Guest editorial

SAICSIT 2013 Special Issue

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In this special issue, we feature selected papers from the 2013 South African Institute of Computer Scientists and Information Technologists Research (SAICSIT 2013) conference, hosted by Rhodes University at the Blue Lagoon Hotel in East London, 7–9 October. The authors of seven of the best SAICSIT papers were invited to submit extended versions of their research for this Special Issue. A second round of reviewing resulted in the four papers published here; two from Computer Science and two from Information Systems.

The paper by Loek Cleophas, Derrick G. Kourie, and Bruce W. Watson presents an extension of the Factor Oracle, an indexing data structure widely used, particularly in genomic data processing. The Factor Oracle takes the form of a deterministic finite automaton (DFA) whose language is a superset of the factors of the pattern. The Failure Factor Oracle (FFO) presented here makes use of a concept introduced in the seventies: failure transitions. The authors present an algorithm to construct a Factor Oracle using failure transitions that addresses the problem of avoiding the introduction of failure cycles during the construction. They then investigate whether it is worth using FFO in applications by presenting experimental results based on genomic and text data.

The paper by Marie Hattingh, Machdel Matthee, and Hugo Lotriet represents expatriate adjustment research, and describes how the "degree of information flow", a substantive category derived through the Grounded Theory methodology, provides an understanding of the emotional relationship expatriates in the Kingdom of Saudi Arabia (KSA) have with the Internet. The authors show that the pre-conditions to information flow include overcoming the challenges experienced by Internet users in KSA in addition to their intention to use the Internet based on their personal needs, status, and personality.

The paper by Chrisna Jooste, Judy van Biljon, and Jan Mentz investigates usability evaluation of Business Intelligence (BI) applications in the context of a coal mining organization. The authors demonstrate that guidelines for BI applications deviate from existing usability evaluation guidelines in that it emphasises the aspects of information architecture, learnability, and operability.

The paper by Dale Tristram and Karen Bradshaw identifies the attributes of problems that are important in determining the level of difficulty of accelerating the problems on a Graphics Processing Unit (GPU). General Processing on a GPU (GPGPU) for parallel computing is a highly relevant and important area for many computer scientists and engineers working on complex problems. The article describes the implementation of three algorithms in OpenCL for GPU acceleration, and analyses the attributes that make the problems difficult to deal with when utilizing GPGPU processing.

As guest editors we would like to thank all those who contributed to this special issue and the reviewers for their valuable feedback.

Note from Editor-in-Chief

We say goodbye in this issue to Computer Science editor Hussein Suleman, who has played an important role in building *SACJ* to its current standard. Hussein played a valuable role in managing reviews as well as in discussions on editorial policy. We will miss his lively and informed contributions to policy debates. We wish him well in his further endeavours.
– **Philip Machanick**