# Table of Contents

**Preface** .............................................................................................................................................. xviii

**Chapter 1**
A Semantics-Based Information Distribution Framework for Large Web-Based Course Forum System .................................................. 1  
*Hung Chim, City University of Hong Kong, Hong Kong*  
*Xiaotie Deng, City University of Hong Kong, Hong Kong*

**Chapter 2**
Toward Development of Distance Learning Environment in the Grid.................................................. 20  
*Kuan-Ching Li, Providence University, Taiwan*  
*Yin-Te Tsai, Providence University, Taiwan*  
*Chuan-Ko Tsai, Providence University, Taiwan*

**Chapter 3**
Applying Semantic Agents to Message Communication in E-Learning Environment ....................... 32  
*Ying-Hong Wang, Tamkang University, Taiwan*  
*Chih-Hao Lin, Asia University, Taiwan*

**Chapter 4**
A Computer-Assisted Approach to Conducting Cooperative Learning Process.................................. 50  
*Pei-Jin Tsai, National Chiao Tung University, Taiwan*  
*Gwo-Jen Hwang, National University of Tainan, Taiwan*  
*Judy C.R. Tseng, Chung-Hua University in Hsinchu, Taiwan*  
*Gwo-Haur Hwang, Ling Tung University, Taiwan*

**Chapter 5**
Collaborative E-Learning Using Semantic Course Blog................................................................. 67  
*Lai-Chen Lu, Tatung University, Taiwan*  
*Ching-Long Yeh, Tatung University, Taiwan*
Chapter 6
A Virtual Laboratory on Natural Computing: A Learning Experiment ................................. 77
Leandro Nunes de Castro, Catholic University of Santos, Brazil
Yupanqui Julio Muñoz, Catholic University of Santos, Brazil
Leandro Rubim de Freitas, Catholic University of Santos, Brazil
Charbel Niño El-Hani, Federal University of Bahia, Brazil

Chapter 7
Online Learning of Electrical Circuits Through a Virtual Laboratory................................. 94
J.A. Gómez-Tejedor, Polytechnic University of Valencia, Spain
G. Moltó, Polytechnic University of Valencia, Spain

Chapter 8
A Case Study on Scaffolding Adaptive Feedback within Virtual Learning Environments .......... 108
Mehdi Najjar, Interdisciplinary Research Center on Emerging Technologies, University of
Montréal, Canada

Chapter 9
Multipoint Multimedia Conferencing System for Efficient and Effective Remote Collaboration .... 126
Noritaka Osawa, Chiba University, Japan
Kikuo Asai, The Open University of Japan, Japan

Chapter 10
Enhanced Speech-Enabled Tools for Intelligent and Mobile E-Learning Applications ................ 147
S- A. Selouani, Université de Moncton, Canada
T-H. Lê, Université de Moncton, Canada
Y. Benahmed, Université de Moncton, Canada
D. O’Shaughnessy, Institut National de Recherche Scientifique-Énergie-Matériaux-
Télécommunications, Canada

Chapter 11
WEBCAP: Web Scheduler for Distance Learning Multimedia Documents
with Web Workload Considerations....................................................................................... 166
Sami Habib, Kuwait University, Kuwait
Maytham Safar, Kuwait University, Kuwait

Chapter 12
Quasi-Facial Communication for Online Learning Using 3D Modeling Techniques .............. 181
Yushun Wang, Zhejiang University, China
Yueting Zhuang, Zhejiang University, China
Chapter 13
Enhancing Skills of Application Software via Web-Enabled Problem-Based Learning and Self-Regulated Learning: An Exploratory Study ................................................................. 192
Pei-Di Shen, Ming Chuan University, Taiwan
Tsang-Hsiung Lee, National Chengchi University, Taiwan
Chia-Wen Tsai, Ming Chuan University, Taiwan

Chapter 14
Constructivist Learning Through Computer Gaming .................................................. 207
Morris S. Y. Jong, Centre for the Advancement of Information Technology in Education, The Chinese University of Hong Kong, Hong Kong
Junjie Shang, Graduate School of Education, Peking University, Beijing, China
Fong-lok Lee, Centre for the Advancement of Information Technology in Education, The Chinese University of Hong Kong, Hong Kong
Jimmy H. M. Lee, Centre for the Advancement of Information Technology in Education, The Chinese University of Hong Kong, Hong Kong

Chapter 15
Stimulating Learners Motivation in a Web-Based E-Learning System .......................... 223
Keita Matsuo, Fukuoka Institute of Technology, Japan
Leonard Barolli, Fukuoka Institute of Technology, Japan
Fatos Xhafa, Polytechnic University of Catalonia, Spain
Akio Koyama, Yamagata University, Japan
Arjan Durresi, Indiana University Purdue University at Indianapolis, USA

Chapter 16
Using a User-Interactive QA System for Personalized E-Learning .............................. 239
Dawei Hu, University of Science and Technology of China, China
Wei Chen, City University of Hong Kong, China
Qingtian Zeng, Shandong University of Science and Technology, China
Tianyong Hao, City University of Hong Kong, China
Feng Min, City University of Hong Kong, China
Liu Wenyin, City University of Hong Kong, China

Chapter 17
Distance-Learning for Advanced Military Education: Using Wargame Simulation Course as an Example ................................................................. 258
Huan-Chao Keh, Tamkang University, Taiwan
Kuei-Min Wang, Shih Chien University, Taiwan
Shu-Shen Wai, Tamkang University, Taiwan
Jiung-yao Huang, National Taipei University, Taiwan
Lin Hui, Tamkang University, Taiwan
Ji-Jen Wu, Tamkang University, Taiwan
Chapter 18
Virtual On-Line Classroom for Mobile E-Learning over Next Generation Learning Environment . 268
Tin-Yu Wu, Tamkang University, Taipei, Taiwan, ROC

Chapter 19
A Methodology for Developing Learning Objects for Web Course Delivery ........................................... 280
Karen Stauffer, Athabasca University, Canada
Fuhua Lin, Athabasca University, Canada
Marguerite Koole, Athabasca University, Canada

Chapter 20
A Chinese Interactive Feedback System for a Virtual Campus ................................................................. 290
Jui-Fa Chen, Tamkang University, Taiwan
Wei-Chuan Lin, Tak Ming College, Taiwan
Chih-Yu Jian, Tamkang University, Taiwan
Ching-Chung Hung, Tamkang University, Taiwan

Compilation of References .......................................................................................................................... 317

About the Contributors ............................................................................................................................... 340

Index............................................................................................................................................................ 346