SPECIAL ISSUE on Intelligent Computing in e-Learning Technology

The current collection of articles comes from improved and extended versions of those selected within the best of the KES2007 conference, held in Vietri sul Mare, Italy, in September 2007. KES stands for Knowledge-Based Intelligent Information and Engineering Systems, and its aim is to serve as a forum to gather academics, researchers, practitioners and students in the field of Artificial Intelligence in Information Systems by presenting new developments, lessons learned from real world cases, and promote the exchange of ideas and the discussion and development on specific areas.

Chen provides a dynamic resources allocation method based on the Black-Scholes model to solve the problem of imbalance resources allocation, and it could effectively apply to the procurement budget allocation of e-Libraries. The experiment results showed that the method in this research was better coordinated than the actual borrowing quantity compared with the traditional statistical approach. Moreover, this methodology can also apply to e-Learning systems and related topics.

Chou, Li, Chen and Wu integrate a novel web usage mining and neural network technique to predict e-Learners' navigation behaviour and discover patterns in the navigation of e-Learning websites. Finally, the empirical study indicates it can generate appropriate prediction accuracy of e-Learners' navigation behaviour and help them browse more effectively in an e-Learning environment.

The computer-assisted collaborative approach is also another main focus of a paper by Wu, Hwang, Chu, Tsai, and Huang. They designed a multi-expert e-Training course design model and a computer-assisted e-Training course development system. Moreover, a practical application has shown that the innovative approach not only can improve the quality of the e-Training courses, but also help the experienced employees to organize their domain knowledge.

The e-Learners' tutoring system is the main focus of a paper by Huang, Huang, and Chiang. They have developed a new kind of intelligent tutoring system based on fuzzy theory, Hasse diagrams, and answer trees. The results of this article imply that the systematical learning of a student's answer inconsistency could provide useful information for effective teaching strategies.

One main instrument for e-Learning enhancement is personalized recommendation. Yang and Wang propose an intelligent personalized recommendation system for IT certification tests based on a case-based reasoning technique. The results show the proposed framework can be integrated with e-Learning systems and provide a beneficial certification path to examinees.

Tung, Guan, and Hsieh integrate Kansei engineering and neural network techniques to digital camera icon design and its application. The evaluation approach of icon imaging addressed in this paper can be applied to related industries such as graphic design, web design, and the e-Learning environment where the icon is needed and helps designers to choose the optimum illustrative style of icon. Moreover, it also satisfies and improves the usage and learning performance for each e-Learner.

Organizing a successful conference and selecting high-quality research journal papers demands significant commitment and dedication of the referees who provide their knowledge, expertise, and time. Their service is a matter of success or failure for the conference, journal, and the research community. We would like to thank the many referees, without whom this would not have been possible. We would also like to thank Professor Sidney Morris, Editor-in-Chief, and Ms Rosemary Hay for their support and help. It is our hope that this collection of papers will demonstrate the current trends in e-Learning technology and future directions that may be taken in this field.

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