

## 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 Applied Computer Science, Information Systems and their Applications, 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 (ISSN: 1646-3692) combines 10 selected original papers that bring together researchers covering the wide spectrum of Computer Science and Information Systems and their applications. The authors' contributions embrace important 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 Ali Hamie, titled **CONSTRAINT SPECIFICATIONS USING PATTERNS IN OCL** widens the compilation of published constraint patterns by identifying additional patterns as well as making some improvements for existing patterns and their explanation. These additional patterns result from an example model of a video rental store described in UML (Unified Modeling Language) and improved with OCL (Object Constraint Language) constraints. The author presents an adaptation of the representation of some constraint patterns thus the conditions for applying them can be formalized.

The second paper by Jorge Oliveira e Sá, Claus Kaldeich and João Álvaro Carvalho, **A MULTI-DRIVEN APPROACH TO REQUIREMENTS ANALYSIS OF DATA WAREHOUSE MODEL: A CASE STUDY** presents a case study with a multi-driven approach to data modelling in data warehousing. This approach is a mixture of business process management approach with goal-driven, user-driven, technology-driven and data-driven approaches. The case study was conducted in a small and medium-sized company, with no earlier experience of data warehousing, and without an IT department, depending on IT vendors to develop their information system.

The third contribution by José F. Vélez, Ángel Sánchez, Belén Moreno and Shamik Sural entitled **ROBUST EAR DETECTION FOR BIOMETRIC VERIFICATION** underlines the focus on biometrics as one of the most promising solutions for the improvement of secure systems and on the interest, that ear biometric recognition has received in recent years. It provides in the authors' own words "a new ear detection method based on the use of circular Hough transform and some anthropometric proportions to detect the ear region accurately". The proposed ear detection and verification methods were tested with images from three different databases presenting diverse variations to assess the robustness of this approach.

The fourth paper by Kęstutis Valinčius, Vytautas Štuikys and Robertas Damaševičius entitled **UNDERSTANDING OF E-COMMERCE IS THROUGH FEATURE MODELS AND THEIR METRICS TO SUPPORT RE-MODULARIZATION** addresses the e-commerce system "understandability" problem from the maintenance and evolution angle. " Since e-commerce systems are developing rapidly, their maintenance and evolution procedures are intricate and entail essential effort to analyze and understand them. The main purpose of this study is to provide a methodology that, "on the basis of analysis and understanding of a set of related IS through the relevant feature models and their evaluative characteristics (such as similarity, functionality and complexity grow, modularization level, etc.), enables to improve the development and maintenance activities."

The fifth paper, by Abdulaziz I. AlMajed and Pam Mayhew, titled **CHIEF INFORMATION OFFICERS' PERCEPTIONS OF IT PROJECT SUCCESS FACTORS IN SAUDI ARABIAN PUBLIC ORGANIZATIONS: AN EXPLORATORY STUDY** introduces the results derived from an exploratory study of the main factors that influence IT project success in Saudi Arabian public organizations from chief information officers' (CIOs) point of

view. In this research it was used a qualitative approach by using semi-structured interview to gather and explore the data. These interviews were performed with CIOs to collect their opinions about the IT project success factors. From this study resulted seventeen factors that may influence IT project success.

The sixth contribution by Armanda Rodrigues, Sara Silva and João Araújo VISUALIZATION OF GEO-REFERENCED ENTITY: AN ASPECT-ORIENTED PATTERN focuses on Web Geographic Information Systems. Here the authors introduce requirements analysis patterns for geospatial concerns, to simplify modularity in GIS Web applications. These patterns are created from the domain analysis of Web GIS applications and portrayed using an outline, which is supported by a comprehensive tool, facilitating the completion of specific geospatial patterns. Web GIS applications were examined to determine some of their unstable but usable spatial concerns.

The seventh paper by Paulo Bastos and Pedro Ramos entitled FINITE SATISFIABILITY VERIFICATION IN UML CLASS DIAGRAMS – A COMPARATIVE STUDY underlines a recognized problem in UML class diagrams, which is “finite satisfiability”. The authors identify and compare existing approaches for the corroboration of “finite satisfiability” in UML class diagrams, determining the effectiveness and effectiveness of the proposed tools. By comparing the characteristics, advantages and disadvantages of the approaches, the authors were able to classify their effectiveness and efficiency, as well as establish which approaches and respective tools are most suitable for “finite satisfiability” verification.

The eighth work, entitled AN ANALYSIS OF INTEREST AREA SIMILARITIES BY UTILIZING THE LOAN RECORDS OF LIBRARY by Toshiro Minami has the purpose of developing a “modeling framework of the interest area of a library patron by utilizing library’s loan records”, in order to profile a person with his/her interest field. With the results of this study, the author has the goal of developing several data analysis methods that with useful tips can assist people, including library patrons, as they learn. In author’s words the “eventual goal is not only to analyze the data from library and lectures and discover knowledge that is useful in giving better educational environment to students, but also to develop the more sophisticated tools for data analysis in this respect.”

The ninth paper, AN AWARENESS SYSTEM OF RISK CONTROL ACTION BY CONSTRAINED CLUSTERING ON PROJECT REPORTS authored by Masaki Samejima and Yuuki Imanara, proposes an “awareness system to display the appropriate risk control actions to the project managers.” In order to help project managers’ in the planning phase of a project, the proposed system identifies “the sentences that are related to the target risk in the project reports and extracts sentences of the risk control action from the project reports with the related sentences”.

The final paper by Benny M.E. De Waal titled USER PARTICIPATION PRACTICE: TO OVERCOME THE OBJECTIVE-SUBJECTIVE DICHOTOMY portrays the Structure-Agency Model of User Participation Practice. To examine this model, the author performed nine in-depth open interviews with the project manager, key-users and developers. The results of these interviews showed that the use of the Structure-Agency Model of User Participation Practice not only allows presenting an objective representation of the practice of user participation, but also how this representation was experienced and arranged by the different participants.

These papers illustrate the different facets of research done on Applied Computer Science, Information Systems and their Applications 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

Pedro Isaías  
Open University, Portugal

Marcin Paprzycki  
SWPS, Poland