# Table of Contents

**Fifth IEEE International Conference on Wireless, Mobile and Ubiquitous Technologies in Education**  
**WMUTE 2008**

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preface</td>
<td>ix</td>
</tr>
<tr>
<td>Program Committee</td>
<td>x</td>
</tr>
<tr>
<td>Organizing Committee</td>
<td>xi</td>
</tr>
<tr>
<td>Sponsors</td>
<td>xii</td>
</tr>
</tbody>
</table>

**Keynote Papers**

- Computer Supported Ubiquitous Learning: Augmenting Learning Experiences in the Real World  
  *Hiroaki Ogata*  
  Page 3  

- Beyond the Ownership of Handheld Devices: Active Learning with Ubiquitous Learning Minds  
  *Chen-Chung Liu*  
  Page 11

**Games and Sports**

- My Sports Pulse: Increasing Student Interest in STEM Disciplines through Sports Themes, Games and Mobile Technologies  
  *David Metcalf, Marcelo Milrad, Dennis Cheek, Sara Raasch, and Angela Hamilton*  
  Page 23

- Combining Physical Activities and Mobile Games to Promote Novel Learning Practices  
  *Daniel Spikol and Marcelo Milrad*  
  Page 31

- Use of Mobile Phones in Language Learning: Developing Effective Instructional Materials  
  *Murat Saran, Kursat Cagiltay, and Golge Seferoglu*  
  Page 39

**Language Learning**

- Tablet PC to Support Collaborative Learning: An Empirical Study of English Vocabulary Learning  
  *Chiu-Pin Lin, Kuo-Ping Liu, and Jitti Niramitranon*  
  Page 47

- PALLAS: Personalised Language Learning on Mobile Devices  
  *Sobah Abbas Petersen and Jan-Kristian Markiewicz*  
  Page 52

- Research on the Communicative Mobile English Learning Model  
  *Jun Liu, Shengquan Yu, and Min Ran*  
  Page 60
Ubiquitous Learning (1)

Context-Aware Writing in Ubiquitous Learning Environments .................................................................67
Tzung-Shi Chen, Cheng-Sian Chang, Jeng-Shian Lin, and Hui-Ling Yu

Tools for Students Doing Mobile Fieldwork ............................................................................................74
Mattias Rost and Lars Erik Holmquist

Conducting Situated Learning in a Context-Aware Ubiquitous Learning Environment ........................................82
Ting-Ting Wu, Tzu-Chi Yang, Gwo-Jen Hwang, and Hui-Chun Chu

Ubiquitous Learning (2)

A Decision Tree Approach to Conducting Dynamic Assessment in a Context-Aware Ubiquitous Learning Environment ................................................................................................................89
Shu-Hsien Huang, Ting-Ting Wu, Hui-Chun Chu, and Gwo-Jen Hwang

Identifying Personalized Context-Aware Knowledge Structure for Individual User in Ubiquitous Learning Environment .....................................................................................................................95
Stis Wu, Alex Chang, Maiga Chang, Tzu-Chien Liu, and Jia-Sheng Heh

Bringing School Science to Life: Personalization, Contextualization and Reflection of Self-Collected Data ..........100
Dawn Woodgate, Danaë Stanton Fraser, Mark Paxton, David Crellin, Adrian Woolard, and Teresa Dillon

Interacting with Mobile Devices

Evaluating the Effects of Mobile Technology on an Outdoor Experiential Learning ........................................107
Fei Ching Chen, Chih Hung Lai, Jie Chi Yang, Jing San Liang, and Tak-Wai Chan

Supporting Rich Interaction in the Classroom with Mobile Devices ................................................................115
Gustavo Zurita, Nelson Baloian, and Felipe Baytelman

Research on the Application of One-to-One Learning in Chinese Classical Poem Education ........................................123
Min Ran, Shengquan Yu, and Jun Liu

Enhancing Mobile Learning Delivery through Exploration of the Learner Experience ....................................128
Mohamed Ally and Karen Stauffer

Collaborative Learning and Information Retrieval

Development of a Knowledge Management System Integrated with Local Communication Channels and Knowledge Management Initiatives for Kenyan Rural Farming Communities ................................................................................135
N.M.A.E. Dewi Wirastuti, Rose Luckin, Ray E. Sheriff, Kevin Walker, Josh Underwood, and Lynne Dunckley

Folksonomy-Based Indexing for Location-Aware Retrieval of Learning Contents ........................................143
Wen-Chung Shih and Shian-Shyong Tseng

Rescue Knowledge M-Learning System by 3G Mobile Phones ....................................................................148
Shu-Chen Cheng, Wei-Zhi Tsai, and Yun-Zhong Chen
Towards Computational Models for Mobile Learning Objects .......................................................... 153

*Gerardo Ayala and Sergio Castillo*

**Poster Papers**

Collage - The Carnuntum Scenario .......................................................................................... 161

*Manfred Lohr and Elisabeth Wallinger*

A Comprehensive Information Based Variable-Size Model for Intelligent Tutoring Systems ............. 164

*Xing Jin*

Collaborative Learning in a Mobile Technology Supported Environment: A Case Study on Analyzing the Interactions ................................................................. 167

*Siu Cheung Kong*

A Mobile-Device-Supported Brain-Friendly Reading System .......................................................... 170

*Yu-Ju Lan, Yao-Ting Sung, and Kuo-En Chang*

The Design of an Ubiquitous Learning System with Research Problem-Based Learning (RPBL) Model for qualitative Studies .............................................................. 173

*Ju-Ling Shih*

RFID-Based Ubiquitous Learning Environment for School Students .................................................. 176

*Jiangtao Yin and Xudong Yang*

Development of a Long-Distance-Controlled Robot System for Engineering Education .................. 179

*Akiyuki Minamide, Kazuya Takemata, Nobuyuki Naoe, Hirofumi Yamada, and Pee Suat Hoon*

A Framework Supporting User-Specific Services in RFID Systems .................................................. 182

*Chin-Ling Chen*

An Activity-Oriented Design Framework for Mobile Learning Experience ........................................ 185

*Huanglingzi Liu, Ronghuai Huang, Jyri Salomaa, and Ding Ma*

Enabling Interoperable Mobile Learning: Evaluation Results from the Use of SMILE PDA Learning Design Player ................................................................. 188

*Demetrios Sampson and Panayiotis Zervas*

The Emergence of Mobile Devices Influencing Learning from the Viewpoint of Convergences ................ 191

*Susanna Mann*

Survey Research on Mobile Phone Market for Mobile-Learning in Japan ........................................ 194

*Yoshiko Goda, Yuichi Kogure, Yukinari Shimoyama, Midori Kimura, and Hiroyuki Obari*

Teacher Monitoring System in One-to-One Self-Paced Learning Classroom .................................... 196

*Oskar Y.M. Ku, Owen W.S. Huang, and Tak-Wai Chan*

Innovation of Future Education in Taiwan: Enjoy Learning with Mobile Learning Technology ............ 199

*Chiao-Yu Chang, Chiu-Pin Lin, and Yi-Chen Lin*
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>A System Perspective to Establish a Mobile Collaborative Learning Environment (MCLE) - A Preliminary Study of Empirical Practice</td>
<td>202</td>
</tr>
<tr>
<td>Chiu Pin Lin</td>
<td></td>
</tr>
<tr>
<td>The Game-Based Constructive Learning Environment to Increase English Vocabulary Acquisition: Implementing a Wireless Crossword Fan-Tan Game (WiCFG) as an Example</td>
<td>205</td>
</tr>
<tr>
<td>Chiu-Pin Lin, Shelley Shwu-Ching Young, and Hui-Chun Hung</td>
<td></td>
</tr>
<tr>
<td>Designing an Online Virtual World for Learning and Training</td>
<td>208</td>
</tr>
<tr>
<td>Dennis Cheek and Henry Kelly</td>
<td></td>
</tr>
<tr>
<td>Using the RFID to Construct the Ubiquitous Self-Learning Environment for Understanding the Plants in the Schoolyard</td>
<td>210</td>
</tr>
<tr>
<td>Jenq-Muh Hsu, Yen-Shou Lai, and Pao-Ta Yu</td>
<td></td>
</tr>
<tr>
<td>Analysis on the Prospects of Parent-Adolescent Communication Served by Mobile Technology</td>
<td>213</td>
</tr>
<tr>
<td>Shenggang Yang, Qian Li, Xiaochen Wang, Yushun Li, and Ronghuai Huang</td>
<td></td>
</tr>
<tr>
<td>Designing a Groupware with Handheld Devices for Learning Mathematics</td>
<td>216</td>
</tr>
<tr>
<td>Shu-Yuan Tao, Kuang-Wen Ho, Chen-Wei Chung, Bow-Jhiume Liu, and Chen-Chung Liu</td>
<td></td>
</tr>
<tr>
<td>A SWOT Analysis of m-Learning Diffusion in China and Taiwan</td>
<td>219</td>
</tr>
<tr>
<td>Wei-Mann Lee and Yung-Sheng Chang</td>
<td></td>
</tr>
<tr>
<td>Content Development for CPR over Handheld Devices</td>
<td>222</td>
</tr>
<tr>
<td>Chiu-Pin Lin, Meei-Hwey Lee, and Kuo-Pin Liu</td>
<td></td>
</tr>
<tr>
<td>Collaborative-Inquiry Learning in the Environment: Design Experiment with Distributed Face-to-Face and Mobile Scaffolds</td>
<td>225</td>
</tr>
<tr>
<td>Jari Laru and Sanna Järvelä</td>
<td></td>
</tr>
<tr>
<td>Using web2.0 Software and Mobile Devices for Creating Shared Understanding among Virtual Learning Communities</td>
<td>228</td>
</tr>
<tr>
<td>Jari Laru, and Sanna Järvelä</td>
<td></td>
</tr>
<tr>
<td>Dog Detective - An Experience of Game-Based Ubiquitous Learning in Elementary School Science Experiment Class</td>
<td>231</td>
</tr>
<tr>
<td>Sheng-Hui Hsu, Po-Han Wu, and Yueh-Min Huang</td>
<td></td>
</tr>
</tbody>
</table>

**Author Index** ................................................................. 234