

# **2011 Eighth International Joint Conference on Computer Science and Software Engineering**

**(JCSSE 2011)**

**Nakhon Pathom, Thailand  
11-13 May 2011**



**IEEE Catalog Number: CFP1132P-PRT**  
**ISBN: 978-1-4577-0686-8**

# 2011 Eighth International Joint Conference on Computer Science and Software Engineering (JCSSE)

## Table of Contents

Message from Honorary General Chair .....	x
Message from Honorary General Co-chair .....	xi
Message from General Chair .....	xii
Keynote Speaker .....	N/A
Program Committee .....	xvii

### Track 1 : Computer Networks and Communications

A Comparative Study on Indoor Localization based on RSSI Measurement in Wireless Sensor Network .....	1
<i>Ratana Priwgharm, Panarat Cherntanomwong</i>	
A Study of Autonomous System Relationships within Thailand .....	7
<i>Hathaithep Siritana Sukumal Kitisiin and Sethavidh Gertphol</i>	
An Improved Bound for Multiple Source-sink Linear Network Coding .....	12
<i>Munin Eamopas and Jittat Fakcharoenphol</i>	
Coexistence of SCTP and TCP Variants under Self-Similar Network .....	17
<i>Luck Charoenwatana and Sukunya Rattanabumrung</i>	
Distributed Honeypot Log Management and Visualization of Attacker Geographical Distribution .....	23
<i>Vasaka Visoottiviseth, Uttapol Jaralrungrroj, Ekkachai Phoomrungraungsuk and Pongpak Kultanon</i>	
Game-Based Analysis of Eavesdropping Defense Strategy in WMN with Directional Antenna .....	29
<i>Pat Boonyakarn, Patrachart Komolkiti and Chaodit Aswakul</i>	
Mobile MPLS with Route Optimization: The Proposed Protocol and Simulation Study .....	34
<i>Savinya Polvichai and Prawit Chumchu</i>	
Novel Radio Resource Management for High Density Chaotic Wireless LANs .....	40
<i>Suparerk Manitpornsut</i>	

Passive Monitoring Method for Analysis Quantum Key Distribution Performance Statistics.....	46
<i>Montida Pattaranantakul, Kanyalag Phodong, Chavee Issariyapat, Paramin Sangwongngam and Rachada Kongkachandra</i>	
Performance Evaluation of Antenna Arrays for Wireless Digital Communications .....	'P IC
<i>Thaweewong Akkaralaertsest, Surin Ngaemngam and Narongrit Mekloi</i>	
Performance Improvement of Cloud Storage using a Genetic Algorithm based Placement.....	54
<i>Kanatorn Jindarak and Putchong Uthayopas</i>	
Personal Cloud Filesystem: A Distributed Unification Filesystem for Personal Computer and Portable Device.....	58
<i>Smith Dhumbumroong and Krerk Piromsopa</i>	
Security Analysis of the TMN Protocol by Using Coloured Petri Nets : On-the-fly Trace Generation Method and Homomorphic Property.....	63
<i>Yongyuth Permpoontanalarp and Apichai Changkhanak</i>	
Transforming State Tables to Coloured Petri Nets for Automatic Verification of Internet Protocols.....	69
<i>San Choosang and Steven Gordon</i>	
Wi-Fi Acces Point Discovery System for Mobile Users.....	75
<i>Yuto Nakai, Kohta Ohshima, Koji Tajima and Matsuaki Terada</i>	

<b>Track 2 : Computational Intelligence</b>
---------------------------------------------

3D Shot Course Estimation System for Tactics Analysis Support of Handball Games.....	83
<i>Ayako Abe and Ikuko Shimizu</i>	
A Model of Ontology Driven Case-Based Reasoning for Electronic Issue Management Systems.....	87
<i>Thitiphob Pangjitt and Thanwadee Sunetnanta</i>	
A Novel Approach for Spam Detection Using Boosting Pages.....	91
<i>Chakrit Likitkhajorn, Athasit Surarerks and Arnon Rungsawang</i>	
A Web - Based Decision Support System For Eco Tourism Planning: A Case Study of National Park In Chiangmai Province.....	96
<i>Phruksa Sinleunam, Kanat Poolsawad and Suratose Tritilanunt</i>	
Automatic Extraction of Retinal Vessels Based on Gradient Orientation Analysis.....	102
<i>Danu Onkaew, Rashmi Turior, Bunyarit Uyyanonvara and Toshiaki Kondo</i>	

Classification of Japanese Onomatopoeias using Hierarchical Clustering Depending on Contexts.....	108
<i>Kanako Komiya and Yoshiyuki Kotani</i>	
Event Recognition from Information-Linkage Based Using Phrase Tree Traversal .....	114
<i>Rattasit Sukhahuta and Chadchai Sukanun</i>	
Evolutionary Artificial Neural Networks on Simulated Soccer Robots.....	119
<i>Kunthawat Suthambut and Jumpol Polvichai</i>	
Investigation of Using Variant Differential Evolutions on Optimizing 2-Level Self-Organizing Map.....	123
<i>Phichete Julrode and Siriporn Supratid</i>	
Medical Image Blob Detection with Feature Stability and KNN Classification.....	128
<i>Krit Inthajak, Cattleya Duanggate, Bunyarit Uyyanonvara, Stanislav Makhanov and Sarah Barman</i>	
Model-Based System Tool for Thai Tax Revenue Forecasting (MBS-TTRF).....	132
<i>Jarernsri L.Mitrpanont and Pattama Tounprasert</i>	
Modify GA by Using Arithmetic Crossover for PAPR Reduction in OFDM Systems.....	P IC
<i>Chusit pradabpet , Sutud U-thong, Phayung Desyoo and Surapan Yimman</i>	
Pulse Inversion Linear Bandpass Filter for Detecting Subharmonic from Microbubbles.....	143
<i>Chinda Samakee and Pornchai Phukpattaranont</i>	
Robust Object Detection on Video Surveillance.....	149
<i>Nuttapong Chaiyawatana, Bunyarit Uyyanonvara, Toshiaki Kondo, Premnath Dubey and Yoshinori Hatori</i>	
Solving Software Module Clustering Problem by Evolutionary Algorithms.....	154
<i>Kata Praditwong</i>	
Thai Handwritten Character Recognition Using Heuristic Rules Hybrid with Neural Network.....	160
<i>Jarernsri L.Mitrpanont and Yingyot Imprasert</i>	
The Survival Robots : An Artificial Life.....	166
<i>Jumpol Polvichai and Ugrit Boonpramarn</i>	
Using Word Segmentation and SVM to Assess Readability of Thai Text for Primary School Students.....	170
<i>Patcharanut Daowadung and Yaw-Huei Chen</i>	

### **Track 3 : Multimedia and Computer Graphics**

3D Hand Pose Modeling from Uncalibrate Monocular Images.....	177
<i>Theeraphat Sajjawiso and Pizzanu Kanongchaiyos</i>	
A New Objective Visual Fatigue Measurement System by Using a Remote Infrared Camera .....	182
<i>Jinman Kim, Eui Chul Lee and Joa Sang Lim</i>	
Adaptive View-Dependent Tree Graph Visualization.....	187
<i>Hiroko Nakamura Miyamura, Satoshi Ohzahata, Yuji Shinano and Ryuhei Miyashiro</i>	
Conslide: a Thai Soft Keyboard for Mobile Text Input.....	193
<i>Silpol Sukswai and Krerk Piromsopa</i>	
Fast Facial Recognition System.....	P IC
<i>Hlaing Htake Khaung Tin, Ei Phyto Wai and Myint Myint Sein</i>	
Inbound Logistics Cassava Starch Planning with application of GIS and K-means Clustering methods in Thailand .....	204
<i>Rattanasit Thangkitjaroenmongkol, Supaporn Kattitsin and Songpol Ongwattanakul</i>	
Performance Optimization of Thai Virtual Keyboard for Social Networking.....	210
<i>Jirapat Simathamanand and Krerk Piromsopa</i>	
Scan Conversion for Bézier Curve Using Degree Elevation Technique.....	214
<i>Chitsanuphong Thanutong and Natasha Dejdumrong</i>	

### **Track 4 : Computer Systems**

A FPGA Design of AES Core Architecture for Portable Hard Disk.....	223
<i>Khanob Thongkhome, Chalermwat Thanavijitpun and Somsak Choomchuay</i>	
An FPGA Implementation of ATA Host Controller toward Scalable iATA NAS .....	229
<i>Napat Luevisadpaibul, Salita Sombatsiri and Krerk Piromsopa</i>	
Data Dependency Reduction in Dynamic Programming Matrix.....	234
<i>Guillermo Delgado and Chatchawit Aporntewan</i>	
Efficient Large Pearson Correlation Matrix Computing using Hybrid MPI/CUDA.....	237
<i>Ekasit Kijispongse, Suriya U-ruekolan, Chumpol Ngamphiw and Sissades Tongshima</i>	
Node-to-Set Disjoint Paths in Substring Reversal Graphs.....	242
<i>Sinyu Jung and Keiichi Kaneko</i>	
Parallelization of European Monte-Carlo Options Pricing on Graphics Processing Units.....	247
<i>Chat Niramarnsakul, Prabhas Chongstitvatana and Mark Curtis</i>	

Performance Evaluation of ZFS and LVM (with ext4) for Scalable Storage System.....	250
<i>Veerapat Phromchana , Natawut Nupairoj and KrerK Piromsopa</i>	

## **Track 5 : Information Technology**

A Comparison Study of Flickr’s Folksonomies and Ontologies.....	257
<i>Rachanee Ungrangsi and Chutiporn Anutariya</i>	
A Similarity Model for Bibliographic Records Using Subject Headings.....	263
<i>Suthathip Maneewongvatana and Songrit Maneewongvatana</i>	
Applying Software Fault Tolerance Patterns to WS-BPEL Processes.....	269
<i>Thawee Thaisongsuwan and Twittie Senivongse</i>	
Defining Global Schema for ETL of Human Resource Performance Appraisal System Using REA Ontology.....	275
<i>Udomchai Sutheparaks , Wiwat Vatanawood and Chate Patanothai</i>	
Enhancing Service Selection with a Provider Trustworthiness Model.....	281
<i>Aekkachai Sumetanupap and Twittie Senivongse</i>	
eXET: A Rule-based Semantic Computing Engine.....	P IC
<i>Krich Nasingkun</i>	
Nebular: a Sentiment Classification System for the Tourism Business.....	293
<i>Srisupa Palakvangsa-Na-Ayudhya, Veerapat Sriarunrungreung, Pantipa Thongprasan and Satit Porcharoen</i>	

## **Track 6 : Software Engineering**

A Development of Process-Based Composite Contexts for Mobile Device Platforms Based on Model Driven Architecture.....	301
<i>Ekawit Gultawatvichai and Twittie Senivongse</i>	
A Process Model Design and Tool Support for Information Assets Access Control using Security Patterns.....	307
<i>Mathaya Ratchakom and Nakornthip Prompoon</i>	
A Weak Mutation Testing Framework for WS-BPEL.....	313
<i>Panya Boonyakulsrirung and Taratip Suwannasart</i>	
An Approach for Source Code Classification to Enhance Maintainability.....	319
<i>Pornchai Lerthathairat and Nakornthip Prompoon</i>	
An Efficient Approach for Data-duplication Detection Based on RDBMS.....	325
<i>Kiattisak Chanhom and Juggapong Natwichai</i>	

Bad-smell Prediction from Software Design Model Using Machine Learning Techniques.....	331
<i>Nakarin Maneerat and Pornsiri Muenchaisri</i>	
OPI Model: A Methodology for Development Metric based on Outcome Oriented.....	337
<i>Kaenchan Thammarak and Sarun Intakosum</i>	
Processe Based Identification of Software Project Manager Soft Skills.....	343
<i>Malgorzata Pinkowska, Bogdan Lent and Somnuk Keretho</i>	
Towards A Complete Project Oriented Risk Management Model: A Refinement of PRORISK.....	349
<i>Boriwat Suebkuna and Sakgasit Ramingwong</i>	
XCourEva: XML-based Course Evaluation System.....	355
<i>Somchai Chatvichienchai</i>	

## Track 7 : Knowledge and Data Management

A Combination of Decision Tree Learning and Clustering for Data Classification.....	363
<i>Chinnapat Kaewchinporn, Nattakan Vongsuchoto and Anantaporn Srisawat</i>	
Clustering by Attraction and Distraction.....	368
<i>Jaruloj Chongstitvatana and Wanwara Thubtimdang</i>	
Extracting Tasks in Design Process Records.....	373
<i>Katsuaki Tanaka and Koichi Hori</i>	
Mining Social Networks of Thai Researchers in IT-Related Areas.....	379
<i>Songsri Tangsripairoj and Usanee Sripirom</i>	

### **Ubiquitous Computing for Symbio-Information Processing (UCSIP) Workshop**

An Educational Game for Learning Wind and Gravity Theory on iOS: Drop Donuts.....	387
<i>Kawin Wattanatchariya, Satapond Chuchuaikam and Natasha Dejdumrong</i>	
Categorization of the Product Pages Depending on the Information on the Web.....	393
<i>Naoto Sato, Kanako Komiya, Koji Fujimoto and Yoshiyuki Kotani</i>	
Compact Microstrip Bandstop Resonator for Dual-Band Wireless Communication.....	399
<i>Punyawi Jamjareekul</i>	

DAA: Distributed Address Auto-configuration for Mobile Ad Hoc Networks.....	403
<i>Vasaka Visoottiviseth, Chaiwat Yanprasop and Panita Pongpaibool</i>	
Improving Dual-Hop Amplify-and-Forward Cooperative Mobile Network Based on Path Selection and STBC with Pre-Coding Scheme.....	409
<i>Paitoon Poonsawatt and Punyawit Jamjareekul</i>	
Overview of the Symbio-Information Processing Project of TUAT .....	414
<i>Hironori Nakajo, Kaori Fujinami, Kinya Fujita, Keiichi Kaneko, Konosuke Kawashima, Toshiyuki Kondo, Yoshiyuki Kotani, Yasue Mitsukura, Masaki Nakagawa, Takafumi Saito, Ikuko Shimizu and Matsuaki Terada</i>	
Patient Information Exchange via Web Services in HL7 v3 for Two Different Healthcare Systems.....	420
<i>Sudsanguan Ngamsuriyaraj, Chatchai Siricharnchaikul, Suparat Hanam and Techat Tatsanaboonya</i>	
The History of Hacking SIGMA: an Autonomous and Collaborative Vocabulary Learning System.....	426
<i>Keiichi Kaneko and Haruko Miyakoda</i>	

Author Index