimuli-rich environment for language students.

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