

Special Issue on E-learning

PREFACE

Distance Learning has become a popular research area in this decade, in particular, Communication Technologies, Intelligent Technologies, and Educational Technologies are deemed as the next generation e-learning systems. Distance Education Technologies include Intelligent Technologies which are computable mechanisms to enable automatic educational systems, Communication Technologies which allows on-line discussion, and Educational Technologies which help users. The special issue focuses on the state-of-the-art Distance Learning System about these issues. Six papers are included in this special issue.

The first paper, entitled " A Study of e-Learning Standards Integration and Extension for Historical Empathy " by Hsiu-I Chien, Jui-Feng Weng, Jun-Ming Su and Shian-Shyong Tseng, proposed an ontology based approach to integrate and extend several standard formats including ADL SCORM, IMS QTI and IMS LD, etc. An integrated reference framework is proposed to describe the teaching plan, learning content and test item.

Dr. Wen-Chih Chang used Petri net to simulate the learning behavior for supporting cooperative learning. The second paper entitled "Applying SCORM in Cooperative Learning," described this method.

The third paper entitled "Application Architecture of Semantic QA System," by Ying-Hong Wang, Cheng-Horng Liao, Shih-Hao Huang and Wen-Nan Wang is to seek to use a Link Grammar Parser to develop a Semantic QA System. After analyzing the learner's grammar, it will expand the Semantic dictionary via WordNet and subsequently seeks answer in the system's ontology or searches the internet for more appropriate answer.

The fourth research used Link Grammar and combine Ontology and WordNet to set up the Semantic-Aware questions-and-answers system in distance learning environment. Furthermore, authors choose Data Structure as the targeted course and design Ontology structure of Algorithm. This paper entitled "A Semantic-Aware Methodology Adapt to e-Learning Environment," are proposed by Ying-Hong Wang, Chu-Chi Huang and Wen-Nan Wang.

With the rapid development of E-learning, collaborative learning is an important kind of group learning mode. The next paper, entitled " A Repository-Based Question Answering System for Collaborative E-learning" authored by Chun-Chia Wang, Jason C. Hung, Timothy K. Shih, and Hsiao Wen Lin, introduce a semantic-based automated question answering (Q&A) system with a learning object repository like a virtual teacher to respond to student questions online.

The final paper entitled "Knowledge Searching over BBS" proposed by Prof. David Yang is to adopt traits of community behavior for searching effectiveness in a Bulletin Board System (BBS). There are three traits of community behavior, time trend, relative active members, and referential resources. The subject of this study is RAS was established for research project at National Kaohsiung Normal University in Taiwan. The results of this study consist of (a). A weighted ranking algorithm by LCS and LCCS is developed to improve ranking by traditional database approach. (b). A multiple presentation on searching results is designed for knowledge retrieval with easier interfaces.

The guest editor would like to thank the authors for their contributions to the special issue. In addition, we also would like to express our gratitude to Dr. Chin-Chen Chang, the Editor-in-Chief, for his kindly help to make this issue possible. The most importance is that the readers will enjoy reading all these articles.

Timothy K. Shih and Jason C. Hung
Guest Editors



Dr. Shih is a Professor of the Department of Computer Science and Information Engineering at Tamkang University, Taiwan. He is a member of ACM. As a senior member of IEEE, Dr. Shih joins the Educational Activities Board of the Computer Society. His current research interests include Multimedia Computing and Distance Learning. He was a faculty of the Computer Engineering Department at Tamkang University in 1986. In 1993 and 1994, he was a part time faculty of the Computer Engineering Department at Santa Clara University. He was also a visiting professor at the University of Aizu, Japan in summer 1999, a visiting researcher at the Academia Sinica, Taiwan in summer 2001, and an adjunct faculty member of Xidian University, China. Dr. Shih has edited many books and published over 350 papers and book chapters, as well as participated in many international academic activities, including the organization of more than 40 international conferences and several special issues of international journals. He is the founder and co-editor-in-chief of the International Journal of Distance Education Technologies, published by Idea Group Publishing, USA. Dr. Shih is the associate editor of ACM Transactions on Internet Technology. He was also the associate editor of IEEE Transactions on Multimedia. Dr. Shih has received many research awards, including research awards from National Science Council of Taiwan, IIAS research award of Germany, and several best paper awards from international conferences. He also received many funded research grants from both domestic and international agencies. Dr. Shih has been invited to give more than 15 keynote speeches and plenary talks in international conferences, tutorials in IEEE ICME 2001/2006 and ACM Multimedia 2002, and talks at international conferences and overseas research organizations. Publications, demonstrations and contact address of Dr. Shih can be retrieved from <http://www.mine.tku.edu.tw/chinese/teacher/tshih.htm>.



Jason C. Hung is an Assistant Professor of Department of Information Management at Northern Taiwan Institute of Science and Technology, Taiwan, R.O.C. His research interests include Multimedia Computing and Networking, Distance Learning, E-Commerce, and Agent Technology. From 1999 to date, he was a part time faculty of the Computer Science and Information Engineering Department at Tamkang University. Dr. Hung received his BS and MS degrees in Computer Science and Information Engineering from Tamkang University, in 1996 and 1998, respectively. He also received his Ph.D. in Computer Science and Information Engineering from Tamkang University in 2001. Dr. Hung participated in many international academic activities, including the organization of many international conferences. He is the founder and Workshop chair of International Workshop on Mobile Systems, E-commerce, and Agent Technology (MSEAT2002, MSEAT2003, MSEAT2004, and MSEAT2005). He is also the Executive Manager of the International Journal of Distance Education Technologies, published by Idea Group Publishing, USA. The contact address of Dr. Hung is Department of Information Management, Northern Taiwan Institute of Science and Technology, No. 2, Xueyuan Rd., Peitou, 112 Taipei, Taiwan, R.O.C.. Dr. Hung is a member of the IEEE Computer and Communication Societies and Phi Tau Phi Scholastic Honor Society.