

EDITORIAL

The IADIS International Journal on Computer Science and Information Systems (IJCSIS) is a peer-reviewed scientific journal published exclusively in an electronic form. Its mission is to publish original contributions pertaining to the topics of Information Systems and their uses, to disseminate knowledge amongst its readers and to be a reference publication. The IADIS IJCSIS publishes original research papers and review papers, as well as auxiliary material such as short ongoing research papers, case studies, conference reports, management reports, book reviews and commentaries.

This volume (Volume 10, Issue 2 - ISSN: 1646-3692) combines nine selected original papers that bring together researchers covering the wide spectrum of the area of Information Systems. The authors' contributions embrace significant research topics and intend to provide a current depiction of the research in the field while opening way to future research work.

The first paper in this issue by Peter Trommler entitled "A FORMALLY VERIFIED DIGITAL SIGNATURE DEVICE FOR SMARTPHONES" is based on the idea that attacks on internet banking are mainly motivated by financial gain and since, nowadays, everyone uses a smartphone to access their bank account, it is necessary the implementation of better and attractive security measures. As a result, this study presents an external security device that connects to a smartphone with the purpose to have a better level of security concerning the use of online banking in mobile phones. It was developed an architecture for the security device and presented how that architecture is incorporated into existing industry standards.

The second contribution by Ljubomira Spassova, Ioanna Lykourantzou and Andreas Arens-Volland named "WHAT'S IN MY DISH? – EXTRACTING FOOD INFORMATION THROUGH MOBILE CROWDSOURCING" reports on a research work performed at the Luxembourg Institute of Science and Technology (LIST) evaluating crowdsourcing approaches for the acquisition of nutrition-related information. The authors present the results and describe the design and assessment of an online survey exploring individual's attitudes concerning food-related information and corresponding mobile applications. Based on surveys and user studies, food-related crowdsourcing tasks were recognized and assessed with reference to their need and appropriateness for human assistance.

In the third paper, by Mortaza S. Bargh, Jan van Dijk and Sunil Choenni, with the title "DYNAMIC DATA QUALITY MANAGEMENT FRAMEWORK USING ISSUE TRACKING SYSTEMS", it is proposed "an innovative data quality management framework to dynamically monitor and improve the quality of data within an organization". The presented framework depends on a problem resolving process, where users, employ issue tracking systems to report on data quality related problems, as these problems occur in post implementation phase of such information systems. This framework, also offers an automatic mechanism to associate semantically these problems to data quality issues.

The fourth paper by Tapani N. Liukkonen, Hanna Ahtosalo, Toni Heinonen, Reetta Raitoharju, Paula Pitkääkangas and Tuomas Mäkilä entitled "MOTION TRACKING EXERGAMES FOR ELDERLY USERS" reports on the results from the field tests of two custom made exergames, based on a commercial off-the-shelf technology, aimed for the elderly people. These two games, a sports game and a gamified exercise game, had the purpose to improve the physical wellbeing of elderly users. The main purpose of this research is to develop and implement games that can be used by the elderly users to improve their physical comfort. The target population of these games are users who are not yet physically active.

The fifth paper, by Kyle DeFreitas and Margaret Bernard, titled "COMPARATIVE PERFORMANCE ANALYSIS OF CLUSTERING TECHNIQUES IN EDUCATIONAL DATA MINING" focuses on the concept that "clustering analysis provides a useful way to group objects without having previous knowledge about the data being analysed". As a result, the authors determine which clustering algorithm is most suitable for performing analysis on web log data for learning management systems. According to the authors, the purpose of this study is to "extend the knowledge about the performance of clustering algorithms by considering a case based analysis of the comparative performance across the categories of clustering technique".

The sixth contribution entitled “TRANSITION CARDS: DESIGNING A METHOD WITH AND FOR YOUNG PATIENTS” written by Margaret Machniak Sommervold and Maja van der Velden is based on participatory design (PD) as a “methodology concerned with bringing the voices of future users into the design process” of tools. In this paper the authors, presented a discussion and analysis of including users in the design of a participatory method. Therefore, this method was used with the purpose to aid and support young patients in organizing and explaining their experiences and expectations concerning their transition from pediatrics to adult healthcare.

The seventh paper by Henrik Engström, Jenny Brusik and Per Anders Östblad entitled “INCLUDING VISUALLY IMPAIRED PLAYERS IN A GRAPHICAL ADVENTURE GAME: A STUDY OF IMMERSION” brings us to the necessity of inclusion of impaired people in the context of gaming. The purpose of this study is that visually impaired and sighted players should be able to play the same game and share a gaming experience as the players that do not have any kind of limitation. For that reason, in this paper, the authors present a mobile game developed with the intention to be inclusive for both visually impaired and sighted players.

The eighth contribution by Aisha Umair, Anders Clausen and Bo Nørregaard Jørgensen called “AN AGENT BASED APPROACH FOR COORDINATION OF ENERGY ALLOCATION AND DEMAND IN CYBER-PHYSICAL SYSTEMS” focuses on the increasing need for energy efficient systems. Cooperative control strategies and multi-issue negotiation protocols have been analysed extensively. In this paper, the authors proposed a “novel inter-domain coordination mechanism, which unifies the properties of both cooperative control strategies and multi-objective multi-issue negotiation protocols” with the purpose to present a “coordination mechanism that unifies the properties of cooperative control strategies and multi-objective multi-issue negotiation protocols in order to achieve a group objective among self-interested agents in each coupled domain.”

The ninth paper in this issue entitled “AN EMPIRICAL STUDY ON COMPUTER AND PAPER BASED RESOURCES: ARE THEY COMPETITIVE OR COMPLIMENTARY MEANS?” authored by Pedro Isaias, Paula Miranda and Sara Pifano reports on the results of an empirical study where it was examined the advantages and disadvantages of using both computer and paper for reading and writing in nowadays. The authors conducted an online survey in a higher education context to identify the main perceptions of students with concerning the usage of computer screen and paper-based resources. As a result, not only it was possible to establish patterns of use, personal preferences but also to establish a relation between computer and paper use that mirrors both competitiveness and complementarity. In general, the authors reached to the conclusion that in spite of the extensive use of ICTs there is still a significant number of students who prefer to use a paper-based resource for writing and particularly for reading.

These papers illustrate the different facets of research done on different contexts of Information systems, such as internet banking, online security, e-Health, gaming, educational data mining, intelligent system and agents, learning resources and data quality and how information systems can improve all aspects of society and contribute with the work they have developed to the enrichment of this field. The review of the relevant literature contributes to the theoretical grounding of these areas and the innovative empirical research on different technologies creates opportunity for the development of innovative findings.

The Editors

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