

2011 International Conference on Information Technology & Multimedia

(ICIM 2011)

**Kuala Lumpur, Malaysia
14 – 16 November 2011**



**IEEE Catalog Number: CFP1160P-PRT
ISBN: 978-1-4577-0988-3**

TABLE OF CONTENTS

TRACK 1: INFORMATION SYSTEMS

| | |
|---|----|
| A Simulation Tool to Evaluate the Usability of Agent Centric Resource-Event-Agent (REA) Database Modeling Methodology: The Development of Revenue Cycle in Accounting Information System | 1 |
| <i>Low Loi Ming</i> | |
| E-Waste Management: Are We Ready For It? A Study on the Awareness of COIT Students Toward E-Waste Management | 6 |
| <i>Lim Fung Chen, Haw Wai Yee</i> | |
| Extended Empirical Evaluation of a Visual Environment for Analyzing the Structure of Relational Databases | 11 |
| <i>Haider A. Ramadhan</i> | |
| Analysing Tasks through the Sonification Application and User Interpretation Construction Models | 16 |
| <i>Ag Asri Ag Ibrahim, Andy Hunt</i> | |
| Assessing Organizational Business Intelligence Maturity | 22 |
| <i>In Lih Ong, Pei Hwa Siew, Siew Fan Wong</i> | |

TRACK 2: DATA COMMUNICATION AND NETWORKS 1

| | |
|---|----|
| Genetic Algorithm Approach for Dynamic Configuration of Multicast Broadcast Single Frequency Network Deployment in LTE | 28 |
| <i>N. F. Tuban, M. F. Azman, K. A. Noordin, M. F. Ismail</i> | |
| Genetic Algorithm Approach for Solving Radio Resource Allocation for Overlapping MBSFN Area | 33 |
| <i>M. F. Azman, N. F. Tuban, K. A. Noordin, M. F. Ismail</i> | |
| Adaptive Resource Allocation Scheme for Uplinks in IEEE 802.16 Systems | 38 |
| <i>N. H. M. Tahir, K. A. Noordin</i> | |
| Performance Analysis of MIMO-OFDM Channel Re-Estimation Methods | 44 |
| <i>Wan Amirul Wan Mohd Mahyiddin, Kamarul Ariffin Noordin</i> | |
| English Text Compression for Small Messages | 51 |
| <i>Abhishek Kumar, Syed Mushtaq Ahmed, Vipin Kumar Duleb</i> | |
| User Interestingness for Pre-fetching in Mobile Environment | 56 |
| <i>Roziyah Darus, Hamidah Ibrahim, Mohamed Othman, Lilly Suryani Affendey</i> | |
| An Adaptive Method for Structured Replication Data-centric Storage in Wireless Sensor Networks | 62 |
| <i>Pooya Hejazi, Hamed Hassanzadeh Amin</i> | |

TRACK 3: SOFTWARE ENGINEERING

| | |
|--|----|
| Algorithm Analyzer to Check the Efficiency of Codes | 67 |
| <i>Thamilvaani Arvaree, Rodziah Atan</i> | |
| Empowering UML Application Design with Task Models | 73 |
| <i>Ha Minh Lam, Tanguy Wettengel, Huynh Trung Thong</i> | |
| A Study of Process Improvement Best Practices | 79 |
| <i>Aedah Abd Rahman, Shamsul Sahibuddin, Suhaimi Ibrahim</i> | |
| Power-Performance Analysis of JVM Implementations | 84 |
| <i>Hitoshi Oi</i> | |

TRACK 4: EDUCATION AND E-LEARNING

| | |
|---|-----|
| Internet Addiction and Dependency: A Case Study in UNITEN, Malaysia | 91 |
| <i>Boshra Talebi Haghighi, Marini Othman, Faridah H. Hashim</i> | |
| Searching & Ranking Learning Objects in a Service Oriented Architecture for E-learning | 95 |
| <i>Lian Kei Soo, Eng Thiam Yeoh, Sin Ban Ho</i> | |
| Integrating Computer Game-based Learning into Construction Education | 101 |
| <i>Mohd Fairuz Shiratuddin</i> | |

TRACK 5: DATA COMMUNICATION AND NETWORKS 2

| | |
|---|-----|
| Intelligent Routing Protocol for Multimedia Sensor Networks | 107 |
| <i>Ayesha Nayyar, Faisal Bashir, Ubaid Ur-Rehman, Zara Hamid</i> | |
| Challenges and Practical Implementation of Self-Organizing Networks in LTE/LTE-Advanced Systems | 113 |
| <i>M. M. S. Marwangi, N. Faisal, S. K. S. Yusof, Rozeha A. Rashid, Aimi S. A. Ghafar, Faiz A. Saparudin, N. Katiran</i> | |
| PAPR Analysis of Coded- OFDM System and Mitigating its Effect with Clipping, SLM and PTS | 118 |
| <i>Alok Joshi, Davinder S. Saini</i> | |
| Performance Analysis of Coded-OFDM with RS-CC and Turbo Codes in Various Fading Environment | 123 |
| <i>Alok Joshi, Davinder S. Saini</i> | |
| Parallel Optical Burst Switching (POBS) For Ultra- Dense WDM (U-DWDM) Systems | 129 |
| <i>Abid Abdelouahab, F. M. Abbou, H. T. Ewe</i> | |
| QOS Provisioning In Optical Burst-Switched Networks | 135 |
| <i>Abid Abdelouahab, Bechir Gattoufi, Ali H. Al-Badi</i> | |

TRACK 6: ARTIFICIAL INTELLIGENCE 1

| | |
|---|-----|
| Classification of Materials by Modal Analysis and Neural Network | 139 |
| <i>M. H. Mohd Akil Tan, F. Mat , I. M. Abd Rahim, N. L. Tajul Lile, S. Yaacob</i> | |
| Application of Data Mining Techniques in Customer Relationship Management for An Automobile Company | 144 |
| <i>Alicia Y. C. Tang, Nur Hanani Azami, Norfaezah Osman</i> | |
| Flies Species Recognition for Maggot Therapy Using Neural-Expert Technique | 151 |
| <i>Nursyafinaz Md Yusoff, Nurzeatul Hamimah Abdul Hamid, Shamimi A. Halim</i> | |
| A Novel Algorithm Based on Weakly Connected Dominating Set and Learning Automata and Its Application to Clustering and Routing the Sensor Networks | 155 |
| <i>Nayereh Abtahi Naseri, Mohammad Reza Meybodi, Javad Akbari Torkestani</i> | |
| Image Understanding Using Decision Tree Based Machine Learning | 162 |
| <i>Chesta Agarwal, Abhilasha Sharma</i> | |

TRACK 7: MULTIMEDIA AND IMAGE PROCESSING

| | |
|--|-----|
| Muscularis Mucosae Layer Detection In Colon Biopsy Images | 170 |
| <i>Mohd Yamin Ahmad, Azlinah Mohamed, Yasmin Anum Mohd Yusof, Siti Aishah Md. Ali</i> | |
| Improving the Estimation of Head Pose Orientation by Using Eyeglasses as a Key Feature | 174 |
| <i>Pisal Setthawong, Vajirasak Vannija</i> | |
| Implementing Text Information Display of Detected Color for Partially Color Blinded Person Using .NET Platform and EmguCV Library | 180 |
| <i>Burhan Adi Wicaksana, Riri Fitri Sari</i> | |
| Non-Contact Multi-Hand Gestures Interaction Techniques for Architectural Design in a Virtual Environment | 186 |
| <i>Mohd Fairuz Shiratuddin, Kok Wai Wong</i> | |
| An Augmented Reality's Framework for Mobile | 192 |
| <i>W. W. Oui, Edmund G. W. Ng, Rehman Ullah Khan</i> | |
| Multi-level Shape Description Technique | 196 |
| <i>N. D. Salih, Rosli Besar, F. S. Abas</i> | |

TRACK 8: INFORMATION SECURITY

| | |
|--|-----|
| A Secure Tracking System for GPS-Enabled Mobile Phones | 201 |
| <i>Hasan Tahsin Bilgic, Ali Ziya Alkar</i> | |
| Register Flooding Attacks Detection in IP Multimedia Subsystems by Using Adaptive z-score CUSUM Algorithm | 206 |
| <i>Elham Nosrati, Azar Saadaat Kashi, Yashar Darabian, S. Navid Hashemi Tonekaboni</i> | |
| EWA: An Exemplar-based Watermarking Attack | 210 |
| <i>Amir Hossein Taherinia, Mansour Jamzad</i> | |

| | |
|---|-----|
| Secure Service Mechanism of Video Surveillance System Based on H.264/SVC | 215 |
| <i>Su-Wan Park, Jong Wook Han, Sang-Uk Shin</i> | |
| Indirect DNS Covert Channel Based on Name Reference for Minima Length Distribution | 219 |
| <i>S. N. Omar, I. Ahmedy, M. A. Ngadi</i> | |
| Eigenvalue Steganography Based on Eigen Characteristics of Quantized DCT Matrices | 225 |
| <i>Yasser M. Behbahani, Parham Ghayour, Amir Hossein Farzaneh</i> | |
| Security, Trust and Privacy (STP) Framework for Federated Single Sign-on Environment | 229 |
| <i>Zubair Ahmad Khattak, Suziah Sulaiman, Jamalul-Lail Ab Manan</i> | |

TRACK 9: DATA COMMUNICATION AND NETWORKS 3

| | |
|---|-----|
| A Remote Patient Monitoring System in an Ad Hoc Sensor Network Environment | 235 |
| <i>N. S. Mukunda, Thrivikrama, Vinay Padmanabhi, A. Srinivas, Ajay Gupta</i> | |
| A Link Adaptation Scheme for Improving Voice Quality and Overall Throughput over WLANs | 241 |
| <i>Mehmet Fatih Tüysüz, Hacı Ali Mantar</i> | |
| Fast Retransmission Mechanism and End to End QoS Support for VoIP Applications over IEEE 802.11e WLANs | 247 |
| <i>Mehmet Fatih Tüysüz, Hacı Ali Mantar</i> | |
| A Local Estimation of Node Quantity and Channel Density for VoIP Applications over IEEE 802.11e WLANs | 252 |
| <i>Mehmet Fatih Tüysüz, Hacı Ali Mantar</i> | |
| Adaptive Channel Access Tuning and QoS Support for Multimedia Applications over IEEE 802.11e WLANs | 257 |
| <i>Mehmet Fatih Tüysüz, Hacı Ali Mantar</i> | |
| Fitted Dynamic Framed Slotted ALOHA Anti-Collision Algorithm in RFID Systems | 262 |
| <i>Masoud Shakiba, Azam Zavvari, Elankovan Sundararajan</i> | |

TRACK 10: ARTIFICIAL INTELLIGENCE 2

| | |
|---|-----|
| A Multi-Objective Neuro-Evolutionary Optimization Approach to Intelligent Game AI Synthesis | 268 |
| <i>Kar Bin Tan, Jason Teo, Patricia Anthony</i> | |
| Emergence of Social Intelligence in Social Network: A Quantitative Analysis for Agent-mediated PKM Processes | 273 |
| <i>Shahrinaz Ismail, Mohd Sharifuddin Ahmad</i> | |
| A Conceptual Knowledge Management Framework in Consultancy Services | 280 |
| <i>Nur Atiqah Bt Mohamed Farid, Mohd Sharifuddin Ahmad</i> | |
| Knowledge Audit for References and Customer Services Unit at UNITEN Library | 285 |
| <i>Zuher Hamed Al-Omari, Mohd Sharifuddin Ahmad</i> | |
| Fast BackPropagation Neural Network Algorithm for Reducing Convergence Time of BPNN Image Compression | 291 |
| <i>Omaima N. Ahmad Al-Allaf</i> | |

TRACK 11: PARALLEL AND GRID COMPUTING

| | |
|---|-----|
| Comparison of Load Balancing Algorithms for Clustered Web Servers | 297 |
| <i>Anjad Mahmood, Irfan Rashid</i> | |
| Conversion the Time Dependent Grid Data of NetCDF to SEDRIS Transmittal Format | 303 |
| <i>Won. K. Hwam, Yongho Chung, Yongjin Kwon, Sang. C. Park</i> | |
| Parallel Execution of Distributed SVM Using MPI (CoDLib) | 308 |
| <i>Nur Shakirah Md Salleh, Azizah Suliman, Abdul Rahim Ahmad</i> | |
| Improved Bully Election Algorithm in Distributed Systems | 312 |
| <i>A. Arghavani, E. Ahmadi, A. T. Haghghat</i> | |
| Author Index | |