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# New Horizons in Web-Based Learning - ICWL 2010 Workshops

ICWL 2010 Workshops: STEG, CICW, WGLBWS, and IWKDEWL  
Shanghai, China, December 7-11, 2010  
Revised Selected Papers

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# Preface to ICWL 2010 Workshops

Welcome to the proceedings of the workshops associated with ICWL 2010. ICWL is an annual international conference series on Web-based learning that has so far been held in Asia, Europe and Australia. As always, the aim of the workshops was to give researchers and participants a forum to discuss cutting-edge research in Web-based learning and to examine some of the challenges that arise when applying Web-based learning in less traditional areas. The workshops provided an intensive collaborative forum for exchanging late-breaking ideas and theories in an evolutionary stage.

This year, STEG, CICW, WGLBWS, and IWKDEWL were selected competitively from a call for workshop proposals. STEG is the international workshop on Story-Telling and Educational Games, CICW is the international workshop on Cognitive-Based Interactive Computing and Web Wisdom, WGLBWS is the international workshop on WebGIS and Location-Based Web Service, and IWKDEWL is the international workshop on Knowledge and Data Engineering in Web-Based Learning.

We would like to thank the Workshop Chairs and their Program Committees for their diligence in selecting the papers in this volume. We would also like to thank the main ICWL 2010 conference committees, particularly the Conference Co-chairs, Qing Li, Wolfgang Nejdl and Wu Zhang, the conference Program Co-chairs, Marc Spaniol and Lizhe Wang, the Webmaster, Haoran Xie, the Finance Co-chairs, Howard Leung, Shunxiang Zhang, and the Registration Co-chairs, Jiy-ing Wang, Xiaobo Yin, for their support in putting the program and proceedings together.

December 2010

Xiangfeng Luo  
Yiwei Cao  
Bo Yang  
Jianxun Liu  
Feiyue Ye

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# STEG 2010 Workshop Chair's Message

The Third International Workshop on Story-Telling and Educational Games (STEG 2010) comprised a series of workshops to extend new horizons for Web-based and technology-enhanced learning. Since the first STEG workshop in 2008, this series of workshops have raised great interest of researcher communities with two workshop proceedings of STEG'08 and STEG'09.

Stories and story-telling are cultural achievements of significant relevance even in modern times. Nowadays, story-telling is being enhanced with the convergence of sociology, pedagogy, and technology. Computer gaming is also deployed for educational purposes and has proved to be an effective approach to mental stimulation and intelligence development. Many conceptual similarities and some procedural correlations exist between story-telling and educational gaming. Stories cover the instructional part of an educational game, while the game adds the motivation and engagement part. Therefore, these two areas can be clubbed for research on technology-enhanced learning (TEL). Many facets of story-telling and educational gaming emulate real-life processes.

STEG 2010 aimed at bringing together researchers, experts and practitioners from the domains of non-linear digital interactive story-telling and educational gaming to share ideas and knowledge. The celebration of this workshop allowed the participants to discover and leverage potential synergies and explore new research challenges.

We would like to thank to all STEG Program Committee members especially those who were involved in the paper reviewing to guarantee a high scientific quality of the workshop papers. They are Werner Bailer, Michael D. Kickmeier-Rust, Carlos Delgado Kloos, Baltasar Fernandez-Manjon, Wolfgang Graether, Christian Guetl, Stefan Goebel, Harald Kosch, Mark Kroell, Mathias Lux, Pablo Moreno-Ger, Eeva Nygren, Marc Spaniol, and Carsten Ullrich. Special thanks also go to Ralf Klamma, who came up with this idea firstly and initiated this series of workshops.

December 2010

Yiwei Cao  
Dominik Renzel  
David Farrell  
Stephan Lukosch  
Emmanuel Stefanakis

# CICW 2010 Workshop Chair's Message

CICW 2010 was the First International Workshop on Cognitive-Based Interactive Computing and Web Wisdom. Recently, many new theories and technologies for Web wisdom have made the Web much wiser. Among these technologies, cognitive-based interactive computing is one of the newest directions of Web wisdom and should be paid more attention to. Interaction is more effective than algorithms in dealing with the mass Web resources and providing better services, because interactive computing (IC) promotes the understanding and knowledge fusion between humans and the Web. Cognitive informatics (CI) is an emerging discipline that studies the natural intelligence and internal information-processing mechanisms of the brain, as well as the processes involved in perception and cognition. Thus, cognitive-based interactive computing takes advantage of interactive theory and cognitive theory and promotes WI to a great extent.

CICW 2010 was held in conjunction with the 9th International Conference on Web-Based Learning (ICWL 2010) in Shanghai in December 2010. The conference attracted 31 submissions from eight countries and regions and each submission was reviewed by three reviewers rigorously. Taking into consideration the review scores and comments, the Organizing Committee selected 11 papers out of 31 papers to be presented at CICW 2010. After the conference, the authors were asked to revise their paper according to the discussions.

We would like to thank the members of the Organizing Committee and all reviewers for their hard work. Finally, we would like to thank all the authors who submitted their research work to this workshop. We also look forward to seeing you at CICW 2011.

December 2010

Xiangfeng Luo  
Yingxu Wang  
Xiao Wei

# WGLBWS 2010 Workshop Chair's Message

WGLBWS is the International Workshop on WebGIS and Location-Based Web Service. With the development of the Internet and mobile communication, WebGIS and location based service (LBS) have become a vibrant and rapidly evolving application area. Location-based services are often used via Web browsers and are in this case considered as a particular type of Web services. WebGIS can also be constructed via Web services. These represent a novel challenge for WebGIS and LBS.

This year, WGLBWS 2010 provided a forum for researchers, practitioners and developers from different background areas such as service computing, cloud computing and GIS to exchange their latest experiences, research ideas and synergic research and development on fundamental issues and applications on WebGIS and LBS in service and cloud computing environments. The workshop solicited high-quality research results in all related areas.

WGLBWS 2010 was held in conjunction with the 9th International Conference on Web-Based Learning (ICWL 2010) in Shanghai in December 2010. We would like to thank the members of the WGLBWS 2010 Organizing Committee and all reviewers for their hard work. Finally, we would like to thank all the authors who submitted their research work to this workshop.

December 2010

Jianxun Liu

# IWKDEWL 2010 Workshop Chair's Message

Welcome to the proceedings of the 2010 International Workshop on Knowledge and Data Engineering in Web-Based Learning (IWKDEWL 2010). As computer systems become increasingly large and complex, we are seeing more sophisticated techniques being developed to support e-learning especially in the area of knowledge and data engineering. The rapid development of Web-based learning and new concepts such as virtual classrooms, virtual laboratories and virtual universities introduces many new challenging issues to be addressed. This conference aims at providing an in-depth study of the technical, pedagogical as well as management issues of Web-based learning. On the technical side, we need to develop effective e-technologies for supporting distance education. On the learning and management side, we need to consider issues such as new styles of learning and different system set-up requirements. Finally, the issue of standardization of e-learning systems should also be considered.

Held jointly with ICWL 2010, in Shanghai, China, this workshop attracted submission from the entire world. Although the total number is small, a rigorous review process included an average three reviews per paper. Taking into consideration the review scores and reviewer comments, the Organizing Committee selected 10 out of many papers to appear at IWKDEWL 2010. Authors of accepted papers are from China, USA, Italy, Korea, among other areas.

We thank the members of the IWKDEWL 2010 Organizing Committee, the Steering Committee and all reviewers for their hard work. Without it, this workshop would not be possible. Finally, we would like to thank all the authors who submitted their research work to this workshop.

December 2010

Bo Yang  
Lixin Jia  
Xinzheng Niu  
Tao Li

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