COIOTE 2014

PowerOnt: An Ontology-Based Approach for Power Consumption Estimation in Smart Homes ................................................. 3  
  Dario Bonino, Fulvio Corno, and Luigi De Russis

A Learning Approach for Energy Efficiency Optimization by Occupancy Detection ......................................................... 9  
  Vitor Mansur, Paulo Carreira, and Artur Arsenio

Intelligent Multi-platform Middleware for Wireless Sensor and Actuator Networks ......................................................... 16  
  Rui Francisco and Artur Arsenio

Sense-Deliberate-Act Cognitive Agents for Sense-Compute-Control Applications in the Internet of Things and Services ...................... 23  
  Amir H. Moin

A Novel Term-Term Similarity Score Based Information Foraging Assessment ........................................................................ 29  
  Ilyes Khennak, Habiba Drias, and Hadia Mosteghanemi

A Cloud-Based Bayesian Smart Agent Architecture for Internet-of-Things Applications ......................................................... 42  
  Veselin Pizurica and Piet Vandaele

Design and Implementation of IoT-Based Intelligent Condition Management System for the Industrial Facilities ......................... 48  
  Jaekeun Lee, Soono Seo, Myeong-in Choi, Yongkwen Hwang, Tacklim Lee, and Sehyun Park

A Cognitive Approach to Affordance Learning in Robotic Ecologies ..................... 54  
  Mauro Dragone

High-Level Programming and Symbolic Reasoning on IoT Resource Constrained Devices .......................................................... 58  
  Salvatore Gaglio, Giuseppe Lo Re, Gloria Martorella, and Daniele Peri

BlockMagic, A Hybrid Educational Environment Based on RFID Technology and Internet of Things Concepts ........................... 64  
  Orazio Miglino, Raffaele Di Fuccio, Andrea Di Ferdinando, and Carlo Ricci
A Reputation-Based Distributed District Scheduling Algorithm for Smart Grids ................................................................. 70
  D. Borra, M. Iori, C. Borean, and F. Fagnani

Eliciting Affordances for Smart Objects in IoT Era ................................. 77
  Assunta Matassa and Rossana Simeoni

The Role of Affordance in Cyber-Physical Systems for Behavioral Change ................................................................. 82
  Federica Cena, Amon Rapp, Alessandro Marcengo, Adelina Brizio, Dize Hilviu, and Maurizio Tirassa

Cognitive Load Detection on Commercial EEG Devices: An Optimized Signal Processing Chain ......................................................... 87
  Arijit Sinharay, Debatri Chatterjee, and Arpan Pal

From Language to Action: Extraction and Disambiguation of Affordances in ModelAct ................................................................. 93
  Irene Russo and Livio Robaldo

PERGAMES 2014

Understanding Stroke Patients’ Motivation for Motivation-Driven Rehabilitative Game Design ................................................................. 99
  Aung Pyae, Mika Luimula, and Jouni Smed

A Game-Based Solution for In-Home Rehabilitation ................................................................. 112
  Silvia Gabrielli, Rosa Maimone, Cristina Costa, Antonio Ascolese, Johanna Jonsdottir, Wolfhard Klein, and Gabriel Bendersky

Evaluation of Pervasive Games: Recruitment of Qualified Participants Through Preparatory Game Phases ................................................................. 118
  Vlasios Kasapakis, Damianos Gavalas, and Thomas Chatzidimitris

Internet of Things Based Multiplayer Pervasive Games:
An Architectural Analysis ................................................................. 125
  André MacDowell and Markus Endler

PacMap: Transferring PacMan to the Physical Realm ................................................................. 139
  Thomas Chatzidimitris, Damianos Gavalas, and Vlasios Kasapakis

Exergames for Elderly in Ambient Assisted Living Environments:
Determinants for Performance Technology Acceptance ................................................................. 145
  Philipp Brauner and Martina Ziefe
SafeMove – Safe Mobility of Elderly in the Vicinity of Their Home and on Journeys ................................................................. 151
   Irit Luft Madar, Matt Smith, and Peter Knackfuss

HealthyIoT 2014

A Ubiquitous Telehealth System for the Elderly .............................. 159
   M.W. Raad, Tarek Sheltami, and Mohamed Deriche

Location! Location! Location! The Architect’s Contribution to IoT for Healthcare ................................................................. 167
   Steven Rowland

IoT Meets Caregivers: A Healthcare Support System in Assisted Living Facilities ................................................................. 172
   Sebastián Aced López, Fulvio Corno, and Luigi De Russis

Intelligent Healthcare Services to Support Health Monitoring of Elderly ................................................................. 178
   Mobyen Uddin Ahmed, Hadi Banaee, Xavier Rafael-Palou, and Amy Loutfi

   Sebastian Fuicu, Andrei Avramescu, Diana Lascu, Roxana Padurariu, and Marius Marcu

Development of a Remote Monitoring System for Respiratory Analysis .... 193
   Atena Roshan Fekr, Majid Janidarmian, Katarzyna Radecka, and Zeljko Zilic

HeartSense: Estimating Heart Rate from Smartphone Photoplethysmogram Using Adaptive Filter and Interpolation ................................. 203

An Innovative Approach for the Protection of Healthcare Information Through the End-to-End Pseudo-Anonymization of End-Users .................. 210
   Panagiotis Gouvas, Anastasios Zafeiropoulos, Konstantinos Perakis, and Thanasis Bouras

A Trustworthy Mobile Solution for Healthcare Based on Internet of Things ................................................................. 217
   Kai Kang and Cong Wang

   Vivek Agrawal
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multilingual Voice Control for Endoscopic Procedures</td>
<td>229</td>
</tr>
<tr>
<td>Simão Afonso, Isabel Laranjo, Joel Braga, Victor Alves, and José Neves</td>
<td></td>
</tr>
<tr>
<td>Recognition of Low Amplitude Body Vibrations via Inertial Sensors</td>
<td>236</td>
</tr>
<tr>
<td>for Wearable Computing</td>
<td></td>
</tr>
<tr>
<td>Marian Haescher, Gerald Bieber, John Trimpop, Bodo Urban, Thomas Kirste, and Ralf Salomon</td>
<td></td>
</tr>
<tr>
<td>Preventing Health Emergencies in An Unobtrusive Way</td>
<td>242</td>
</tr>
<tr>
<td>Vittorio Miori and Dario Russo</td>
<td></td>
</tr>
<tr>
<td>Web-Enabled Intelligent Gateways for eHealth Internet-of-Things</td>
<td>248</td>
</tr>
<tr>
<td>Jose Granados, Amir-Mohammad Rahmani, Pekka Nikander, Pasi Liljeberg, and Hannu Tenhunen</td>
<td></td>
</tr>
<tr>
<td>Child Abuse Monitor System Model: A Health Care Critical Knowledge</td>
<td>255</td>
</tr>
<tr>
<td>Monitor System</td>
<td></td>
</tr>
<tr>
<td>Tiago Pereira and Henrique Santos</td>
<td></td>
</tr>
<tr>
<td><strong>IoTaaS 2014</strong></td>
<td></td>
</tr>
<tr>
<td>COLT Collaborative Delivery of Lightweight IoT Applications</td>
<td>265</td>
</tr>
<tr>
<td>Michael Vögler, Fei Li, Markus Claeßens, Johannes M. Schleicher, Sanjin Sehic, Stefan Nastic, and Schahram Dustdar</td>
<td></td>
</tr>
<tr>
<td>An Approach Towards a Service Co-evolution in the Internet of Things</td>
<td>273</td>
</tr>
<tr>
<td>Huu Tam Tran, Harun Baraki, and Kurt Geihs</td>
<td></td>
</tr>
<tr>
<td>Identity Management in Platforms Offering IoT as a Service</td>
<td>281</td>
</tr>
<tr>
<td>Juan D. Parra Rodriguez, Daniel Schreckling, and Joachim Posegga</td>
<td></td>
</tr>
<tr>
<td>Network and IT Infrastructure Services for the IoT Store</td>
<td>289</td>
</tr>
<tr>
<td>Gaël Fromentoux and Nathalie Omnès</td>
<td></td>
</tr>
<tr>
<td>Multipath Bandwidth Scavenging in the Internet of Things</td>
<td>297</td>
</tr>
<tr>
<td>Isabel Montes, Romel Parmis, Roel Ocampo, and Cedric Festin</td>
<td></td>
</tr>
<tr>
<td>BETaaS Platform – A Things as a Service Environment for Future M2M</td>
<td>305</td>
</tr>
<tr>
<td>Marketplaces</td>
<td></td>
</tr>
<tr>
<td>Sofoklis Kyriazakos, Bayu Anggorojati, Neeli Prasad, Carlo Vallati, Enzo Mingozzi, Giacomo Tanganelli, Novella Buonaccorsi, Nicola Valdambrini, Nikolaos Zonidis, George Labropoulous, Belen Martínez Rodríguez, Alessandro Mamelli, and Davide Sommacampagna</td>
<td></td>
</tr>
<tr>
<td>Title</td>
<td>Page</td>
</tr>
<tr>
<td>------------------------------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Context Sensitive Smart Device Command Recognition and Negotiation</td>
<td>314</td>
</tr>
<tr>
<td>Frank Bauerle, Grant Miller, Nader Nassar, Tamer Nassar, and Irene Penney</td>
<td></td>
</tr>
<tr>
<td>DIMCloud: A Distributed Framework for District Energy Simulation and Management</td>
<td>331</td>
</tr>
<tr>
<td>Francesco G. Brundu, Edoardo Patti, Matteo Del Giudice, Anna Osello, Enrico Macii, and Andrea Aquaviva</td>
<td></td>
</tr>
<tr>
<td>Model-Driven Development for Internet of Things: Towards Easing the Concerns of Application Developers</td>
<td>339</td>
</tr>
<tr>
<td>Arpan Pal, Arijit Mukherjee, and Balamuralidhar P.</td>
<td></td>
</tr>
<tr>
<td>Domain Specific Modeling (DSM) as a Service for the Internet of Things and Services</td>
<td>347</td>
</tr>
<tr>
<td>Amir H. Moin</td>
<td></td>
</tr>
<tr>
<td>QoS Optimization for Cloud Service Composition Based on Economic Model</td>
<td>355</td>
</tr>
<tr>
<td>Hisham A. Kholidy, Hala Hassan, Amany M. Sarhan, Abdelkarim Erradi, and Sherif Abdelwahed</td>
<td></td>
</tr>
<tr>
<td>To Run or Not to Run: Predicting Resource Usage Pattern in a Smartphone</td>
<td>367</td>
</tr>
<tr>
<td>Arijit Mukherjee, Anupam Basu, Swarnava Dey, Pubali Datta, and Himadri Sekhar Paul</td>
<td></td>
</tr>
<tr>
<td>Human-Computer Interface Based on IoT Embedded Systems for Users with Disabilities</td>
<td>376</td>
</tr>
<tr>
<td>Davide Mulfari, Antonio Celesti, Maria Fazio, and Massimo Villari</td>
<td></td>
</tr>
<tr>
<td>Erratum to: A Ubiquitous Telehealth System for the Elderly</td>
<td>E1</td>
</tr>
<tr>
<td>M.W. Raad, Tarek Sheltami, and Mohamed Deriche</td>
<td></td>
</tr>
<tr>
<td>Author Index</td>
<td>385</td>
</tr>
</tbody>
</table>
Contents – Part II

Mobility IoT 2014

Challenges and Unwanted Features of the Smarter Cities Development . . . . 3
Milan Dado, Aleš Janota, and Juraj Spalek

Multicultural Collaborative Team Working as a Driver for Innovation
in the Slovak Automotive Sector. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 9
Paul Woolliscroft, Dagmar Cagáňová, Miloš Čambál,
and Jana Makraiová

Evaluation of More Economical Collection and Removal of Old Vehicles . . 16
Ingrid Součková and Marián Králik

Rating Attractiveness of Sectoral Environment-Performance Indicators. . . 21
Zuzana Tekulová and Marián Králik

Collective Creativity: Utilizing the Potentials of Multimodal Environments . . 27
Predrag K. Nikolic

Strategic Management in SMEs in Selected European Countries . . . . . . . 38
Pavel Zufan and Tomas Pysny

Cities Auditing Model . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 43
Florinda Matos

Smart Housing in Sustainable Development . . . . . . . . . . . . . . . . . . . . . . . . 52
Daniela Spirkova and Dagmar Cagáňová

Parking Zero . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 60
George Teodorescu

Informatization of Rail Freight Transport by Applying RF Identification
Technology . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 64
Michal Balog, Pavol Semanco, and Zofia Simeková

Smart City Vehicular Mobile Sensor Network . . . . . . . . . . . . . . . . . . . . . . 70
Boris Tomáš and Neven Vrček

Modeling Transportation Preferences of Urban Residents:
The Case of Poland. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 78
Katarzyna Cheba, Maja Kiba-Janiak, Sebastian Saniuk,
and Krzysztof Witkowski
Extracting Meaningful User Locations from Temporally Annotated Geospatial Data ......................................................... 84

Alasdair Thomason, Nathan Griffiths, and Matthew Leeke

Development of Autonomous Wheelchair for Indoor and Outdoor Traveling ............................................................... 91

Masashi Yokozuka, Naohisa Hashimoto, Kohji Tomita, and Osamu Matsumoto

Safety and Privacy Perceptions in Public Spaces: An Empirical Study on User Requirements for City Mobility .................. 97

Julia van Heek, Katrin Arning, and Martina Ziefe

A Study on Context Information Collection for Personal Mobile Device Identification in BYOD and Smart Work Environment. 104

Taeeun Kim, MyoungSun Noh, Kyungho Chung, and Chaetae Im

Iterative Design of a Sensor Network for the Evaluation of Pedestrian Facility Design Using Agent-Based Simulations .......... 110

Wanling Chong, Chau Yuen, Shisheng Huang, and Bige Tuncer

“I Expect Smart Services!” User Feedback on NFC Based Services Addressing Everyday Routines ........................................ 118

Bente Evjemo, Sigmund Akselsen, Dag Slettemeås, Arne Munch-Ellingsen, Anders Andersen, and Randi Karlsen

Introducing Community Awareness to Location-Based Social Networks ................................................................. 125

Pavlos Kosmides, Chara Remoundou, Ioannis Loumiotis, Evgenia Adamopoulou, and Konstantinos Demestichas

Motivating Citizens to Contribute to the Smart City: A Public Safety Case Study ....................................................... 131

Roxanne Piderit, Stephen Flowerday, and Sean McLean

What Makes People Change Their Preferences in Public Transportation – Opinions in Different User Groups .................. 137

Martina Ziefe and Wiktoria Wilkowska

Laypeople’s Perspectives on Electromobility: A Focus Group Study ............................................................... 144

Barbara S. Zaunbrecher, Shirley Beul-Leusmann, and Martina Ziefe

Integrating the “E” in Public Transport: Information and Communication Needs for Electromobility .............................. 150

Martina Ziefe, Shirley Beul-Leusmann, Barbara S. Zaunbrecher, and Kai Kasugai
Application for a Personal Mobility Sharing System Using Two-Wheeled Self-balancing Vehicles .......................... 157

Naohisa Hashimoto, Kohji Tomita, Akiya Kamimura, Yusuke Takinami, and Osamu Matsumoto

Multi-agent Simulator for Personal Mobility Vehicle Sharing ................... 163

Kohji Tomita, Naohisa Hashimoto, and Osamu Matsumoto

The Added Value of a New, Innovative Travel Service: Insights from the UbiGo Field Operational Test in Gothenburg, Sweden ........ 169

Jana Sochor, Helena Strömberg, and I.C. MariAnne Karlsson

On the Design of a Cost-Effective and Lightweight People Counting Sensor .................................................. 176

Sanjana Kadaba Viswanath, Sai Ram Gubba, Balasundram Arunn, Chandra Sekar Veerappan, and Chau Yuen

Smart Tourist - Passive Mobility Tracking Through Mobile Application ........ 183

Sanjana Kadaba Viswanath, Chau Yuen, Xuefang Ku, and Xiang Liu

Understanding the Impact of Data Sparsity and Duration for Location Prediction Applications ............................. 192

Alasdair Thomason, Matthew Leake, and Nathan Griffiths

SDWN 2014

Cognitive Internet of Things: A Unified Perspective (Invited Paper) .......... 201

Syed Ali Raza Zaidi, Muhammad Zeeshan Shakir, Muhammad Ali Imran, Mounir Ghogho, Athanasios Vasilakos, Khalid Qaraqe, and Des McLernon

Secure Communication over Software-Defined Networks ..................... 211

Stefan Rass, Benjamin Rainer, Matthias Vavti, Johannes Gollner, Andreas Peer, and Stefan Schauer

Integrating WMN Based Mobile Backhaul with SDN Control .................... 222

Kari Seppänen, Jorma Kilpi, and Tapio Suihko

Energy Impact of Heterogeneous Wireless Networks on Mobile Devices ...... 234

Pavlos Kosmides, Miltiades Anagnostou, Chara Remoundou, and Dimitris Pagkalos

An Adaptive Channel Utilization Method with Traffic Balancing for Multi-hop Multi-channel Wireless Backbone Network .................. 241

Yuzo Taenaka and Kazuya Tsukamoto
Toward Active Charging for Software Defined Wireless Networks .......................... 248
  Brian Lee, Yuansong Qiao, and Niall Murray

Optimal Backhaul Resource Management in Wireless-Optical
Converged Networks .................................................................................................. 254
  Ioannis Loumiotis, Evgenia Adamopoulou, Konstantinos Demestichas,
  and Michael Theologou

SaSeIoT 2014

DOOR: A Data Model for Crowdsourcing with Application
to Emergency Response .............................................................................................. 265
  To Tu Cuong, Paras Mehta, and Agnès Voisard

Security Perspectives for Collaborative Data Acquisition in the Internet
of Things ...................................................................................................................... 271
  Vangelis Gazis, Carlos Garcia Cordero, Emmanouil Vasilomanolakis,
  Panayotis Kikiras, and Alex Wiesmaier

The Role of the Internet of Things in Network Resilience ........................................... 283
  Hauke Petersen, Emmanuel Baccelli, Matthias Wächslisch,
  Thomas C. Schmidt, and Jochen Schiller

NFC Peer to Peer Secure Services for Smart Cities: LLCPS Concepts
and Experiments with Smartphones ............................................................................ 297
  Pascal Urien

A Secure Self-Identification Mechanism for Enabling IoT Devices to Join
Cloud Computing ......................................................................................................... 306
  Massimo Villari, Antonio Celesti, Maria Fazio, and Antonio Puliafito

Making Effective Home Security Available to Everyone - Towards Smart
Home Security Communities ....................................................................................... 312
  Marcus Koehler and Felix Wortmann

Earthquake Emergencies Management by Means of Semantic-Based
Internet of Things ......................................................................................................... 318
  Gilberto Taccari, Gabriele Bernardini, Luca Spalazzi, Marco D’Orazio,
  and Waleed Smari

Author Index .................................................................................................................... 329
Internet of Things. User-Centric IoT  
First International Summit, IoT360 2014, Rome, Italy,  
October 27-28, 2014, Revised Selected Papers, Part I  
Giaffreda, R.; Vieriu, R.-L.; Pasher, E.; Bendersky, G.;  
Jara, A.J.; Rodrigues, J.; Dekel, E.; Mandler, B. (Eds.)  
2015, XXXII, 388 p. 126 illus., Softcover  
ISBN: 978-3-319-19655-8