

Welcome to the second issue of JRPIT for 2008. Across Australian universities, IT departments are doing it tough. Despite the shortage of IT professionals, the number of people choosing to study IT at Australian universities is falling. This is resulting in retrenchments, non-replacement of retirees and merging of departments. This is a sorry state of affairs. Of course not every department is struggling. My own department at the University of Ballarat, for example, continues to be successful in attracting international students and our staff numbers have been growing year after year. But this is not representative of the crisis facing Australia. This crisis impacts not only on IT, but on industry in general as IT is an enabling technology. We need more, not fewer IT professionals and vibrant university departments to produce them. All of us need to be active in encouraging students to study IT so that they and this country can prosper.

We open this issue with a paper entitled “Global Sense of Risk Media Reporting on Scientific Studies and Potential Risks of Mobile Phones” written by Tapio Litmanen and Anu Tuikkanen. The possible dangers of mobile phones and other low-frequency electronic devices are frequently the subject of media coverage. “The focus of this paper is the recent worldwide worry over the risks of the low-frequency electric and magnetic fields of mobile phones and their base stations. This study of international media reports on the safety and health issues related to mobile phones indicates that the content of media reports varies between Europe, Asia and North-America, and that the same research results are given different emphases in different newspapers. This paper also examines the complex reciprocal relationships subsisting between the different actors and institutions amplifying and playing down the individual and collective sense of risk.”

The issue continues with “The Design and Implementation of Appointed File Prefetching for Distributed File Systems” by Gwan-Hwan Hwang, Hsin-Fu Lin, Chun-Chin Sy and Chiu-Yang Chang. “Many types of distributed file systems have been in widespread use for more than a decade. One of the key issues in their design is how to reduce the latency when accessing remote files, with the solutions including cache replacement and file-prefetching technologies.” In this paper, the authors propose “a novel method called appointed file prefetching, in which the main idea is to enable the user or system administrator to specify how to perform file prefetching.”

The third paper is “Design Space Exploration of a Reconfigurable HMAC-Hash Unit”. Esam Khan proposes “a key reuse mechanism for successive messages in order to improve the HMAC throughput.” In addition, the authors, M. Watheq El-Kharashi, Fayez Gebali and Mostafa Abd-El-Barr, “explore the design space by providing two implementations of the HMAC algorithm, one for a general key size and another for a fixed key size.”

“Dynamic textures are natural phenomenon characterised by their distinctive motion patterns. Synthesis of these textures is thus considered as the regeneration of a motion pattern that has identical motion distribution of a source texture”. The fourth and final paper in this issue, “Dynamic Texture Synthesis Using Motion Distribution Statistics” by Ashfaqr Rahman and Manzur Murshed, proposes “a synthesis technique where new textures are generated by computing their movement pattern from a known motion distribution followed by the generation of image frames”.

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