

2009 International Conference for Internet Technology and Secured Transactions

(ICITST 2009)

**London, United Kingdom
9 – 12 November 2009**



IEEE Catalog Number: CFP0981I-PRT
ISBN: 978-1-4244-5647-5

TABLE OF CONTENTS

Verification of Security Properties of Payment Protocol Using AVISPA	1
<i>R. Shaikh, S. Devane</i>	
A Formal Security Proof for the Z RTP Protocol	7
<i>R. Bresciani, A. Butterfield</i>	
A New Algorithm for Controlling the Mean Queue Length in a Buffer with Time Varying Arrival Rate	13
<i>R. Fares, M. Woodward</i>	
Practical Study of a Defense Against Low-Rate TCP-Targeted DoS Attack	19
<i>P. Efstatopoulos</i>	
Compact and User-Friendly Representation of IPv6 Addressing Approach and Masking	25
<i>M. E. ul Haq, M. R. Perwaz, K. Ahmed</i>	
Seamless Integration of Unidirectional Broadcast Links into QoS-constrained Broadband Wireless Mesh Access Networks	30
<i>M. Kretschmer, G. Ghinea</i>	
Detecting Misbehaving Nodes in MANET with an Artificial Immune System Based on Type-2 Fuzzy Sets	32
<i>A. Visconti, H. Tahayori</i>	
State of the Art in Wireless LAN Security – Results and Implications of an Empirical Study Concerning German Companies and Federal Authorities	34
<i>D. Fischer, B. Markscheffel</i>	
Multi-Agent Systems to Build a Computational Middleware: A Chatterbot Case Study	39
<i>A. F. M. Batista, M. G. B. Marietto, G. C. O. Barbosa, R. S. França, G. Kobayashi</i>	
Email Classification: Solution with Back Propagation Technique	41
<i>T. Ayodele, S. Zhou, R. Khusainov</i>	
Significant of Features Selection for Detecting Network Intrusions	47
<i>W. S. Al-Sharafat, R. Naoum</i>	
Intelligent Strategies and Techniques for Effective Cyber Security, Infrastructure Protection and Privacy	53
<i>E. Hooper</i>	
A Semantic-Based Conversational Agent Framework	60
<i>K. O'Shea, Z. Bandar, K. Crockett</i>	
An Expert System for Stress Management	68
<i>A. Romli, A. P. Cha</i>	
Intelligent Email Prediction System (IEPS)	74
<i>T. Ayodele, S. Zhou, R. Khusainov</i>	
Water Quality Classification Using Neural Networks: Case Study of Canals in Bangkok, Thailand	79
<i>S. Areerachakul, S. Sangnusintukul</i>	
Modeling Quality Management System: A Multi-Agent Approach	84
<i>H. B. Mahmoud, R. Ketata, T. B. Romdhane, S. B. Ahmed</i>	
Tree Distribution Classifier for Automatic Spoken Arabic Digit Recognition	90
<i>N. Hammami, M. Sellam</i>	
Traffic Simulation and Intelligent Agents	94
<i>M. Radecký, P. Gajdoš</i>	
A Study on Security Status Matrix (SSM) in Urban Computing	100
<i>H. Ko, C. Ramos</i>	
Syntactic Learning for ESEDA.1, a Tool for Enhanced Speech Emotion Detection and Analysis	106
<i>J. Sidorova, T. Badia</i>	
Usability Driven Website Design – An Equine Sports Case Study	112
<i>R. Wilkins, A. Nyampafene</i>	
User Interface in Virtual Learning Environment	118
<i>S. Barzegar, M. Shojafar, M. R. Keyvanpour</i>	
Network and Content Aware Information Management	124
<i>S. Boldyrev, I. Oliver, R. Brown, J. Tuupola, A. Palin, A. Lappetelainen</i>	
Architectural Model for a High Performance Content Management System	131
<i>R. Vasilescu</i>	
Evaluation of Question Classification Systems Using Differing Features	137
<i>A. Harb, M. Beigbeder, J. Girardot</i>	

Data Retrieval from Online Social Network Profiles for Social Engineering Applications.....	143
<i>S. Alim, R. Abdul-Rahman, D. Neagu, M. Ridley</i>	
A Novel Approach Using Transformation Techniques and Decision Tree Algorithm on Images for Performing Digital Watermarking.....	148
<i>S. B. Patel, T. B. Mehta, S. N. Pradhan</i>	
Efficient Information Retrieval via Proxy Caching Mechanisms within a Lossy Environment	154
<i>A. Anand, X. Peng, R. Haywood</i>	
A Comparison of Search Engine Using “Tag Title and Abstract” with CiteULike – An Initial Evaluation	160
<i>P. Jomsri, S. Sangnansintkul, W. Choochaiwattana</i>	
Intertextual Distance for Arabic Texts Classification.....	165
<i>R. Ayadi, M. Maraoui, M. Zrigui</i>	
Cloud Computing: The Impact on Digital Forensic Investigations.....	171
<i>S. Biggs, S. Vidalis</i>	
The Composite Algebraic Structure over Capabilities and Actions of a System.....	177
<i>P. Pinkas, J. Klecková</i>	
Cross-Domain Classification: Trade-Off between Complexity and Accuracy	183
<i>E. Lex, C. Seifert, M. Granitzer, A. Juffinger</i>	
Solving Security Issues Using Information Security Awareness Portal	189
<i>A. Tolhai, S. von Solms</i>	
Community-oriented Software Engineering Ontology Evolution.....	194
<i>P. Wongthongtham, N. Kasisopha, S. Komchalaiw</i>	
Open Source Software for Personal Information Managers and Personal Knowledge Management.....	198
<i>K. M. Khan, U. Naik</i>	
A Multi-agent Development Approach Based on the MDA for Modelling Information Systems.....	210
<i>A. El Fazziki, S. Nouzri, M. Sadgal</i>	
A Research on the Establishment of Enterprise Information Architecture.....	216
<i>T. Wu, S. Liu</i>	
Aggregating Policies in User Centric, Real-time and Distributed Applications	222
<i>T. Kirkham, I. Dahn, D. Chadwick, M. Santos, S. Winfield</i>	
Knowledge Management (KM) in Automobile: Application of a Value Chain (VC) Approach Using KM Tools.....	228
<i>S. Sukumaran, M. V. Shetty</i>	
An Analysis of Information Systems Security Management (ISSM): The Hierarchical Organizations vs. Emergent Organization	234
<i>A. A. Norman, N. M. Yasin</i>	
An Integrated Framework for Modelling The Adoptive Behaviour of Online Product Recommendations.....	242
<i>W. Lin</i>	
PKI and UDDI Based Trust Centre: an Attempt to Improve Web Service Security	247
<i>W. Rekik, M. Khemakhem, A. Belghith, J. Fayolle</i>	
Context-sensitive Authorization for Asynchronous Communications	251
<i>V. Hourdin, J. Tigli, S. Lavirotte, G. Rey, M. Riveill</i>	
Identity Management in a Mobile Service Orientated Grid	258
<i>T. Kirkham, K. Konstanteli, J. Gallop, C. Lalos, I. Johnson</i>	
RBStreX: Hardware XML Parser for Embedded System	264
<i>C. E. Chang, F. Mohd-Yasin, A. K. Mustapha</i>	
On Securing Privacy in Composite Web Service Transactions	270
<i>R. Hewett, P. Kijasanayothin</i>	
Towards Securing E-Transactions in E-Government Systems of Saudi Arabia	276
<i>A. Gamlo, O. Bamasak</i>	
Grid Resource Discovery Based on Web Services.....	283
<i>D. Cokuslu, A. Hameurlain, K. Erciyies</i>	
A Comparative Study on Client Server Technology and Web Technology in Design and Implementation of an Embedded System Used for Monitoring and Controlling of Physical Parameters	289
<i>S. Baruah, A. K. Mahanta, K. C. Sarma</i>	
Web Eum Mobile based Dynamic Market Information Support for Agri-Horti Produces: Linking the Farmers with Market	295
<i>N. Anandaraja, N. Sriram, C. Kathiresan, S. Sebastian, E. Vadivel</i>	

On the Fractal Characteristics of Internet Network Traffic and Its Utilization in Covert Communications	301
<i>R. R. Marie, J. M. Blackledge, H. E. Bez</i>	
A Heuristic-based Runtime Ranking for Service Composition.....	307
<i>F. G. A. de Oliveira Jr., J. M. P. de Oliveira</i>	
Privacy and Trust Policies within SOA.....	313
<i>D. S. Allison, H. F. EL Yamany, M. A. M. Capretz</i>	
Noisy Password Security Technique	319
<i>K. Alghathbar, H. Mahmoud</i>	
Software Distribution as a Malware Infection Vector	324
<i>F. Gröbert, A. Sadeghi, M. Winandy</i>	
The Impact of Information Security on Latin America	330
<i>J. M. Gonçalves, F. R. N. Fernandes</i>	
A Novel True Random Binary Sequence Generator Based on a Chaotic Double Scroll Oscillator Combination with a Pseudo Random Generator for Cryptographic Applications	335
<i>R. A. Guinée, M. Blaszczyk</i>	
Trust-based Framework for Security Enhancement of P2PSIP Communication Systems	341
<i>X. Zheng, V. Oleshchuk</i>	
A Computer Based Strategy Design for Automobile Spare Part Logistics Network Optimization	347
<i>G. Yi, L. Xinda, W. Dong</i>	
The Elements Influencing the Online Price Dispersion on Iranian Electronic Retailers.....	353
<i>M. Arefi, A. M. Amini</i>	
An Efficient Iris Authentication Using Chaos Theory-based Cryptography for E-commerce Transactions	361
<i>A. Rahimi, S. Mohammadi, R. Rahimi</i>	
Use of the New Smart Identity Card to Reinforce Electronic Voting Guarantees	367
<i>J. C. Gallardo, E. P. Belleboni</i>	
e-Conviviality in Web Systems by the Wisdom of Crowds.....	373
<i>S. Kaufmann, C. Schommer</i>	
A Conceptual Framework for Business Driven Integration.....	375
<i>U. Barchetti, A. L. Guido, L. Mainetti</i>	
E-government Adoption in the Hashemite Kingdom of Jordan: Factors from Social Perspectives	381
<i>M. K. Alomari, K. Sandhu, P. Woods</i>	
E-Profile-based Security for Critical Transactions in Web Applications	388
<i>J. Stephan, N. Wakim, Y. Badr</i>	
A Project Management Ontology as a Reference for e-Government Projects.....	390
<i>D. Sarantis, D. Askounis</i>	
Pattern Approach to Business-to-Business Transactions	398
<i>M. Niwe, J. Strina</i>	
Transactions and Service Level Agreements for Online Music Distribution.....	404
<i>A. Finger, H. Meyer, T. Rieger, A. Heuer</i>	
Finding an Effective and Secured Information System in E-Commerce Environment	411
<i>M. M. Rahman, K. M. Rezaul, A. Hossain</i>	
The Society and Electronic Government Usage	419
<i>C. E. Azenabor, M. Dastbaz, C. A. Shoniregun, C. Imafidon</i>	
A Secure Audio Steganography Approach	427
<i>M. Zamani, A. B. A. Manaf, R. B. Ahmad, F. Jaryani, H. Taherdoost, A. M. Zeki</i>	
A Framework for Online Counter Terrorism	433
<i>K. Zolfaghari, A. Barfar, S. Mohammadi</i>	
Object Based Dynamic Separation of Duty in RBAC	438
<i>M. A. Habib, C. Praher</i>	
A Roadmap to Develop Enterprise Security Architecture	443
<i>M. Tahajod, Azadeh Iranmehr, Arya Iranmehr, M. R. Darajeh, D. Branch, S. Branch</i>	
Metrics for Network Forensics Conviction Evidence	448
<i>A. R. Amran, R. C. Phan, D. J. Parish</i>	
Towards Development of a Trust Grid to Balance Between Organization's Interests and Employee's Privacy	456
<i>G. Ali, N. A. Shaikh, Z. A. Shaikh</i>	
Signifying Ontology Complexity for Knowledge Sharing	462
<i>P. Wongthongtham, B. Zadjabbari</i>	
Islamic Knowledge Ontology Creation	467
<i>S. Saad, N. Salim, H. Zainal</i>	

On the Fly Generation of Mobile Learning Structured Multimedia Content from the Web	473
<i>M. Alzaabi, J. Berri, M. J. Zemerly</i>	
Towards Spatial Awareness in Recommender Systems	480
<i>C. Stiller, F. Roß, C. Ament</i>	
Low Power Design for Silent Pass Authentication System.....	487
<i>K. Alghathbar</i>	
Secure Biometric System for Accessing Home Appliances via Internet.....	488
<i>A. Mondal, K. Roy, P. Bhattacharya</i>	
An Access Control Approach for Privacy-Preserving Passive Network Monitoring.....	495
<i>G. V. Lioudakis, F. Gogoulas, A. Antonakopoulou, A. S. Mousas, I. S. Venieris, D. I. Kaklamani</i>	
Modified Slotted ALOHA Protocol for RFID Tag Collisions	503
<i>W. Zhou, G. Kapoor, S. Piramuthu</i>	
Detecting Errors in Digital Communications with CRC Codes Implemented with FPGA	505
<i>C. Anton, L. Ionescu, I. Tutanescu, A. Mazare, G. Serban</i>	
Multiple Criteria Routing Algorithms to Increase Durability Path in Mobile Ad hoc Networks	511
<i>S. Tabatabaei</i>	
A Robust Trust Establishment Framework Using Dempster-Shafer Theory for MANETs	516
<i>M. Karimi, M. Fathian</i>	
A Rotary PIN Entry Scheme Resilient to Shoulder-Surfing	523
<i>P. Shi, B. Zhu, A. Youssef</i>	
The VoIP Intrusion Detection through a LVQ-based Neural Network	530
<i>Z. Lu, T. Peng</i>	
The Website Census.....	536
<i>A. Qadeer, W. Mahmood, A. Waheed</i>	
Detection of Applications Within Encrypted Tunnels Using Packet Size Distributions	542
<i>G. Mujtaba, D. J. Parish</i>	
Mixed Load Balance Strategy to Improve Performance Efficacy for Three Tiers Peer-to-Peer Network Topology	548
<i>Y. F. Chan, C. A. Shoniregun, G. A. Akmayeva</i>	
IDS 3G – Third Generation for Intrusion Detection: Applying Forecasts and Return on Security Investment to Cope with Unwanted Traffic	555
<i>E. Pontes, A. E. Guelfi</i>	
Towards Secure Information Systems in Online Banking	561
<i>Z. Karim, K. M. Rezaul, A. Hossain</i>	
A Networked Registration Scheme for Enhancing Trust	567
<i>J. A. Pickering, C. J. Gutteridge</i>	
Critical Analyses of Alerts Swamping and Intrusion Redundancy	572
<i>J. O. Nehinbe</i>	
Improvement of Authentication of Anycast Communication	580
<i>C. Liu</i>	
An Autonomic Multiagent System Ontology-Based for Management of Security of Information	583
<i>R. R. de Azevedo, E. R. G. Dantas, R. C. dos Santos, C. Rodrigues, F. Freitas, M. J. Siqueira</i>	
Applying Semantic Web and User Behavior Analysis to Enforce the Intrusion Detection System	592
<i>Y. F. Chan, C. A. Shoniregun, G. A. Akmayeva, A. Al-Dahoud</i>	
Web 2.0 Integration in a Context-Aware Mobile PIM Application.....	597
<i>T. M. Grønli, G. Ghinea</i>	
Managing Trade-Offs between Information Loss and Latency in Real-Time Distributed Systems	599
<i>H. W. Maalouf</i>	
Server Virtualization by User Behaviour Model using a Data Mining Technique – A Preliminary Study	605
<i>D. Prangchumpol, S. Sanguansintukul, P. Tantasanawong</i>	
Generic Framework for Recommendation System Using Collective Intelligence	610
<i>A. Patel, A. Balakrishnan</i>	
Multi-Platform Bluetooth Remote Control	616
<i>J. Hansen, G. Ghinea</i>	
The Application of Association Rules Algorithm on Web Search Engine.....	618
<i>N. Lu, C. Zhou, L. Cui</i>	
Freshness of Web Search Engines: Improving Performance of Web Search Engines Using Data Mining Techniques	626
<i>S. Kharazmi, A. F. Nejad, H. Abolhassani</i>	
Web Visualization Support for Disaster Management	633
<i>P. Gajdoš, M. Radecký</i>	

Webometric Analysis of Central Universities in India: A Study	639
<i>S. K. Jalal, S. C. Biswas, P. Mukhopadhyay</i>	
A Simple High-Availability Multiple-Agent Key Recovery System.....	648
<i>K. Kanyamee, C. Sathitwiriyawong</i>	
Architectures for Identity Management	654
<i>M. I. Chehab, A. E. Abdallah</i>	
A Survey of SQL Injection Defense Mechanisms.....	662
<i>K. Amirthahmasebi, S. R. Jalalinia, S. Khadem</i>	
A Fault-Tolerant Mechanism for Reducing Pollution Attacks in Peer-to-Peer Networks	670
<i>T. I. Wang, T. Y. Yeh</i>	
Design of Analog to Digital Converter for SDR (Software Defined Radio)	676
<i>K. V. Shriram, K. Venkateshwaran, V. Vaithiyathan, V. Subashri</i>	
Simplified Link Reliability Enhancement Schemes for Wireless Networks	681
<i>B. H. Lim, C. E. Tan</i>	
MagicNET: XACML Authorization Policies for Mobile Agents	687
<i>A. Giambruno, M. A. Shibli, S. Mufitic, A. Lioy</i>	
Performance Evaluation of IEEE 802.11 DCF in Comparison with IEEE 802.11e EDCA	694
<i>B. Rauf, M. F. Amjad, K. Ahmed</i>	
Secure TCP/IP Communications over DVB-S/DVB-RCS Using Chaotic Sequences.....	700
<i>D. Caragata, S. El Assad, I. Tutanescu, E. Sofron</i>	
A Model and Design of a Security Provider for Java Applications	706
<i>A. G. Abbasi, S. Mufitic, G. Schmöller</i>	
Who Regulates the Regulator: Oversight of the Canadian Radio-Television and Telecommunications Commission	713
<i>D. Rixon, M. Furey</i>	
Unduplicable Quantum Data Medium Based Secret Decryption and Verification.....	722
<i>L. Gyongyosi, S. Imre</i>	
Data Virtualization in Grid Environments through the GRelC Data Access and Integration Service	727
<i>S. Fiore, A. Negro, G. Aloisio</i>	
Scalable Relational Query Results Handling in Service Oriented Architectures	733
<i>A. Wöhrrer, T. Lustig, P. Breznay</i>	
An Extended Multi-Layered Blackboard Approach for the Optimization of World-Spanning Query Execution Plans.....	740
<i>P. P. Beran, E. Schikuta</i>	
Lightweight Implementation of Hummingbird Cryptographic Algorithm on 4-Bit Microcontrollers	747
<i>X. Fan, H. Hu, G. Gong, E. M. Smith, D. Engels</i>	
Light-weight Implementation Options for Curve-based Cryptography: HECC is Also Ready for RFID	754
<i>J. Fan, L. Batina, I. Verbauwhede</i>	
Potential Misuse of NFC Enabled Mobile Phones with Embedded Security Elements as Contactless Attack Platforms	760
<i>L. Francis, G. Hancke, K. Mayes, K. Markantonakis</i>	
Untraceability in the Applied Pi-calculus	768
<i>M. Arapinis, T. Chothia, E. Ritter, M. Ryan</i>	
RFID Lightweight Mutual Authentication Using Shrinking Generator	774
<i>M. A. B. Shemaili, C. Y. Yeun, M. J. Zemerly</i>	
Neural Cryptography Applied to Key Management Protocol with Mutual Authentication in RFID Systems	780
<i>M. Firmino, G. B. Brandão, A. M. G. Guerreiro, R. A. M. Valentim</i>	
Power Games in RFID Security.....	786
<i>A. Juels</i>	
Open Issues in RFID Security.....	787
<i>D. N. Duc, H. Lee, D. M. Konidala, K. Kim</i>	
Information Security Management in E-Learning	792
<i>N. H. M. Alwi, I. Fan</i>	
Secure E-learning Using a Holistic and Immune Security Framework	798
<i>J. Mwakalinga, S. Kowalski, L. Yngström</i>	
Towards Security Goals in Summative E-Assessment Security.....	804
<i>K. M. Apampa, G. Wills, D. Argles</i>	
Security in Tele-lab – Protecting an Online Virtual Lab for Security Training.....	809
<i>C. Willem, W. Dawoud, T. Klingbeil, C. Meinel</i>	

The Elephant in the Room: Health Information System Security and the User-Level Environment.....	816
<i>J. Fernando</i>	
An Approach for Developing Comparative Security Metrics for Healthcare Organizations	823
<i>S. Jafari, F. Mtenzi, R. Fitzpatrick, B. O'Shea</i>	
Anonymisation Vs. Pseudonymisation: Which One is Most Useful for Both Privacy Protection and Usefulness of E-healthcare Data	829
<i>R. Tinabo, F. Mtenzi, B. O'Shea</i>	
How Does Politics Affect Electronic Healthcare Adoption.....	835
<i>Z. Omary, F. Mtenzi, B. Wu</i>	
Dataset Threshold for the Performance Estimators in Supervised Machine Learning Experiments.....	843
<i>Z. Omary, F. Mtenzi</i>	
Author Index	