

Special Issue on Selected Best Papers of the International Conference on Information and Communication Systems (ICICS 09)

Guest Editorial

The International Conference on Information and Communications Systems (ICICS2011) is a forum for Industry Professionals and Academics from Companies, Governmental Agencies, and Universities around the world to present their latest research results, ideas, developments and applications in all areas of Computer and Information Sciences. The topics that have been covered in the ICICS2011 include, but are not limited to: Artificial Intelligence, Mobile Computing, Networking, Information Security and Cryptography, Web Content Mining, Bioinformatics and IT Applications, Database Technology, Systems Integration, Information Systems Analysis and Specification, and Telecommunications. We selected 11 high quality papers (out of 54 papers, which were presented at the ICICS2-11) and invited the authors of the selected papers to extend them and submit them for a complete new peer-review for consideration in this Special Issue (SI). The final decision for the inclusion in the SI has been strictly based on the outcome of the review process. The main objective of the SI is to make available the latest results in the field to the research community and report state-of-the-art and in-progress research on all aspects of information and communication systems. The selected papers span a broad range on the information retrieval, E-business and Internet. The contributions of these papers are outlined below.

Jackson et. al, have studied the boundaries of natural language processing techniques in extracting Knowledge from emails, where they aimed to determine if natural language processing techniques can be used to fully automate the extraction of knowledge from emails. Based on the system built by the authors and it has been shown that although the f-measure results are world leading, there is still a requirement for user intervention to enable the system to be accurate enough to be of use to an organisation. On the hand, Al-Dwairi and Alsalman focused on a very major problem in the World Wide Web where they proposed a lightweight system to detect malicious websites online based on URL lexical and host features and call it MALURLs. The system relies on Naïve Bayes classifier as a probabilistic model to detect if the target website is a malicious or benign. It introduces new features and employs self learning using Genetic Algorithm to improve the classification speed and precision. The system achieves an average precision of 87%.

Two interesting studies have been presented for Web applications; The first one is vision-based presentation modelling of web applications, by Khasawneh et. al. This valuable work discussed the design, implementation, and evaluation of a reverse engineering tool that extracts and builds appropriate UML presentation model of existing Web applications. Their approach relies on a number of structured techniques such as page segmentation, the approach was applied and evaluated in the Goalzz home page. The Second work is presented by AL-Rousan and Nawasrah on techniques for Forward Error Correction (FEC) multimedia streams over the Internet. The work proposed a new approach of adaptive FEC scheme that optimized the redundancy of the generated codewords from a Reed-Solomon (RS) encoder. The adaptation of the FEC scheme is based on predefined probability equations, which are derived from the data loss rates related to the recovery rates at the clients. Along the same line, Maredj and Tonkin proposed a new generic approach to the spatial adaptation of multimedia documents. This approach allows heterogeneous devices (desktop computers, personal digital assistants, phones, via Internet, etc.), to play multimedia documents under various constraints (small screens, low bandwidth). This approach will enhance the access of multimedia content over the Internet regardless of their specifications

Next, an interesting backoff algorithm for wireless Internet is proposed by Bani Yassein et al. Unlike the Binary Exponential Backoff algorithm which makes exponential increments to contention window sizes, their work studied the effect of choosing a combination between linear, exponential and logarithmic increments to contention windows. Results have shown that choosing the right increment based on network status enhances the data delivery ratio up to 37% compared to the Binary Exponential Backoff, and up to 39 % compared to the Pessimistic Linear Exponential Backoff algorithms for wireless Internet. A study presented by Al-Duwairi et al., introduced a new GUI-based tool to manage Internet-Scale experiments over PlanetLab PlanetLab is being used extensively to conduct experiments, implement and study large number of applications and protocols in Internet-like environment. The tool (called ConTest) enables PlanetLab users to setup experiment and collect results in a transparent and easy way. This tool also allows different measurements for different variables over the PlanetLab network.

Content-oriented programming, searching, and retrieval are emerging techniques that enables these systems be more context aware. Magableh and Barrett described a development paradigm for building context-oriented applications using a combination of Model-Driven Architecture that generates an ADL, which presents the architecture as a components-based system, and a runtime infrastructure (middleware) that enables transparent self-adaptation with the underlying context environment. On the other hand, Zohra et. al. proposed an aggregated approach for searching a content of an XML documents. The objective of their work is to build a virtual elements that contain relevant and non-redundant elements, that are likely to answer better the query that elements taken separately. In related issue, e-banking

systems involves heavy retrieval and content-based transactions. Yazan Migdadi in his paper has addressed this issue with a particular attention paid to the e-banking in Jordanian.

Finally, as guest –co-editors of this SI, we would like to express our deepest thanks to the Editor-in-Chief, Professor Sabah Mohammed for hosting this Issue in the JETWI and for his continued support and helpful guidance throughout all the stages of preparing this SI. Our sincere thanks also go to the Editorial-office staff of the journal for their excellent job during the course of preparing this special issue. We also thank the authors for their contributions, including those whose papers were not included. We thank and greatly appreciate the thoughtful work of many reviewers who provided invaluable evaluations and recommendations.

Guest Editor

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