

# **2016 International Conference on Information Society (i-Society 2016)**

**Dublin, Ireland  
10-13 October 2016**



**IEEE Catalog Number: CFP1629N-POD  
ISBN: 978-1-5090-2545-9**

**Copyright © 2016, Infonomics Society  
All Rights Reserved**

***\*\*\* This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP1629N-POD
ISBN (Print-On-Demand):	978-1-5090-2545-9
ISBN (Online):	978-1-908320-61-2

**Additional Copies of This Publication Are Available From:**

Curran Associates, Inc  
57 Morehouse Lane  
Red Hook, NY 12571 USA  
Phone: (845) 758-0400  
Fax: (845) 758-2633  
E-mail: [curran@proceedings.com](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

CURRAN ASSOCIATES INC.  
**proceedings**  
.com

<b>Message from the Steering Committee Chair</b>	<b>3</b>
<b>Programme Committees</b>	<b>8</b>
<b>Keynote Speakers</b>	<b>10</b>
Professor Paul Sturges	11
Dr Gitte Stald	12
Dr Aspen Olmsted	13
<b>PhD/Doctorate Consortium</b>	<b>14</b>
Organiser: Charles A. Shoniregun	
<b>Sessions</b>	<b>15</b>
<b>Session 1: Cloud Security</b>	<b>16</b>
Experimenting with Docker: Linux Container and BaseOS Attack Surfaces (Authors: Amr A. Mohallel, Julian M. Bass, Ali Dehghantaha)	17
Secure Software Development through Non-Functional Requirements Modeling (Author: Aspen Olmsted)	22
Security Risk factors that influence Cloud Computing Adoption in Saudi Arabia Government Agencies (Authors: Madini O. Alassafi, Abdulrahman Alharthi, Robert J. Walters, Gary B. Wills)	28
<b>Session 2: E-Learning</b>	<b>32</b>
Matching Learning Material to People with Disabilities based on Competence and Functional Capability (Authors: Sasithorn Mongkolsripattana, Mike Wald, Gary B. Wills)	33
Management and Evaluation of Tasks Using an Online System (Authors: Rami Rashkovits, Ilana Lavy)	39
Overview of Factors that influence the Adoption of Mobile telephony by students in Higher Education Institutions (Authors: Omotayo Kayode Abatan, Nurudeen Ajayi)	41
Processing of Big Educational Data in the Cloud Using Apache Hadoop (Authors: Renata Machova, Jitka Komarkova, Martin Lnenicka)	46
<b>Session 3: E-Society</b>	<b>50</b>
Information flows in e-participation applications: Implications in government service-delivery in Brazil (Author: Daniele M. Nascimento)	51
Online Marketing – The Case of Macedonia (Authors: Jasminka Varnaliev, Smilka Janeska Sarkanjac)	53
Factors affecting successful implementation of m-Voting in South Africa (Authors: Noluntu Mpekoa, Darelle van Greunen)	57
An Empirical Study of Factors Influencing ECommerce Customers' Awareness in Jordan (Authors: Husam Yaseen, Kate Dingley, Carl Adams)	63
<b>Session 4: Cloud Security</b>	<b>68</b>
Making it Rain with Cloud Payment Processing Vulnerabilities (Authors: Matt Piazza, Aspen Olmsted)	69
Fine-Grain vs. Coarse-Grain Web-Service for ETL Correctness and Performance in Cloud databases (Authors: Gayathri Santhanakrishnan, Aspen Olmsted)	71

Towards a framework to enable the migration process to educational clouds in Saudi higher education (Authors: Abdulrahman Alharthi, Madini O. Alassafi, Robert J. Walters, Gary B. Wills)	73
Optimizing the Deployment of Cloud-hosted Application Components for Guaranteeing Multitenancy Isolation (Authors: Laud Charles Ochei, Andrei Petrovski, Julian M. Bass)	77
<b>Session 5: New Enabling Technologies</b>	84
Exposing Wiktionary Translations With Performance in Mind (Authors: Chris Cargile, Gayathri Santhanakrishnan, Aspen Olmsted)	85
Decentralised, Dynamic Network Path Selection in High Performance Computing (Authors: John Anderson, Matt Piazza, Aspen Olmsted)	88
Map Data Representation for Indoor Navigation: A design framework towards a construction of indoor map (Authors: Watthanasak Jeamwatthanachai, Mike Wald, Gary Wills)	91
Innovation Diffusion of Wearable Mobile Computing: Pervasive Computing Perspective (Authors: Syakirah Mohamad Taib, Rebecca De Coster, Janerose Nyamu)	97
<b>Session 6: E-Society</b>	102
Automating e-Surveys (Authors: Zachary Davis, Callum Brill, Husna Siddiqui, Aspen Olmsted)	103
A Framework of E-Health Systems Adoption and Telemedicine Readiness in Developing Countries (Authors: Ali Abdullrahim, Rebecca De Coster)	105
Virtualized Higher Education: Where E-learning Trends and New Faculty Roles Converge Towards Personalization (Author: Maria Lorna A. Kunnath)	109
<b>Session 7: ICT developments and diffusion</b>	115
Selfie phenomenon in the visual content of social media (Authors: Ekaterina Orekh, Olga Sergeyeva, Elena Bogomiagkova)	116
Natural Language Processing Pipeline for Temporal Information Extraction and Classification from Free Text Eligibility Criteria (Authors: Gayathri Parthasarathy, Aspen Olmsted, Paul Anderson)	120
Computer Simulation for Reengineering the Linens Delivery Process with RFID in a Hospital (Authors: Sung J. Shim, Arun Kumar, Jianxin (Roger) Jiao)	122
Internet of Things Technologies in Manufacturing: Application Areas, Challenges and Outlook (Authors: Nikolaos Papakostas, James O'Connor, Gerald Byrne)	126
<b>Session 8: Information Security</b>	132
Memory Leak detection in Android applications based on code patterns (Authors: Gayathri Santhanakrishnan, Chris Cargile, Aspen Olmsted)	133
Password Reinforcement Leveraging Social Media (Authors: Callum Brill, Aspen Olmsted)	135
Survey of Existing Fingerprint Countermeasures (Authors: Sakchan Luangmaneeerote, Ed Zaluska, Leslie Carr)	137
<b>Session 9: E-Society</b>	142
Integration of IT Governance and Security Risk Management: a Systematic Literature Review (Authors: Dieter De Smet, Nicolas Mayer)	143
Internet politics Towards a social networking typology – Costa Rican municipal elections analysis (Author: Roberto Cruz Romero)	149
Inclusive Education Practices for a Culturally Responsive Teacher Education Program (Author: Pamela Louderback)	155

Modelling a Process of UAV Data Collection and Processing (Authors: Ivana Cermakova, Jitka Komarkova)	161
<b>Session 10: Information Security</b>	<b>165</b>
Cloud Payment Processing without Ritualistic Sacrifices: Reducing PCI-DSS Risk Surface with Thin Clients (Authors: Matt Piazza, Joshua Fernandes, John Anderson, Aspen Olmsted)	166
Friend or Faux? Engineering Your Social Network to Detect Fraudulent Profiles (Authors: Husna Siddiqui, Callum Brill, Zachary Davis, Aspen Olmsted)	169
Examining International Information Conflict: Estonian and Georgian Case Study (Authors: Callum Brill, Aspen Olmsted)	171
<b>Posters</b>	<b>174</b>
<b>Poster Session</b>	<b>175</b>
Learning through Ill-Structured Problems: A Technology-Enabled Co-Creation Approach (Author: L. G. Pee)	177
User Interfaces for Mobile Learning in Higher Education in Saudi Arabia (Authors: Ali Alowayr, Rachel McCrindle)	179