Information Systems Development
Advances in Methods, Tools and Management

Book of Abstracts and Conference Programme
of the 26th International Conference on Information Systems Development
(ISD2017 Cyprus)

September 6-8, 2017, Larnaca, Cyprus
Information Systems Development: 
*Advances in Methods, Tools and Management*

Book of Abstracts and Conference Programme of the 26th International Conference on Information Systems Development (ISD2017 Cyprus)

September 6-8, 2017, Larnaca, Cyprus
WELCOME TO ISD2017

We welcome you to the 26th International Conference on Information Systems Development (ISD2017 Cyprus), hosted by the School of Sciences of the University of Central Lancashire, Cyprus (UCLan Cyprus).

We hope that your stay in sunny Cyprus will be productive, educational and joyful. We also hope you will get a chance to share your knowledge and experience as well as meet old and new friends and research collaborators.

You attend a conference with presentations from a wide spectrum of works ranging from methodological and educational challenges to original scientific solutions. The theme of the ISD2017 Conference is "Advances in Methods, Tools and Management". The conference focuses on the latest developments in ISD and particularly on methods and tools used to design, create and maintain information systems. It provides a forum for discussing research and developments in this field.

This year the ISD conference received 79 submissions from 140 authors spanning across 26 countries. The papers were reviewed by a competent panel of 82 ISD specialists. The Conference Committee would like to thank all authors who have recognized ISD2017 as an opportunity to present their highly-qualified scientific works.

We would also like to express our big gratitude to the International Steering Committee, to the conference Track Chairs and to the Reviewers. And, of course, we thank our Sponsors for supporting the ISD2017 conference.

We look forward to an excellent event and express our sincere hope that ISD2017 Cyprus will provide you with new ideas and opportunities.

Dr Nearchos Paspallis, Ph.D.           Dr Marios Raspopoulos, Ph.D.
ISD2017 Conference Co-Chair           ISD2017 Conference Co-Chair
ABOUT THIS BOOK

This ISD2017 Book of Abstracts and Conference Programme provides you with the titles and abstracts of all papers, helping you to make informed decisions as to which sessions you will attend.

It also contains vital information on the conference timetable and venue. The main venue for the ISD2017 Conference is the University of Central Lancashire, Cyprus in Pyla, Larnaca. Herein you can find maps of the building and the surrounding areas of the conference venue.

At the end of this handbook, you will also find some general information, including phone numbers for emergencies, transportation options, etc. We hope that you find this handbook useful, and we wish you a pleasant stay and a productive conference.

CONFERENCE PROCEEDINGS

All papers registered and submitted as camera-ready papers to ISD2017 Conference are published in the ISD2017 Proceedings, and the abstracts are included in print in this book. ISD2017 Proceedings are recorded on a USB flash drive and will be published online by AIS.

Citation information about ISD2017 Proceedings:


ISD2017 Proceedings will be submitted for indexing in INSPEC, SCOPUS and DBLP databases. Additionally, all papers presented at the conference will appear in the Association for Information Systems (AIS) eLibrary at http://aisel.aisnet.org/isd2014/proceedings2017 soon after the conference.
ABOUT THE UNIVERSITY OF CENTRAL LANCASHIRE - CYPRUS (UCLAN CYPRUS) AND THE SCHOOL OF SCIENCES

The University of Central Lancashire, Cyprus (UCLan Cyprus), is in Pyla, Larnaca. Having completed its fifth year of operation, the University is well established with an excellent team of academic and professional staff, and an ever-growing family of undergraduate, postgraduate and research students.

Completion of studies at UCLan Cyprus results in a Double Degree (two certificates) from the two Universities, UCLan Cyprus and UCLan UK, recognised not only nationally but across Europe and beyond. Bringing to Cyprus a world-class reputation for academic excellence and innovative thinking, the university aims to develop future leaders and international entrepreneurs, with the skills and business acumen for success in the modern global economy.

All its programmes of study are evaluated and recognised by the Ministry of Education & Culture in Cyprus and in addition, they meet the high-quality standards required by the UK Quality Assurance Agency (QAA). Many of its courses are accredited by professional and statutory bodies, ensuring students meet the standards expected of today’s businesses.

As well as benefiting from the highest British and Cypriot academic standards, students have the advantage of a superlative student experience in every aspect of their university life, whether it is learning, personal support, facilities and accommodation, employability or enjoyment and fun. The university’s commitment to this ethos is at the heart of everything it does.

SCHOOL OF SCIENCES

The School of Sciences encompasses a diverse range of disciplines such as Computing, Electrical and Electronic Engineering, Mathematics, Psychology, Sports and Exercise Science with expertise in a wide range of research areas within each discipline. All faculty members in the School are research active and are continuously pursuing new knowledge and innovative ways to apply it through research and
Industrial projects. They have high interest in collaborative and interdisciplinary projects with other institutions and industrial partners. In addition to the individual and personal research activities of its faculty, the School adopts an interdisciplinary approach in its research activities, trying to the best possible extent to bring together expertise from the various disciplines and produce results which would have social, environmental and economic impact locally, nationally and globally. This approach is aligned with the University values: (1) the advancement and protection of knowledge, freedom of speech and enquiry, (2) the promotion of educational opportunity for all, (3) the protection of the rights and freedoms of individuals and respect for diversity and (4) the commitment to health, well-being, sustainability and sustainable development. This interdisciplinary approach is implemented through four Research Clusters:

- Information Systems
- Communication Networks and Mobile Technologies
- Developmental Psychology and Educational Technologies
- Health and Society
# CONFERENCE AGENDA

## DAY 1  Wednesday, September 6, 2017

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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<tbody>
<tr>
<td>08:30-09:30</td>
<td>Registration</td>
<td>Foyer area, Ground floor</td>
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<tr>
<td>09:30-10:00</td>
<td>ISD2017 Conference Opening</td>
<td>Auditorium 1, Ground floor</td>
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<tr>
<td>10:00-11:00</td>
<td>Keynote Address 1</td>
<td>Auditorium 1, Ground floor</td>
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<tr>
<td></td>
<td>Janet C Read, Univ. of Central Lancashire:</td>
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<tr>
<td></td>
<td>The good, the bad and the ugly of child computer interaction</td>
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<td></td>
<td>Session chair: Marios Raspopoulos</td>
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<tr>
<td>11:00-11:30</td>
<td>Coffee Break</td>
<td>Foyer area, Ground floor</td>
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<tr>
<td>11:30-13:00</td>
<td>Session A1.1 T1: Information Systems Methodologies and Modelling</td>
<td>Room CY017</td>
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<tr>
<td></td>
<td>Session chair: Henry Linger</td>
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<tr>
<td>13:00-14:30</td>
<td>Lunch Break</td>
<td>Cafeteria, Ground floor</td>
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<tr>
<td>14:30-16:00</td>
<td>Session A1.2 T1: Information Systems Methodologies and Modelling (cont.)</td>
<td>Room CY017</td>
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<td></td>
<td>Session chair: Małgorzata Pańkowska</td>
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<tr>
<td>Time</td>
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<tr>
<td>16:00-16:30</td>
<td><strong>Coffee Break</strong></td>
<td>Foyer area, Ground floor</td>
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<tr>
<td>16:30-17:30</td>
<td><strong>Session A1.3</strong>&lt;br&gt;T1: Information Systems Methodologies and Modelling (cont.)&lt;br&gt;Session chair: <em>Chris Barry</em></td>
<td>Room CY017</td>
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<tr>
<td>16:30-17:30</td>
<td><strong>Session B1.3</strong>&lt;br&gt;T2: Managing IS Development (cont.)&lt;br&gt;Session chair: <em>Henry Linger</em></td>
<td>Room CY018</td>
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<tr>
<td>17:30-19:00</td>
<td><strong>Welcome Ceremony</strong></td>
<td>Cocktail reception at the Garden</td>
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<th>Time</th>
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<td>08:30-09:30</td>
<td>Registration</td>
<td>Ground Floor Foyer</td>
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<tr>
<td>09:30-10:30</td>
<td>Keynote Address 2</td>
<td>Auditorium 1, Ground floor</td>
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<tr>
<td></td>
<td>Alexis Piperides, proto.io:</td>
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<tr>
<td></td>
<td>The importance of UX in a product’s success</td>
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<td>Session chair: Nearchos Paspallis</td>
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<tr>
<td>10:30-11:00</td>
<td>Coffee Break</td>
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<tr>
<td>11:00-12:30</td>
<td>Session A2.1</td>
<td>Room CY017</td>
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<td></td>
<td>T1: Information Systems Methodologies and Modelling (cont.)</td>
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<td>Session chair: Małgorzata Pańkowska</td>
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<tr>
<td>11:00-12:30</td>
<td>Session A2.2</td>
<td>Room CY017</td>
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<td></td>
<td>T1: Information Systems Methodologies and Modelling (cont.)</td>
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<td>Session chair: Josephina Antoniou</td>
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<tr>
<td>12:30-14:00</td>
<td>Lunch Break</td>
<td>Cafeteria, Ground floor</td>
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<td>14:00-15:30</td>
<td>Session A2.2</td>
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<td>Session chair: Josephina Antoniou</td>
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<td>14:00-15:30</td>
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<td>T1: Information Systems Methodologies and Modelling (cont.)</td>
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<td>Session chair: Loizos Michael</td>
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<td>14:00-15:30</td>
<td>Session A2.2</td>
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<td>T1: Information Systems Methodologies and Modelling (cont.)</td>
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<td>Session chair: Loizos Michael</td>
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<td>14:00-15:30</td>
<td>Session B2.1</td>
<td>Room CY017</td>
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<td></td>
<td>T7: Cognitive Science</td>
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<td>Session chair: Loizos Michael</td>
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<td>14:00-15:30</td>
<td>Session B2.1</td>
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<td></td>
<td>T7: Cognitive Science (cont.)</td>
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<td>Session chair: Loizos Michael</td>
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<td>14:00-15:30</td>
<td>Session B2.2</td>
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<td></td>
<td>T6: Human Computer Interaction (HCI) in ISD</td>
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<td>Session chair: Panayiotis Andreou</td>
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<td>Session chair: Panayiotis Andreou</td>
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<tr>
<td>Time</td>
<td>Session A2.3 T8: Security and Privacy in ISD</td>
<td>Session B2.3 T12: General topics in ISD</td>
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<tr>
<td>16:00-17:00</td>
<td>Session chair: Eliana Stavrou</td>
<td>Session chair: Gavriel Panis</td>
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<td>Room CY017</td>
<td>Room CY018</td>
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18:30- night Tour of Larnaca and Traditional Dinner

*Buses leave venue at 18:30*
## DAY 3  Friday, September 8, 2017

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<th>Time</th>
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<tr>
<td>08:30-09:30</td>
<td>Registration</td>
<td>Ground Floor Foyer</td>
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<tr>
<td>09:30-10:30</td>
<td>Keynote Address 3</td>
<td>Auditorium 1, Ground floor</td>
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<td></td>
<td><strong>Loizos Michael, Open University Cyprus:</strong> From Computing Machinery to Collaborative Assistants: The Next Generation of Information Systems</td>
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<td>Session chair: Marios Raspopoulos</td>
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<td>10:30-11:00</td>
<td>Coffee Break</td>
<td>Foyer area, Ground floor</td>
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<tr>
<td>11:00-12:30</td>
<td>Session A3.1 T8: Security and Privacy in ISD (cont.)</td>
<td>Room CY017</td>
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<td></td>
<td>Session chair: <strong>Eliana Stavrou</strong></td>
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<tr>
<td>12:30-13:00</td>
<td>ISD2018 Presentation ISD2017 Closing</td>
<td>Auditorium 1, Ground floor</td>
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<tr>
<td>13:00-14:00</td>
<td>Lunch Break</td>
<td>Cafeteria, Ground floor</td>
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<td>14:00-</td>
<td>Optional activities (sightseeing)</td>
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<td>Time</td>
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<td>08:30-09:30</td>
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<td>ISD2017 Conference Opening</td>
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<td>The good, the bad and the ugly of child computer interaction</td>
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<tr>
<td>11:00-11:30</td>
<td>Coffee Break</td>
<td>Foyer area, Ground floor</td>
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<tr>
<td>11:30-13:00</td>
<td>Session A1.1</td>
<td>Room CY017</td>
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<td></td>
<td>T1: Information Systems Methodologies and Modelling</td>
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<td>Session chair: Henry Linger</td>
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<tr>
<td>11:30-12:00</td>
<td>Querying Histories of Organisation Simulations</td>
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<td></td>
<td>Tony Clark, Balbir Barn, Vinay Kulkarni, Souvik Barat</td>
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<tr>
<td>12:00-12:30</td>
<td>Study on differences among online consumer groups based on factors affecting online purchase intention</td>
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<td>Berislav Andrllic</td>
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<tr>
<td>12:30-13:00</td>
<td>THEDRE: a Traceable Process for High Quality in Human Centred Computer Science Research</td>
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<td>Nadine Mandran, Sophie Dupuy-Chessa</td>
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<tr>
<td>11:30-13:00</td>
<td>Session B1.1</td>
<td>Room CY018</td>
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<td></td>
<td>T2: Managing IS Development</td>
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<td></td>
<td>Session chair: Emilio Insfran</td>
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<tr>
<td>11:30-12:00</td>
<td>Business Strategy Analytics for Public Procurement Architecture Development</td>
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<td></td>
<td>Malgorzata Pankowska</td>
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<td>12:00-12:30</td>
<td>Facing The Digitalization Challenge: Why Organizational Culture Matters and How It Influences IT Governance Performance</td>
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<td>Parisa Aasi, Lazar Rusu</td>
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<td>12:30-13:00</td>
<td>Knowledge-Sharing in Technology Business Incubator</td>
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<td></td>
<td>Muhammad Binsawad, Osama Sohaib, Igor Hawryszkiewycz</td>
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<tr>
<td>Time</td>
<td>Session C1.1</td>
<td>Room CY006</td>
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<tr>
<td>11:30-13:00</td>
<td><strong>T3: ISD Education</strong></td>
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<td>Session chair: Michael Lang</td>
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<td>11:30-12:00</td>
<td><strong>Facilitating Synchronous Collaborative Writing with a Collaboration Script</strong></td>
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<td>Aleksandra Lazareva</td>
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<td>12:00-12:30</td>
<td><strong>The importance of user in ISD. Do we really teach?</strong></td>
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<td>Juan Miguel Sánchez Begines, Maria Jose Escalona, O Strutynska, M Umryk,</td>
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<td>Tomas Wojdynsky, Francisco Jose Dominguez Mayo</td>
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<td>12:30-13:00</td>
<td><strong>Analysing the Relationships between Digital Literacy and Self-Regulated</strong></td>
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<td>Learning of Undergraduates – A Preliminary Investigation</td>
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<td></td>
<td>Udayangi Perera Muthupoltotage, Lesley Gardner</td>
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| Time            | Lunch Break                                                                 | Cafeteria, Ground floor |
|-----------------|                                                                           |                        |

| Time            | Session A1.2                                                              | Room CY017 |
|-----------------|                                                                           |            |
| 14:30-16:00     | **T1: Information Systems Methodologies and Modelling (cont.)**            |            |
|                 | Session chair: Chris Barry                                                |            |
| 14:30-15:00     | **Modelling Gherkin Scenarios Using UML**                                 |            |
|                 | Javier Gutiérrez, Isabel Ramos, Manuel Mejias, Carlos Arévalo, David Lizcano |            |
| 15:00-15:30     | **Business process oriented autopoietic knowledge management support system design** |            |
|                 | Mariusz Żytniewski                                                        |            |
| 15:30-16:00     | **A Systematic Approach to Design Product Traceability in Industry 4.0: Insights from the Ceramic Industry** |            |
|                 | João Barata, Paulo Rupino da Cunha, Anand Gonnagar, Mateus Mendes          |            |

<p>| Time            | Session B1.2                                                              | Room CY018 |
|-----------------|                                                                           |            |
| 14:30-16:00     | <strong>T2: Managing IS Development (cont.)</strong>                                   |            |
|                 | Session chair: Emilio Insfran                                              |            |
| 14:30-15:00     | <strong>Identifying Gaps on IT Governance Capabilities: Findings in the Logistics and Transportation Industry in Colombia</strong> |            |
|                 | Oscar González-Rojas, Juan E. Gómez-Morantes, Guillermo Beltrán            |            |
| 15:00-15:30     | <strong>Use of Radio Frequency Identification Technology in Reducing Overcrowding at Australian Emergency Departments</strong> |            |
|                 | Rajip Thapa, Moshiur Bhuiyan, P.W.C Prasad, Aneesh Krishna                |            |</p>
<table>
<thead>
<tr>
<th>Time</th>
<th>Session Description</th>
<th>Room</th>
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<tbody>
<tr>
<td>15:30-16:00</td>
<td>Exploring How Environmental and Personal Factors Influence Knowledge Sharing Behaviour Leads to Innovative Work Behaviour in Vietnamese Higher Education Institutions</td>
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<td><em>Van Dong Phung, Igor Hawryszkiewycz, Muhammad Binsawad</em></td>
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<tr>
<td>14:30-15:30</td>
<td>Session C1.2</td>
<td>Room CY006</td>
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<td><strong>T3: ISD Education (cont.)</strong></td>
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<td><strong>Session chair: Irene Polycarpou</strong></td>
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<tr>
<td>14:30-15:00</td>
<td>Development of a Social Gamified Platform for e-Learning</td>
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<td><em>Sergio Caro-Alvaro, Eva Garcia-Lopez, Antonio Garcia-Cabot, Luis de-Marcos, Jose-Javier Martinez-Herrai</em></td>
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<tr>
<td>15:00-15:30</td>
<td>GovernIT: A Software for Decision-making Support on Automated IT Governance Models</td>
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<td><em>Oscar González-Rojas, Sebastian Lesmes</em></td>
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<tr>
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<td><strong>T1: Information Systems Methodologies and Modelling (cont.)</strong></td>
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<td><strong>Session chair: Chris Barry</strong></td>
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<td>16:30-17:00</td>
<td>A Study into the Adoption of, and Enthusiasm for Agile Development Methodologies Within Further Education.</td>
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<td><em>Janet C Read, Alex Harding</em></td>
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<td>17:00-17:30</td>
<td>Specifying Value in GRL for Guiding BPMN Activities Prioritization</td>
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<td><em>Emilio Insfran, Silvia Abrahão, Raphael Pereira de Oliveira, Fernando González-Ladrón-de-Guevara, Marta Fernández-Diego, Carlos Cano Genovés</em></td>
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<td>Expected Utility and Risk Management in Complex Projects</td>
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<td><em>Florina Covaci, Cristian Bologa, Gheorghe Cosmin Silaghi</em></td>
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<td>17:00-17:30</td>
<td>Smart Irrigation System for Smart Farming</td>
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<td><em>David Piedra, Steven Godoy, Pedro Tenezaca, Edisson Patino, Daniel Merchán, Priscila Cedillo</em></td>
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<td>Alexis Piperides, proto.io:</td>
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<td>The importance of UX in a product’s success</td>
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<td>Session chair: Nearchos Paspallis</td>
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<tr>
<td>10:30-11:00</td>
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<td>11:00-12:30</td>
<td>T1: Information Systems Methodologies and Modelling (cont.)</td>
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<tr>
<td></td>
<td>Session chair: Małgorzata Pańkowska</td>
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<tr>
<td>11:00-11:30</td>
<td>On the Influence of Modification Timespan Weightings in the Location of Bugs in Models</td>
<td>Lorena Arcega, Jaime Font, Øystein Haugen, Carlos Cetina</td>
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<td>11:30-12:00</td>
<td>Evaluating the efficacy of value-driven methods: a controlled experiment</td>
<td>Eric Souza, Silvia Abrahão, Emilio Insfran, Ana Moreira, João Araújo</td>
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<tr>
<td>12:00-12:30</td>
<td>End-to-End Automation in Cloud Infrastructure Provisioning</td>
<td>Julio Sandobalin, Emilio Insfran, Silvia Abrahao</td>
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<tr>
<td>11:00-12:30</td>
<td>T7: Cognitive Science</td>
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<td>11:00-11:30</td>
<td>A Variational Recurrent Neural Network for Session-Based Recommendations using Bayesian Personalized Ranking</td>
<td>Panayiotis Christodoulou, Andreas S. Andreou, Sotirios P. Chatzis</td>
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<tr>
<td>11:30-12:00</td>
<td>Combining Unsupervised, Supervised, and Rule-based Algorithms for Text Mining of Electronic Health Records - a Clinical Decision Support System for Identifying and Classifying Allergies of Concern for Anesthesia During Surgery</td>
<td>Geir Thore Berge, Ole-Christoffer Granmo, Tor Oddbjørn Tveit</td>
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<tr>
<td>12:00-12:30</td>
<td>Influencing the Influencers: Analyzing Impact of Prior Review Sentiments on Product Reviews</td>
<td>Ashish Kumar Jha, Snehal Shah</td>
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<tr>
<td>11:00-12:30</td>
<td>T6: Human Computer Interaction (HCI) in ISD</td>
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<td>Session chair: Panayiotis Andreou</td>
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<tr>
<td>11:00-11:30</td>
<td>Combining multiple Web Accessibility Evaluation Reports using Semantic Web Technologies</td>
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<td>José R. Hilera, Salvador Otón, Cristian F. Timbi-Sisalima, Juan Aguado-Delgado,</td>
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<td>Francisco J. Estrada, Héctor R. Amado-Salvatierra</td>
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<td>11:30-12:00</td>
<td>Mobile Instant Messaging Apps: Usability Evaluation on iOS and Android Platforms and</td>
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<td>Recommendations for Developers</td>
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<td>Sergio Caro-Alvaro, Antonio Garcia-Cabot, Eva Garcia-Lopez, Luis de-Marcos, Jose-Maria</td>
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<td>Gutierrez-Martinez</td>
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<td>12:00-12:30</td>
<td>Wizards of Oz in the Evolving Map of Design Research – Trying to Frame GUI Interaction</td>
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<td>Interviews</td>
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<td>John Sören Pettersson, Malin Wik, Henrik Andersson</td>
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**12:30-14:00** Lunch Break

**14:00-15:00**

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<td>14:00-14:30</td>
<td>Assessing the Performance of Automated Model Extraction Rules</td>
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<td>Jorge Echeverría, Francisca Pérez, Carlos Cetina, Óscar Pastor</td>
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<td>14:30-15:00</td>
<td>User-friendly and Extensible Web Data Extraction</td>
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<td>Irena Holubova, Tomas Novella</td>
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**14:00-15:30**

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<tr>
<td>14:00-15:30</td>
<td>FABIOLA: Defining the Components for Constraint Optimization Problems in Big Data</td>
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<td>Luisa Parody, Ángel Jesús Varela-Vaca, María Teresa Gómez-López, Rafael M. Gasca</td>
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<td>Session Description</td>
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<td>14:30-15:00</td>
<td>Scalable system for opinion mining on Twitter data. Dynamic visualization for data related to refugees’ crisis and to terrorist attacks</td>
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<td>15:00-15:30</td>
<td>Mining social media to extract structured knowledge through semantic roles</td>
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<tr>
<td>14:00-15:30</td>
<td>T6: Human Computer Interaction (HCI) in ISD (cont.)</td>
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<tr>
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<td>Session chair: Josephina Antoniou</td>
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<td>14:00-14:30</td>
<td>Gamification of Information System Testing - Design Consideration through focus group discussion</td>
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<td>14:30-15:00</td>
<td>Intelligent Pillbox: Evaluating the User Perceptions of Elderly People</td>
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<td>15:30-16:00</td>
<td>Coffee Break</td>
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<tr>
<td>16:00-17:00</td>
<td>T8: Security and Privacy in ISD</td>
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<td>Session chair: Eliana Stavrou</td>
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<tr>
<td>16:00-16:30</td>
<td>The Impact of Procedural Security Countermeasures on Employee Security Behaviour: A Qualitative Study</td>
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<td>16:30-17:00</td>
<td>Towards a smart society through personal assistants employing executable choreographies</td>
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<td>16:00-17:00</td>
<td>T12: General topics in ISD</td>
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<td>Session chair: Gavriel Panis</td>
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<td>16:00-16:30</td>
<td>Challenges in Implementing a Portable Patient Identification System for Ubiquitous Healthcare in Developing Countries</td>
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<td>16:30-17:00</td>
<td>Improving disease surveillance in Malawi – reflections on a mobile system field-test</td>
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<td>Bo Andersson</td>
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<td>T6: Human Computer Interaction (HCI) in ISD (cont.)</td>
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<td>Session chair: Andreas Pamboris</td>
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<td>16:00-16:30</td>
<td>Shaping the place - A digital design heuristics tool to support creation of urban design proposals by nonprofessionals</td>
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<td>Barnabé Faliu, Alena Siarheyeva</td>
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<p>| Time       | Tour of Larnaca and Traditional Dinner            |            |
|            | Bus leaves conference area at 17:15               |            |</p>
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<td>09:30-10:30</td>
<td>Keynote Address 3</td>
<td>Auditorium 1, Ground floor</td>
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<tr>
<td>Loizos Michael, Open University Cyprus: From Computing Machinery to Collaborative Assistants: The Next Generation of Information Systems</td>
<td>Session chair: Marios Raspopoulos</td>
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<td>10:30-11:00</td>
<td>Coffee Break</td>
<td>Foyer area, Ground floor</td>
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<td>11:00-12:30</td>
<td>Session A3.1</td>
<td>Room CY017</td>
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<td>T8: Security and Privacy in ISD (cont.)</td>
<td>Session chair: Eliana Stavrou</td>
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<td>11:00-11:30</td>
<td>SWYSWYK: a Privacy-by-Design Paradigm for Personal Information Management Systems</td>
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<td>Paul Tran-Van, Nicolas Anciaux, Philippe Pucheral</td>
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<td>11:30-12:00</td>
<td>Assessments of a Cloud-Based Data Wallet for Personal Identity Management</td>
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<td>Farzaneh Karegar, Daniel Lindegren, John Sören Pettersson, Simone Fischer-Hübner</td>
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<td>12:00-12:30</td>
<td>A classification platform for security protocols in WSNs</td>
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<td>Eliana Stavrou, Nearchos Paspallis</td>
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<td>11:00-12:30</td>
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<td>T12: General topics in ISD (cont.)</td>
<td>Session chair: Michael Lang</td>
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<td>11:00-11:30</td>
<td>What do page users ask about? A content analysis of page user posts on a local government Facebook page</td>
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<td>Peter Bellström</td>
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<td>11:30-12:00</td>
<td>Aligning drivers, contract, and management of IT-outsourcing relationships: a type-dependent model</td>
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<td>Katrine Arenfeldt, Amalie Corty Dam, Kim Harder Fenger, Johan Silkjaer, Nikolaus Obwegeser</td>
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| 12:00-12:30 | **A process for selection and training of super-users for ERP implementation projects**  
*Peter Danielsen, Kenneth Sandfeld Hansen, Mads Helt, Lasse Holm Nielsen, Nikolaus Obwegeser* |
| 12:30-13:00 | **ISD2018 Presentation**  
**ISD2017 Closing**  
*Auditorium 1, Ground floor* |
| 13:00-14:00 | Lunch Break  
*Cafeteria, Ground floor* |
| 14:00-      | Optional activities (sightseeing)                                        |
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ISD2017 CONFERENCE COMMITTEES

PROGRAMME CHAIRS
Nearchos Paspallis, University of Central Lancashire, Cyprus
Marios Raspopoulos, University of Central Lancashire, Cyprus

INTERNATIONAL STEERING COMMITTEE
Chris Barry, National University of Ireland Galway, Ireland
Michael Lang, National University of Ireland Galway, Ireland
Henry Linger, Monash University, Australia
Christoph Schneider, City University of Hong Kong, Hong Kong
**TRACK CHAIRS**

**T1: Information Systems Methodologies and Modelling**  
Malgorzata Pankowska, University of Economics in Katowice, Poland

**T2: Managing IS Development**  
Emilio Insfran, Universitat Politecnica de Valencia, Spain

**T3: ISD Education**  
Irene Polycarpou, University of Central Lancashire, Cyprus  
Tihomir Orehovački, Juraj Dobrila University of Zagreb, Croatia  
Mark Freeman, University of Wollongong, Australia

**T6: Human Computer Interaction (HCI) in ISD**  
Dijana Plantak Vukovac, University of Zagreb, Croatia  
Panayiotis Zaphiris, Cyprus University of Technology, Cyprus

**T7: Cognitive Science**  
Andreas Andreou, Cyprus University of Technology, Cyprus  
Jaroslav Pokorny, Charles University, Czech Republic

**T8: Security and Privacy in ISD**  
Christos Douligeris, University of Piraeus, Greece  
Eliana Stavrou, University of Central Lancashire, Cyprus

**T12: General topics in ISD**  
Michael Lang, University of Ireland, Galway  
Gabriel Panis, Cyta, Cyprus  
Andreas Pamboris, University of Central Lancashire, Cyprus
INTERNATIONAL PROGRAMME COMMITTEE

Aleksandra Lazareva, University of Agder, Norway
Alena Siarheyeva, ISEN Toulon, France
Ana Castillo-Martinez, University of Alcalá, Spain
Andreas Christoforou, Cyprus University of Technology, Cyprus
Andreas Gregoriades, Cyprus University of Technology, Cyprus
Andreas Lanitis, Cyprus University of Technology, Cyprus
Andreas Panayides, University of Cyprus, Cyprus
Andri Ioannou, Cyprus University of Technology, Cyprus
Andrina Granic, Faculty of Science, University of Split
Berislav Andrlíc, Polytechnic in Pozega, Croatia
Carlos Torrecilla-Salinas, University of Sevilla, Spain
Chris Barry, National University of Ireland Galway, Ireland
Christodoulos Efstathiades, European University Cyprus, Cyprus
Christoph Schneider, City University of Hong Kong, Hong Kong
Christos Karpasitis, UCLan Cyprus, Cyprus
Christos Kyrlitsias, Cyprus University of Technology, Cyprus
Daniel Rodriguez, University of Alcalá, Spain
Danijel Radošević, University of Zagreb, Croatia
Darko Etinger, Juraj Dobrila University of Pula, Croatia
David Fonseca, La Salle, Ramon Llull University
Despina Michael-Grigoriou, Cyprus University of Technology, Cyprus
Dimitris Karagiannis, University of Vienna, Austria
Dominique Blouin, Hasso-Plattner-Institute, Germany
Dragutin Kermek, University of Zagreb, Croatia
Florina Livia Covaci, Babeș-Bolyai University, Romania
Geir Horn, University of Oslo, Norway
George Sielis, CyRIC, Cyprus
Georgia Kapitsaki, University of Cyprus, Cyprus
Georgios Stylianou, European University Cyprus, Cyprus
Giancarlo Guizzardi, Free University of Bozen-Bolzano, Italy
Gustavo Rossi, Universidad Nacional de La Plata, Argentina
Hasan Alyamani, Macquarie University, Australia
Igor Balaban, University of Zagreb
Javier Gonzalez Huerta, Blekinge Tekniska Högskola, Sweden
Javier Gutiérrez, University of Seville, Spain
Jennifer Pérez, Universidad Politécnica de Madrid, Spain
Jesus García-Molina, University of Murcia, Spain
Joan Lu, University of Huddersfield, United Kingdom
Joanna Palonka, University of Economics, Poland
João Barata, University of Coimbra, Portugal
John Søren Pettersson, Karlstad University, Sweden
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<th>Institution</th>
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<td>Andreas Pamboris</td>
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<td>Chris Barry,</td>
<td>National University of Ireland, Galway, Ireland</td>
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<td>Eliana Stavrou</td>
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<td>Emilio Insfran,</td>
<td>Universitat Politecnica de Valencia, Spain</td>
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<td>Gabriel Panis</td>
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<td>Henry Linger</td>
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<td>Irene Polycarpou</td>
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<td>Josephina Antoniou</td>
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<td>Loizos Michael</td>
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<td>Michael Lang,</td>
<td>National University of Ireland, Galway, Ireland</td>
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<td>Małgorzata Pańkowska</td>
<td>University of Economics in Katowice, Poland</td>
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<td>Panayiotis Andreou</td>
<td>UCLan Cyprus, Cyprus</td>
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KEYNOTE SPEAKERS

We are privileged to have three distinguished keynote speakers, Prof. Janet C. Read of the University of Central Lancashire, Mr. Alexis Piperides who is CEO of Proto.io, and Dr Loizos Michael of the Open University of Cyprus.

Prof. Janet Read is a leading researcher in the field of child computer interaction where she is the co-author of one of the main academic texts and is the editor in chief of the International Journal of CCI. Despite only being in academia for the last fifteen years, Prof Read has examined over 20 PhD candidates across seven countries, has supervised 11 PhD students to completion and has over 200 peer reviewed articles. Whilst having an interest in all things computational and supervising students in forensic computing, educational pedagogy and serious games design, her main interest is in technologies for children where she is particularly interested in designing for teenagers, the evaluation of technologies for and with children, the applications of digital ink to learning environments and the study of ethical participatory design with children. She has worked on funded projects with the BBC, Lego and Vision Objects and she has chaired various conferences and workshops.

Alexis Piperides is co-founder and CEO of Proto.io, a leading mobile app prototyping platform. Alexis is a UX design enthusiast and an advocate of new faster product lifecycles through prototyping and other innovative processes. He has been building software for the last 20 years and is involved in several UX design projects while acting as a product manager at Proto.io.

Dr. Loizos Michael is an Assistant Professor at Open University of Cyprus, where he founded and directs the Computational Cognition Lab. He was educated at University of Cyprus, where he received a B.Sc. in Computer Science with a minor degree in Mathematics. He continued his education at Harvard University, where he received an M.Sc. and a Ph.D. in Computer Science. He has served as the program chair of the 15th European Conference on Logics in Artificial Intelligence (JELIA), and his is the organizer of the workshop series on Cognitive Knowledge Acquisition (Cognitum). His research focuses on computational models for cognitive processes associated with individual or collective intelligence, with special interest on the interaction between learning and reasoning.
The good, the bad and the ugly of child computer interaction

Prof. Janet C. Read, United Kingdom
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Abstract
When children interact with computer technologies the technology and the interaction have an affect on the child. Unable to maturely determine what is good for them, children rely on adults to make the right choices in the design, procurement and circulation of computer technology products. The adult stakeholders in this chain of interventions each has a different motivation and, more tellingly, each has his or her own view on what is 'good' for the child.

In this interactive and engaging talk, Prof. Read will unpick how 'good for children' can be discussed, determined and designed for in the world of interactive technology for children. Drawing on research carried out over the last ten years on the design and evaluation of technologies for children, this talk will bring a new perspective to the development of children's technology products and, surprisingly perhaps, will also have the audience thinking about how and why technology is designed for other users.
The importance of UX in a product’s success

Abstract

There are numerous stories where companies built features/products only to find out that users didn't find them useful, couldn't easily use them or that they just didn’t like them. The user experience (UX) was not great and that drove users away.

Designing products having the user in mind is easier said than done. You might assume that you know (because e.g. you’ve been in the market for years) what users need, what they like, how they would behave, but in fact you don’t. In most cases your assumptions will be wrong. The only way to get that knowledge is from the users themselves: by asking, observing, testing, monitoring.

But it doesn’t end here. You have to act upon that knowledge and let it be reflected in your product's design decisions. You need to prototype solutions and test them to see if they meet your objectives. This iterative process is known as the Human-Centered Design process.

The talk will go through the importance of UX in a product’s success, the Human-Centered Design process and give real-life examples from Alexis' experience.
From Computing Machinery to Collaborative Assistants The Next Generation of Information Systems

Dr Loizos Michael, Cyprus
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Abstract
A certain conceptual transition is currently taking place on the way we perceive and develop information systems. The prevalent metaphor of information systems as multi-purpose computing machinery that operates against an objective metric of correctness is giving way to a view of IS as personal assistants that collaborate with users to tackle subjectively-evaluated tasks. Preprogrammed solutions that come with strict design-time guarantees are being replaced by machine learning solutions that offer statistical guarantees against their training material.

Despite the ongoing unprecedented impact of this new generation of IS, our inability to understand how they reach their decisions — especially when deployed in critical situations, and more so when they, inevitably, happen to err — remains a major and growing concern, and keeps ordinary and expert users alike from fully embracing these systems in their new collaborative assistant role. The ongoing effort to design explainable and transparent systems seems to point back to the early years of Artificial Intelligence (AI), and to the goal of understanding and replicating aspects of human intelligence, giving rise to systems that operate in a manner that is cognitively-compatible with humans.

This talk presents evidence from Cognitive Psychology and AI that suggest that argumentation might be a key ingredient for developing cognitively-compatible collaborative systems: argumentation is inherent in the process of reasoning, it plays a critical role in human-to-human communication, it is amenable to automated computation, and it offers a natural representation for knowledge that is either provided to a system by humans or is autonomously learned through training.
LOCATION OF CONFERENCE ROOMS

Papers will be presented in rooms CY006, CY017 and CY018, located respectively on the ground floor of the UCLan Cyprus building.

Opening, keynotes, and closing sessions will take place in room “Auditorium 1”, which is also located on the ground floor of the UCLan Cyprus building.

FLOOR MAP

Blueprint of UCLan Cyprus ground floor (ISD2017 venue)

ACCESS FOR DISABLED PERSONS

All conference and adjacent rooms are fully accessible by wheelchairs. If you need assistance to enter the building, please contact the receptionist at +357 24 69 4000.
COMPUTER & NETWORK FACILITIES

Accessing the WiFi network

Participants carrying their own portable equipment will be able to access the Internet through the Wi-Fi network. You can connect either through “eduroam” or “UCLan-Cyprus-Open-Guest”. In both cases, you should be able to automatically connect to the network without a username and/or password. For the latter network, you will be asked to read and accept the terms of use in a webpage first.

Presentation equipment

All conference rooms are equipped with a projector and a network-connected computer running Windows 10 and supporting the presentation of PPT/PPTX (MS Office), PDF (Acrobat), and web-based documents (Chrome and Firefox). Please bring your presentation on an appropriate USB memory stick. If necessary, you can also give your presentation using your own computer by connecting to the available VGA input port.

ON-SITE REGISTRATION

Facilities will be available for on-site registration.

The on-site registration fee is €500 (€400 for students, €350 for AIS members) or €250 for additional persons (i.e. without an associated paper). Payment of this fee entitles delegates to receive the conference bag, one copy of the ISD2017 Book of Abstracts and ISD2017 Proceedings (in electronic form), lunch and tea/coffee breaks during the conference and entry to the conference social events.

For accompanying persons the fee is €30 (Welcome reception) and €60 (Guided Tour and Traditional Dinner). This does not include conference bag content and attendance at the ISD2017 scientific program, sessions or coffee/lunch breaks.
SOCIAL EVENTS

During the Conference you can expect interesting events which will offer you an opportunity to get to know Larnaca and its surroundings while enjoying a first-hand experience of Cyprus gastronomy, music, and culture. The social events program includes:

- Welcome Reception – September 6, 2017 at 17:30
- Guided Tour in Larnaca and Traditional Dinner – September 7, 2017 at Ayia Anna – Buses depart at 18:30 from UCLan Cyprus
- Optional Events - September 8, 2017

Welcome Reception

Welcome Reception is the first social gathering between all conference delegates and it will take place at UCLan Cyprus. It will be a relaxing evening during which delegates will have the opportunity to talk to colleagues and peers, while enjoying local drinks and ample canapés.

Guided Tour in Larnaca and Traditional Dinner

We will depart at 18:30 from the venue in air-conditioned coaches for a fascinating tour. Experienced professional guides will tell us about the history of Cyprus in general and Larnaca town in particular. We will visit Larnaca old town and we will finish our tour with a dinner at a traditional tavern located in Ayia Anna village. The dinner will consist of an array of traditional dishes complimented with local drinks and desserts. During the dinner, we will enjoy an entertaining programme with live music and singing performed by a local band and traditional dances performed by a local dance group.

OPTIONAL EVENTS

If you stay longer in Larnaca, there are several places worth visiting:

TOP LARNACA LANDMARKS

Agios Lazaros (Saint Lazarus) Byzantine Church

Located in the town centre, the magnificent stone church of Agios Lazaros is one of the most remarkable examples of Byzantine
architecture in Cyprus and lies over the tomb of the saint. Built by Byzantine Emperor Leo VI in the 9th century, the church was restored in the 17th century. Although the three domes and original bell tower of the church were destroyed in the first years during Ottoman rule, the gold-covered iconostasis has survived today and is a superb example of baroque woodcarving. Next to the church is the Byzantine Museum, which exhibits important religious icons and artifacts.

Chirokitia Archaeological Site (Neolithic Settlement)

Located 35km from the main city of Larnaca, just off the Larnaca - Limassol highway, the archaeological site of Chirokitia is a remarkably well-preserved settlement from the Neolithic Age that has been a listed UNESCO World Heritage Site since 1998. Remains from all phases of the Neolithic Age are evident in the settlement which provides an insight of living conditions in the region, during Prehistoric and Neolithic times.

Palm Trees Promenade - 'Phinikoudes'

Larnaca’s most famous promenade of ‘Phinikoudes’ is a 600-metre long stretch that combines beach, entertainment and culture along its palm tree lined length. The distinctive, towering palm trees were planted in the 1920s and have become a landmark in the city, with the strip attracting large crowds both day and night.

Europe Square

Heralding the start of the popular ‘Phinikoudes’ promenade (Athens Avenue), Europe Square is the scene of many cultural and sporting events and is flanked by the first colonial buildings the British Administration built in Cyprus in 1881, with a fountain in its centre, and dotted with contemporary benches in an abstract boat form. The buildings have been beautifully restored, winning the Europa Nostra award in 1996. Today, they house the Municipal Art Gallery, the Historic
Archives Museum, the Museum of Larnaca and the Larnaca Municipal Cultural Services.

**Larnaca Medieval Castle**

Located at the end of the Phinikoudes promenade, the Medieval Castle of Larnaca (also referred to as Larnaca Fort) is believed to have been originally built during the Middle Ages, and took its present form during Ottoman rule, although there is some contestation regarding its origins.

**Larnaca Salt Lake**

Larnaca Salt Lake is the second largest salt-lake in Cyprus and measures 2.2 square kilometres. In 1997 it was declared a protected area under Cypriot Law for the Protection and Management of Nature and Wildlife and under the European Habitats Directive. It is a significant Ramsar and Natura 2000 site, one of the most significant biotopes in Europe with important habitats for waterfowl.

**Stavrovouni Monastery**

Perched on a rocky peak 750 metres above sea level, legend tells that Stavrovouni Monastery was founded in the 4th century by St. Helena, mother of Emperor Constantine the Great, who left a relic of the Holy Cross at the monastery. The monks have strict rules akin to those at Mount Athos in Greece. Women are not permitted to enter the monastery, nor is the use of camera or video permitted. Men visiting must be appropriately dressed.

**Zenobia Wreck**

The Zenobia, a Swedish roll-on-roll-off ferry, was fully loaded with 104 trailers and trucks when she sunk off Larnaca’s fishing harbour on her maiden voyage to Cyprus in June 1980. Today, it ranks as one of the top 10 wreck dives in the world. If you are not a diver but wish to view the wreck from above, glass-bottom boats offer daily trips to the site.
CONFERENCE VENUE

Cyprus at the south-east corner of Europe, and UCLan Cyprus in relation to Larnaca and Larnaca International Airport.

UCLan Cyprus campus
Aerial picture of UCLan Cyprus campus and Auditorium 1
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ISD2017 ABSTRACTS
Querying Histories of Organisation Simulations

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Abstract

Industrial Dynamics involves system modelling, simulation and evaluation leading to policy making. Traditional approaches to industrial dynamics use expert knowledge to build top-down models that have been criticised as not taking into account the adaptability and sociotechnical features of modern organisations. Furthermore, such models require a-priori knowledge of policy-making theorems. This paper advances recent research on bottomup agent-based organisational modelling for Industrial Dynamics by presenting a framework where simulations produce histories that can be used to establish a range of policy-based theorems. The framework is presented and evaluated using a case study that has been implemented using a toolset called ESL.

Keywords: Modeling, Simulation, Theory building mechanism
Study on differences among online consumer groups based on factors affecting online purchase intention

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Abstract
An online purchase intention and behaviour model was empirically tested in this study among both online buyers and online non buyers in the context of search goods and experience goods. The focus of this exploratory research was to have an understanding regarding consumers’ online purchasing intentions and behaviours against existing attitudes towards online purchasing, demographic factors and existing ‘technology use’ and ‘access’. Data for the survey was collected through an online questionnaire to a purposive sample. Descriptive and inferential statistics were employed to analyze data. Findings of the study revealed that the consumer factor and the marketing factor remained significant between the three groups namely online store visitors, online store browsers, and online buyers. In addition to that among the online buyers marketing factor failed to remain significant against the type of goods purchased whether ‘experience goods’ or ‘search goods’.

Keywords: Online Purchase Intention, e-commerce, experience goods, search goods
Abstract

Computer scientists in information system encounter difficulties in leading research when they must consider human aspects, especially to evaluate these aspects. To achieve high quality research, they need to be guided in their process from their research question to their contributions. This article addresses the question of a traceable process to lead research in human-centred computer science. It proposes, THEDRE, a method to lead research with process and some quality indicators. This method integrates the elements to track research thanks to the integration of continuous quality improvement concepts (Deming’s wheel and indicators) in the research process. Our proposal has been designed from our participation in 29 works in human-centred computer science, and more particularly with 8 PHD students in information system. Also, THEDRE has been experimented during 2 workshops with PhD students and researchers.

Keywords: Traceability, process, Deming’s wheel, indicators, quality, epistemological paradigm, design science
Business Strategy Analytics for Public Procurement Architecture Development

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Abstract

The public procurement (PP) architecture development should be considered as highly customized set of projects, because of the necessity to respect local branch requirements and national regulations as well as to avoid corruption and to secure that system according to the national and local policies. Therefore, the enterprise architecture (EA) models should satisfy the regional and national requirements, and business strategies. Assuming that business structure and processes follow business strategy, the main goals of the paper are to present the business strategy model in the enterprise architecture language, i.e., ArchiMate and to emphasize the strategy formulation value for the business process modeling.

Keywords: Business strategy, business analytics, business architecture, process modeling, public procurement, ArchiMate
Abstract

Today it is not possible for the companies to compete without having IT as a strategic driver. That is why IT governance becomes crucial for managers to bring the most value from IT to the business. Additionally organizational culture is an important factor and often blamed when IT governance projects fail. However little indepth research investigated how the organizational culture changes can improve the IT governance performance. This research is a case study of the IT department of a large company attempting to improve the IT governance while facing the digitalization challenge. In this case the IT department has an organizational culture change journey seeking to improve the IT governance performance. The results indicate that the initial clan culture orientation of the IT department has led to a successful IT governance performance in cost-effective use of IT. Furthermore, adhocracy is identified as preferred culture for improving IT governance for growth.

Keywords: Organizational culture, IT governance performance, Organizational Culture Assessment Instrument (OCAI), IT department, digitalization
Knowledge-Sharing in Technology Business Incubator

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Abstract

Given the economic growth challenges facing countries all around the world, the importance of the initiative of technology business incubators in developing the economic growth of a country has been recognized. Technology business incubators are included in many of the processes that support economic growth, such as job creation and developing innovative technologies. This research paper with data result showing an examined conceptual model for technology business incubators. The model examined how the knowledge-sharing practices impact technology business incubator performance in Saudi Arabia. The outcome of this research is helpful; it will make better understanding for technology business incubators to provide better articulate in the incubation functions.

Keywords: Technology incubator, Business incubator, Knowledge sharing, Saudi Arabia
Facilitating Synchronous Collaborative Writing with a Collaboration Script

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Abstract
A significant part of work in industry is carried out in co-located or virtual teams. Therefore, training information systems (IS) students to collaborate both face-to-face and online is necessary. Findings from computer supported collaborative learning (CSCL) research suggest that students need additional support to learn to collaborate effectively. Such support can be provided through collaboration scripting. In this paper, we discuss the effects of a collaboration script on the learning process in the context of an online synchronous collaborative writing task. The study employs an experimental design. The results demonstrate that scripted groups spent most effort on coordination and planning, while unscripted groups used most effort on contributing to the case solution. Closely following the collaboration script improved the quality of learners’ discussions. However, the groups who chose to only partly follow the script primarily settled with quick consensus-building during the discussion phase, much the same way as unscripted groups.

Keywords: Computer-supported collaborative learning (CSCL), collaboration scripts, collaborative writing, IS education, Google Docs.
The importance of user in ISD. Do we really teach?

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Abstract

In 1999, the European Higher Education Area (EHEA) defined the framework that regulates all degrees, including Computer Engineering (CE), within the environment of the European Union. Each country, in turn, regulated each of these studies on the basis of that common framework. In the case of Computer Engineering, among the specific competencies the profession entails, there are concrete references to the effective incorporation of user and need for IT (Information Technology) professionals to learn how to manage and work in multidisciplinary environments. However, these competencies are difficult to teach to students. This paper presents a critical view of the way we are teaching future developers of information systems to work with user. Besides, it analyses the consequences that it may bring to future professionals. The paper also offers some considerations and intends to motivate a future discussion on this topic.

Keywords: user in ISD, European learning, Computer Engineering
Analysing the Relationships between Digital Literacy and Self-Regulated Learning of Undergraduates – A Preliminary Investigation

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Abstract

Advances in technology access allow undergraduates to personalize their learning to their individual interests via the creation and use of informal personal learning environments (PLEs). A comprehensive understanding of how everyday digital technologies are adapted and used to create such PLEs and their impact on acquisition and development of students’ digital literacy (DL) and self-regulated learning (SRL) skills, is still lacking. This paper presents the initial exploratory quantitative phase, of a longitudinal mixed methods study planned to identify and describe the relationship between DL and SRL skills of students, when using PLEs. Structural equation modelling was used to analyse data collected from 202 participants in online surveys. The results confirm that DL components effect some SRL sub processes and some evidence was obtained for reciprocal relationships. Implications for Information Systems theory and practice are discussed together with future research opportunities.

Keywords: Digital Literacy, Self-regulated learning, Personal learning environments
Modelling Gherkin Scenarios Using UML

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Abstract

Gherkin scenarios are examples of the behaviour of the system under development. They may be part of the requirement specification, they may be part of the test suite and they are an excellent tool for gathering information among stakeholders, testers and developers. However, little work have been done formalizing Gherkin scenarios and modelling them as part of UML diagrams. This paper introduces an abstract syntax and concrete syntax for modelling Gherkin scenarios in UML Use Case diagrams. This paper also introduces a tool for running Gherkin scenarios from UML Use Case diagrams as test cases.

Keywords: Gherkin, scenario, use case, UML, Model-Driven Development
Business process oriented autopoietic knowledge management support system design

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Abstract

One of the approaches connected with the use of knowledge management systems in organisations is process oriented knowledge management. This approach assumes that knowledge management (KM) processes are focused on the aspect of their usage context in the form of tasks performed by business process participants. One of the trends in the development of process oriented knowledge management is treating such solutions as autopoietic systems. This approach assumes a range of additional characteristics of a technical and social solution being built. Autonomy, clearly defined boundaries of a system, lack of a direct impact on a system from outside, self-organisation and adaptation mechanisms required in such systems indicate the need for a new perspective on the integration. This paper will present analysis of the theory of process oriented knowledge management and an autopoietic system, as well as proposing a model for building such business process oriented autopoietic knowledge management support systems.

Keywords: system, knowledge management, knowledge management support system, business process oriented autopoietic knowledge management support system
A Systematic Approach to Design Product Traceability in Industry 4.0: Insights from the Ceramic Industry

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Abstract

Departing from a case in the table and ornamental ceramics industry, we propose a comprehensive approach to design product traceability for Industry 4.0. Our design-science research approach includes a review of traceability technologies and participative enterprise modeling. We find benefits in combining Business Process Modeling Notation (BPMN) and Goal-oriented Requirement Language (GRL) representations to (1) improve communication in complex ISD scenarios, (2) promote reflection by experts with different backgrounds, and (3) reach consensus in a solution that addresses the goals of multiple stakeholders. The resulting model combines technologies in different stages of product lifecycle. Depending on each stage and strategic intention, the identification code can be embedded in the product, transport, or package. Our contribution can assist managers in the creation of digital ecosystems to support traceability integration at (1) technological, (2) vertical, and (3) horizontal levels that are required by the fourth industrial revolution.

Keywords: Traceability, Ceramic Industry, BPM, GRL, Digital Ecosystem, Industry 4.0
Identifying Gaps on IT Governance Capabilities: Findings in the Logistics and Transportation Industry in Colombia

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Abstract

Nowadays, Information Technology (IT) governance is a core activity adopted or expected by most organizations to control the behaviour of IT assets. However, this discipline faces a growing gap between the views, priorities and practices of academics and practitioners. This paper presents a consolidated view of capabilities for implementing IT governance within an organization. We evaluated these capabilities in the practice of Colombian companies within the logistic industry. The main gaps on adopting IT governance capabilities are discussed and research insights are provided for aligning theory and practice.

Keywords: ICT governance, capability model, business ICT alignment, risk management
Use of Radio Frequency Identification Technology in Reducing Overcrowding at Australian Emergency Departments

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Abstract

Australian emergency departments (ED) are experiencing challenges due to overcrowding despite the government implementation of an improved model of care. This paper explores the opportunity for the use of Radio Frequency Identification (RFID) technology in Australian hospital ED to reduce overcrowding. The Australian ED model of care with Triage scale and improved patient journey were studied. The best possible RFID integration was sought and evaluated against the applied Australian Hospital’s domain model of care. Potential indicators of suitability were ED length of stay, ED wait times. Ambulance diversions were studied and contrasted from the start of the patient journey to the end of the patient’s treatment cycle, to find opportunities for the implementation of RFID technology. Based on the results of the study, it is recommended that RFID implementation be tested in actual scenarios. Only then can the benefits of the concept be validated.

Keywords: Radio Frequency Identification (RFID), Healthcare, Emergency Departments (ED), length of stay, patient waiting times, Hospital information System (HIS)
Exploring How Environmental and Personal Factors Influence Knowledge Sharing Behaviour Leads to Innovative Work Behaviour in Vietnamese Higher Education Institutions

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Abstract

The Vietnamese Government has been struggling to build a higher education system that is innovative to the requests of national knowledge-based development. It is essential to explore knowledge sharing behaviour (KSB) from environmental and individual perspectives. It can help to contribute to innovative work behaviour (IWB) towards knowledge-based development initiatives, in particular regarding the phenomenon of knowledge sharing (KS) in Vietnamese higher education institutions (HEIs).

The aim of this research-in-progress is to propose a research model based on social cognitive theory (SCT) that comprises environmental factors (subjective norms, trust), personal factors (knowledge self-efficacy, rewards, reciprocity), KSB and IWB. We advance to conduct a survey to examine our proposed conceptual model. It is expected that this research will contribute to the deeper understanding of the effects of personal and environmental factors and KSB on IBW within Vietnamese HEIs.

Keywords: Knowledge sharing, Innovative work behaviour, Social cognitive theory, Vietnamese higher education
Development of a Social Gamified Platform for e-Learning

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Abstract

The way in which nowadays education is evolving, makes it possible to associate it with MOOCs courses and gamification techniques to improve learning outcomes of students. To this end, this paper shows the development of an educational e-learning platform built upon the Elgg social framework, where a set of gamification elements were added: Points, achievements, leaderboards and rewards. For the future, effectiveness validations will be carried out with students as well as further developments with other types of gamification elements.

Keywords: Education, MOOCs, Gamification, Elgg
GovernIT: A Software for Decision-making Support on Automated IT Governance Models

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Abstract

We developed a software tool named GovernIT to support the creation and evolution of computer-driven Information Technology (IT) governance models. This software automates the design of decision-making grants to coordinate interactions among IT units. It also allows the assessment of business drivers and IT risks to automate the generation of implementation roadmaps for decision-support mechanisms. The software has been used by students of an IT Governance Course to assess undesirable IT behaviors for 21 organizations, to design their target IT governance model, and to generate their IT process implementation roadmap. The results of this implementation evidences the positive impact of dynamic governance models on IT risks and efficiency.

Keywords: knowledge-based system, decision-support mechanisms, ICT governance model, risk evaluation, IT processes prioritization
A Study into the Adoption of, and Enthusiasm for Agile Development Methodologies Within Further Education.

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Abstract

This paper describes a survey of UK Further Education professionals in order to determine the uptake and use of Agile Methodologies. Thirty individuals, including directors, managers and developers, completed the survey. The results indicate a low level (<25%) of Agile adoption within the sector, and this mirrors findings in the wider public sector, despite there being a backdrop of reduced funding and government pressure towards carrying out Agile projects. Interestingly, where institutions have adopted Agile the level of impact measured shows little improvement over traditional processes. Despite the FE sector being a place where change and teamwork would find a natural home, the enthusiasm for Agile systems was also low in the respondents to this survey and given that these individuals were recruited from a mailing list for those interested in Agile, these results are particularly interesting.

Keywords: Agile Software Development, Agile Adoption, Further Education, UK Public Sector, Empirical Survey
Specifying Value in GRL for Guiding BPMN Activities

Prioritization

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Abstract

In a value-based requirements engineering approach, the stakeholders’ value propositions must be considered ahead in order to prioritize which requirements will be developed first to drive the software development activities. Early requirements approaches like the Goal-Oriented Requirements Language (GRL) focuses on modeling goals, tasks, contributions, and dependencies in order to satisfy the stakeholders’ needs, but do not provide a mechanism to specify value according to stakeholders’ value propositions. Moreover, in software development, after specifying value propositions, there is a need to align goal elements into business process elements in order to prioritize which business process activity is going to be developed next. Thus, we propose a new approach (value@GRL) to improve GRL and prioritize Business Process Model and Notation (BPMN) activities. Value@GRL provides guidelines for specifying value in GRL models according to the stakeholders’ needs and prioritization mechanisms to define BPMN activities' order in an incremental software development.

Keywords: Value-based development, GRL, prioritization, early requirements, BPMN
Expected Utility and Risk Management in Complex Projects

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Abstract

Much research has been conducted to the study of methods for managing ISD projects. This resulted in a large amount of literature on a variety of often normative ISD methods. The increasing projects' complexity provide new challenges regarding management and development. In complex projects scenarios where the outcome is composed of several deployed components, guaranteeing specific contract requirements for the prime contractor of the project is a real challenge. The focus of this paper is to find appropriate methods to facilitate end-to-end contract parameters in complex projects environments by automated supply chain formation and to establish and enforce contract parameters between each pair of component consumer/provider. Communication between agents along the supply chain is done by message exchange and provides propagation of constraints between subcontractors in the supply chain. Our findings reveal that the proposed method is able to address the emerging issues arising in complex projects.

Keywords: Information systems development, Complex projects, Supply Chain Formation, Utility functions, Project management
Smart Irrigation System for Smart Farming

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Abstract

New technologies such as the Internet of Things allows capturing information from multiple devices like sensors, buildings, and homes. This information is stored in the Cloud and can be used in order to improve a service or take decisions based on it. Internet of Things supports a Smart City vision, enhance the quality of public services and the life of its habitants. Smart Farming plays an important role and represents an essential component in Smart Cities. Moreover, the need of decreasing the waste of water has opened new research directions in finding solutions that help in saving water. In this paper, it has been proposed a solution for the intelligent irrigation of any type of crop, taking into account new technologies such as Internet of Things in order to improve irrigation systems. In order to show the feasibility of this proposed, an application of this solution has been presented.

Keywords: Cloud Computing, Internet of Things, Smart Farming, Smart Cities, Strawberries
On the Influence of Modification Timespan Weightings in the Location of Bugs in Models

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Abstract

Bug location is a common task in Software Engineering, specially when maintaining and evolving software products. When locating bugs in code, results depend greatly on the way code modification timespans are weighted. However, the influence of timespan weightings on bug location in models has not received enough attention yet. Throughout this paper, we analyze the influence of several timespan weightings on bug location in models. These timespan weightings guide an evolutionary algorithm, which returns a ranking of model fragments relevant to the solution of a bug. We evaluated our timespan weightings in a real-world industrial case study, by measuring the results in terms of recall, precision, and F-measure. Results show that the use of the most recent timespan model modifications provide the best results in our study. We also performed a statistical analysis to provide evidence of the significance of the results.

Keywords: Bug Location, Model Driven Engineering, Reverse Engineering
Evaluating the efficacy of value-driven methods: a controlled experiment

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Abstract

A value model is an abstract representation of an organization and is used for capturing and describing the rationale of how the organization creates, delivers, and captures business value. Value-driven development methods use the notion of “economic value exchange” to define more efficient business strategies and align Information Systems with the organization goals. However, current value-driven methods are complex and there is not enough empirical evidence about which of the existing methods is more effective under what circumstances. This paper addresses this issue by presenting a controlled experiment aimed at comparing the Dynamic Value Description (DVD) method, which is a recently defined cognitive early requirements approach, with the well-known e3value method, with respect to their effectiveness, efficiency, perceived ease of use, perceived usefulness and intention to use. The results show that DVD has proved to be a promising method for specifying business value.

Keywords: value model, value-driven, controlled experiment
End-to-End Automation in Cloud Infrastructure Provisioning

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Abstract

Infrastructure provisioning in the cloud can be time-consuming and error-prone due to the manual process of building scripts. Configuration Management Tools (CMT) such as Ansible, Puppet or Chef use scripts to orchestrate the infrastructure provisioning and its configuration in the cloud. Although CMTs have a high level of automation in the infrastructure provisioning still remains a challenge to automate the iterative development process in the cloud. Infrastructure as Code is a process where the infrastructure is automatically built, managed, and provisioned by scripts. However, there are several infrastructure provisioning tools and scripting languages that need to be used coherently. In previous work, we have introduced the ARGON modelling tool with the purpose of abstracting the complexity of working with different DevOps tools through a DSL. In this work, we present an end-to-end automation for a toolchain for infrastructure provisioning in the cloud based on DevOps community tools and ARGON.

Keywords: Infrastructure as Code, Cloud Services, DevOps, Continuous Integration, Continuous Deployment, Continuous Delivery, Model-Drive Development.
A Variational Recurrent Neural Network for Session-Based Recommendations using Bayesian Personalized Ranking

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Abstract

This work introduces VRNN-BPR, a novel deep learning model, which is utilized in session-based Recommender systems tackling the data sparsity problem. The proposed model combines a Recurrent Neural Network with an amortized variational inference setup (AVI) and a Bayesian Personalized Ranking in order to produce predictions on sequence-based data and generate recommendations. The model is assessed using a large real-world dataset and the results demonstrate its superiority over current state-of-the-art techniques.

Keywords: Neural Networks, Latent Variable Models, Deep Learning Recommender Systems

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Abstract

Undisclosed allergic reactions of patients are a major risk when undertaking surgeries in hospitals. We present our early experience and preliminary findings for a Clinical Decision Support System (CDSS) being developed in a Norwegian Hospital Trust. The system incorporates unsupervised and supervised machine learning algorithms in combination with rule-based algorithms to identify and classify allergies of concern for anesthesia during surgery. Our approach is novel in that it utilizes unsupervised machine learning to analyze large corpora of narratives to automatically build a clinical language model containing words and phrases of which meanings and relative meanings are also learnt. It further implements a semi-automatic annotation scheme for efficient and interactive machine-learning, which to a large extent eliminates the substantial manual annotation (of clinical narratives) effort necessary for the training of supervised algorithms. Validation of system performance was performed through comparing allergies identified by the CDSS with a manual reference standard.

Keywords: Electronic Health Record, clinical decision support systems, structured data, unstructured information, narrative, machine learning, unsupervised machine learning, supervised machine learning, semi-supervised machine learning, rule-based algorithms
Influencing the Influencers: Analyzing Impact of Prior Review Sentiments on Product Reviews

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Abstract

Extant research has widely studied the impact of online product review on sales and most studies have found a significant impact of these reviews as an e-WOM tool. Given the importance of the online reviews, we study a hitherto understudied area of antecedents of sentiments in user reviews. We assess the impact of contagion effect of past review sentiments on reviewers' choice to write a review. We analyze the impact of emotional response of users while writing product reviews triggered by the appraisal response to prior online reviews. A short selection of reviews, which most e-commerce websites show, along with the numerical product rating (if any) could strongly bias the sentiments in a review being written under their influence. Through a mix of experimental methods and text analysis of online reviews, we find that review writers tend to veer towards extreme reviews in absence of any benchmark or prior reviews.

Keywords: Sentiment analysis, bandwagon effect, online product reviews, controlled experiment
Combining multiple Web Accessibility Evaluation Reports using Semantic Web Technologies

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Abstract

This paper describes a process for automatic combination of testing reports for the accessibility of Web applications, obtained by different testing tools and applying different standards on Web accessibility. Interoperability is guaranteed using semantic Web technologies, which allow describing the reports by RDF (Resource Description Framework) triples. The reports refer to elements of a knowledge base consisting of vocabularies, ontologies and rules of inference, in which the conceptual relations between accessibility standards, as WCAG (Web Content Accessibility Guidelines) or Section 508 among others, are formalized previously. A software prototype that uses the Apache Jena framework for implementing the process is presented.

Keywords: Interoperability, Semantic Web, Software Testing, Web Accessibility
Abstract

With the current growth in the use of smartphone devices, and the large amount of Mobile Instant Messaging applications available in the markets, this co-occurrence makes it highly valuable to evaluate the usability of this kind of applications in order to provide more satisfying user experiences. Within this paper, a systematic usability evaluation of Mobile Instant Messaging applications is presented, which will be applied to both iOS and Android platforms. Based on the results, it is suggested that this type of mobile applications present serious problems in performing tasks, poor user interfaces and lack of information about privacy and security features. Likewise, along with the results, this paper presents a list of usability recommendations to help developers improve their Instant Messaging applications.

Keywords: Instant messaging, iOS, Android, usability, keystroke level modeling, mobile, heuristic evaluation
Wizards of Oz in the Evolving Map of Design Research – Trying to Frame GUI Interaction Interviews

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Abstract

We present and discuss GUI-ii, Graphical User Interface interaction interview, a method used to remotely discuss, develop and test GUI prototypes with users and stakeholders. Examples of such sessions are presented to demonstrate that the main benefits of GUI-ii are that this way of co-designing allows for interaction informed discussions around functions and user interfaces, where re-design and hands-on experience can be integrated and efficiently carried out remotely. Using a facilitation tool to enact GUI layout and responses allows participation and evaluation to take turns in participatory design processes in a productive way. We discuss this form of Participatory Design along the dimensions found in Sanders’ Map of Design Research. The discussion concludes that GUI-ii facilitates participation by relaxing demands for physical presence and by allowing people to participate from their own work environment while still making it easy for them to directly influence contents, structure and interaction.

Keywords: Participatory design, GUI-ii, interview techniques, design research.
Assessing the Performance of Automated Model Extraction Rules

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Abstract

Automated Model Extraction Rules take as input requirements (in natural language) to generate domain models. Despite the existing work on these rules, there is a lack of evaluations in industrial settings. To address this gap, we conduct an evaluation in an industrial context, reporting the extraction rules that are triggered to create a model from requirements and their frequency. We also assess the performance in terms of recall, precision and F-measure of the generated model compared to the models created by domain experts of our industrial partner. Results enable us to identify new research directions to push forward automated model extraction rules: the inclusion of new knowledge sources as input for the extraction rules, and the development of specific experiments to evaluate the understanding of the generated models.

Keywords: Conceptual Models, Natural Language Requirements, Model Extraction.
User-friendly and Extensible Web Data Extraction

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Abstract

Creation of web wrappers is a subject of study in the field of web data extraction. Designing a domain-specific language for a web wrapper is a challenging task, because it introduces trade-offs between expressiveness of a wrapper’s language and safety. In addition, little attention has been paid to execution of a wrapper in a restricted environment. In this paper we present a new wrapping language -- Serrano -- that has three goals: (1) ability to run in a restricted environment, such as a browser extension, (2) extensibility to balance the tradeoffs between expressiveness of a command set and safety, and (3) processing capabilities to eliminate the need for additional programs to clean the extracted data. Serrano has been successfully deployed in a number of projects and provided encouraging results.

Keywords: web data extraction, safe execution, restricted environment, web browser extension
FABIOLA: Defining the Components for Constraint Optimization Problems in Big Data Environment

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Abstract

The optimization problems can be found in several examples within companies, such as the minimization of the production costs, the faults produced, or the maximization of customer loyalty. The resolution of them is a challenge that entails an extra effort. In addition, many of today’s enterprises are encountering the Big Data problems added to these optimization problems. Unfortunately, to tackle this challenge by medium and small companies is extremely difficult or even impossible. In this paper, we propose a framework that isolates companies from how the optimization problems are solved. More specifically, we solve optimization problems where the data is heterogeneous, distributed and of a huge volume. FABIOLA (FAst BIg cOstraint LAb) framework enables to describe the distributed and structured data used in optimization problems that can be parallelized (the variables are not shared between the various optimization problems), and obtains a solution using Constraint Programming Techniques.

Keywords: Big Data, Optimization Problem, Constraint Programming, Data Structure
Scalable system for opinion mining on Twitter data. Dynamic visualization for data related to refugees’ crisis and to terrorist attacks

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Abstract
Social networks such as Twitter or Facebook grew rapidly in popularity, and users use them to share opinions about topics of interest, to be part of the community or to post messages that are available everywhere. This paper presents a system created in order to process streamed data taken from Twitter and classify it into positive, negative or neutral. The results of these processing’s can be visualized in a suggestive manner on Google Maps, users can select the language of the tweets, can group tweets that present the same news and can even display a dynamic evolution of the news in terms of its appearance. With all this amount of information it is very opportune to do some data analysis to detect different types of events (and their locations) that happen worldwide, especially at the time when this data represents information related to refugee crisis or signals terrorist attacks.

Keywords: Twitter, real time processing, opinion mining, dynamic visualization
Mining social media to extract structured knowledge through semantic roles

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Abstract

Semantics is a well-kept secret in texts, accessible only to humans. Artificial Intelligence struggles to enrich machines with human-like features, therefore accessing this treasure and sharing it with computers is one of the main challenges that the computational linguistics domain faces nowadays. In order to teach computers to understand humans, language models need to be specified and created from human knowledge. While still far from completely decoding hidden messages in political speeches, computer scientists and linguists have joined efforts in making the language easier to be understood by machines. This paper aims to introduce the VoxPopuli platform, an instrument to collect user generated content, to analyze it and to generate a map of semantically related concepts by capturing crowd intelligence.

Keywords: semantic roles, text mining, knowledge resources, social media
Gamification of Information System Testing - Design
Consideration through focus group discussion

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Abstract
This paper presents the design consideration of gamifying Information System Testing through results obtained from various focus group sessions with software developers and testers. The intention is to provide new testing strategies and tools that can help Information System testing to be more efficient while providing an engaging and rewarding test environment for the tester. Gamification may be a solution to raise testers’ engagement in, as it can potentially remedy the high degree of repetition and ensuing boredom for a tester in the testing phase. Findings, suggest that gamification may be an element to advance the testing efficiency. Moreover, system and task knowledge, the objectives of the actual system, time constraints and required tools for performing testing task are essential to have an efficient testing performance. Participants stated that points, levels, meaningful gifts, progressions, provision of choice and feedback are the main elements a gamified testing platform should have.

Keywords: Information System Testing, Gamification, Regulative Cycle Framework
Intelligent Pillbox: Evaluating the User Perceptions of Elderly People

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Abstract

Pillboxes represent a good solution in the adherence to medical prescriptions for elderly people. They are built taking into account aspects as ergonomic criteria, several doses of medicine and another consideration about their design. Therefore, we have presented a pillbox prototype which helps elderly people in taking all doses of medicine. This paper presents the next step towards a useful device, here it is presented an empirical evaluation of the “Intelligent Pillbox” by using the Technology Acceptance Method to evaluate the ease of use perception, usefulness perception and intention to use in the future of this new technological device. The evaluation consists in a quasi-experiment which was performed by 45 elderly people, who attend to institutions focused on work with this priority group in several integration activities. Results show positive perceptions of this solution that indicates the intention to use in the future and provide us insights about possible improvements.

Keywords: Empirical Evaluation, Intelligent Pillbox, Elderly People, TAM, Technology Acceptance Method
The Impact of Procedural Security Countermeasures on Employee Security Behaviour: A Qualitative Study

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Abstract

The growing number of information security breaches in organisations presents a serious risk to the confidentiality of personal and commercially sensitive data. Current research studies indicate that humans are the weakest link in the information security chain and the root cause of numerous security incidents in organisations. Based on literature gaps, this study investigates how procedural security countermeasures tend to affect employee security behaviour. Data for this study was collected in organisations located in the United States and Ireland. Results suggest that procedural security countermeasures are inclined to promote security cautious behaviour in organisations, while their absence tends to lead to non-compliant behaviour.

Keywords: Employee Security Behaviour, Information Security Policy, Security Education, Information Security Awareness
Towards a smart society through personal assistants employing executable choreographies

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Abstract
With the increased use of Internet, governments and large companies store and share massive amounts of personal data in such a way that leaves no space for transparency. Large organizations and institutions are known to be ineffective in data safeguarding, so they can be stolen. The analysis of executable choreographies and their implementation in the real systems led us to the conclusion that it is possible to increase data privacy by using a different kind of automation made possible by the personal assistant of the future. A possible approach may be employing software systems integrated on a large scale, while the data control may be made by data owners. As it is very laborious to control this access manually, we argue in this paper that these assistants can become the real representatives of the people and the institutions that have legal access to private data management.

Keywords: smart society, Privacy By Design, executable choreographies, personal assistants
Challenges in Implementing a Portable Patient Identification System for Ubiquitous Healthcare in Developing Countries

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Abstract

Patient identification in healthcare information systems (HIS) is often claimed to have been solved by globally accepted information representation standards. This paper illustrates that unfortunately the patient identification problem is not entirely solvable by standards and ubiquitous computing, especially in developing countries. The issue is investigated in the significant context of infectious and drug-resistant diseases within a healthcare facility located in a developing country. The paper investigates and systematises the patient identification issues found, followed by identifying the likely root causes and challenges. This is followed by the definition of a high-level list of the most relevant HIS requirements that could assist in addressing the non-trivial patient identification conundrum, thus clearing the way towards the design and implementation of the next generation pervasive healthcare-enabling HIS.

Keywords: Electronic Health Records, Interoperability, Patient Identification, e-Health, Healthcare Information Systems
Improving disease surveillance in Malawi – reflections on a mobile system field-test

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Abstract

Disease surveillance and response is still a hurdle in many low and middle income countries in sub-Saharan Africa. Pivotal in disease surveillance and response is the reliance on complete, timely, valid, and consistent information, hence, information with high quality. A problem in this context is diverse data sources with different levels of information quality affecting the trustworthiness of collected information. The increasing diffusion of mobile technologies and network coverage seems to offer opportunities to improve information quality of data collected for disease surveillance and response. In this paper findings based on field trials of a mobile m-health application is presented. Based on qualitative data from interviews, workshop and system specifications it is displayed that information quality improves but soft aspects as health care staff competence is pivotal.

Keywords: Disease surveillance, e-health, m-health, Africa, Malawi, IDSR
Shaping the place - A digital design heuristics tool to support creation of urban design proposals by non-professionals

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Abstract
This paper is exploring a solution to foster civic engagement in urban design projects by applying the concepts of creativity to ICT tools. We propose a framework to support interactions between non-professionals and professionals that will ease the understanding of urban design and creation of design proposals for non-trained people and, on the other hand, offer valuable propositions and inspiration to experts. This make tool should have the presented creativity affordances known as fluency, flexibility and originality during the divergent phase of the creation process. We propose to implement a 3D collage metaphor to facilitate creative expression with 3D models. An underlying technical challenge of our application is to provide an interactive 3D mesh cutting tool to help users to express their creative potential in urban design projects. We present a non-exhaustive survey of mesh segmentation and cutting methodologies and finally, first results of implementation of a cutting algorithm.

Keywords: Urban design, creativity, Co-Design, 3D modeling, 3D collage
SWYSWYK: a Privacy-by-Design Paradigm for Personal Information Management Systems

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Abstract
Pushed by recent legislation and smart disclosure initiatives, Personal Information Management Systems (PIMS) emerge and hold the promise of giving the control back to the individual on her data. However, this shift leaves the privacy and security issues in user's hands, a role that few people can properly endorse. Indeed, existing sharing models are difficult to administrate and securing their implementation in user's computing environment is an unresolved challenge. This paper advocates the definition of a Privacy-by-Design sharing paradigm, called SWYSWYK (Share What You See with Who You Know), dedicated to the PIMS context. This paradigm allows each user to physically visualize the net effects of sharing rules on her PIMS and automatically provides tangible guarantees about the enforcement of the defined sharing policies. Finally, we demonstrate the practicality of the approach through a performance evaluation conducted on a real PIMS platform.

Keywords: Personal Information Management Systems (PIMS), Privacy-by-Design, Access control, data security
Assessments of a Cloud-Based Data Wallet for Personal Identity Management

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Abstract

Within a project developing cloud technology for identity access management, usability tests of mockups of a mobile app identity provider were conducted to assess users’ consciousness of data disclosures in consent forms and flow of authentication data. Results show that using one’s fingerprint for giving consent was easy, but most participants had not a correct view of where the fingerprint data is used and what entities would have access to it. Familiarity with ID apps appeared to aggravate misunderstanding. In addition, participants could not well recall details of personal data releases and settings for disclosure options. An evaluation with a confirmation screen slightly improved recall rate. However, some participants voiced a desire to have control over their data and expressed a wish to manually select mandatory information. This can be a way of slowing users down and make them reflect more.

Keywords: Cloud computing, Identity provider, Identity management, Smartphone, Data disclosure, Usability, Privacy
A classification platform for security protocols in WSNs

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Abstract

Wireless Sensor Networks (WSNs) are supporting the operation of a variety of critical infrastructures. In order to secure the operation of WSNs, appropriate security protocols have been specified supporting different operational objectives and security features. Often, it is challenging to identify the protocols’ key operation and key features due to various reasons such as the lack of expert knowledge and the complexity of protocols. This can limit the ability of researchers to identify protocols of interest and apply them at a specific setup. This challenge is addressed by designing a platform to classify a wide-range of security protocols in WSNs, to highlight their key features and to guide users through an interactive and user-friendly approach to select protocols of interest. An appropriate proof-of-concept has been developed.

Keywords: protocol classification, security, WSN, decision-tree
What do page users ask about? A content analysis of page user posts on a local government Facebook page

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Abstract

In this paper we present an exploratory and inductive qualitative content analysis on the type of questions that are asked by page users on a local government Facebook page. Out of the 127 analyzed posts the results show that users are first of all asking questions about infrastructure, sports and leisure, and services. Altogether these three categories are identified in just under 52 per cent of the analyzed posts. The implication is that managements who know what type of questions are asked on their Facebook pages can be better prepared to answer these type of questions. In the long run, knowing the type of questions asked by the users could also be incorporated in the requirements (cf. co-design) for design and development of new services and/or information systems, thereby improving both the requirements and the implemented service and/or information system.

Keywords: Facebook, Social Media, Content Analysis, Inductive Study, Exploratory Study, Qualitative Study, Government, Page User Posts
Aligning drivers, contract, and management of IT-outsourcing relationships: a type-dependent model

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Abstract

In today’s competitive business environment, information technology outsourcing has become a wide-spread reality across all industries and sectors. Researchers have investigated this complex phenomenon from various angles, and established a sound knowledge base regarding the drivers, management, and success factors related to IT outsourcing. However, little is known about the relationship between outsourcing drivers and goals on the one hand, and contractual and managerial aspects on the other hand. To overcome this gap, this study presents a synthesized conceptual model of existing literature that relates aspects of contractual governance and relationship management to three generic types of IT outsourcing, based on their underlying drivers: task-based, process-based, and partnership-based outsourcing. Our model identifies the specific contractual and managerial factors relevant for each type of outsourcing, and proposes that alignment across all elements is influential to the success of IT outsourcing initiatives.

Keywords: outsourcing, information technology, management, conceptual model
A process for selection and training of super-users for ERP implementation projects

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Abstract
The concept of super-users as a means to facilitate ERP implementation projects has recently taken a foothold in practice, but is still largely overlooked in research. In particular, little is known about the selection and training processes required to successfully develop skilled super-users in practice. To address this research gap, we analyze the case of an ERP implementation program at a large manufacturing company. We combine Katz’s widely accepted skill measurement model with the process observed in practice to describe and test a model of super-user selection and training. The resulting model contains a systematic process of super-user development and highlights the specific skillsets required in different phases of the selection and training process. Our results from a comparative assessment of management expectations and super-user skills in the ERP program show that the model can be successfully applied and thus serve as a template for practitioners confronted with similar challenges.

Keywords: ERP implementation, super-user, key-user, skills
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15:00 15:30 16:30 17:00 18:00 18:30 19:30 20:00 21:00 21:30 22:30

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![Average Air Temp (°C) Graph](image)

![Average Sea Temp (°C) Graph](image)
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