EMSOFT 2007 guest editors' introduction

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EMSOFT's purpose is to bring together researchers and developers from academia, industry, and government to advance the science, engineering, and technology in embedded software development. Two papers were selected from among the best EMSOFT papers for submission to this special issue.

The first paper is entitled "Design and implementation of a uniformity-improving page allocation scheme for flash-based storage systems", by Seungjae Baek, Jongmoo Choi, Seongjun Ahn, Donghee Lee, and Sam H. Noh. It introduces a performance model of Flash-based storage and a page allocation algorithm that the model suggests, and reports on experiments that aim at validating the model and showing the effectiveness of the algorithm. The paper is easy to read and may even be interesting to readers who are not experts in the field of Flash-based storage. It is a beautiful example of a simple model that captures the correct level of abstraction, i.e., a performance-relevant property of Flash memory, and, as a result and in addition to the experiments, provides easy-to-follow insight into why the proposed page allocation algorithm works.

The second paper is entitled "Influence of different abstractions on the performance analysis of distributed hard real-time systems", by Simon Perathoner, Ernesto Wandeler, Lothar Thiele, Arne Hamann, Simon Schliecker, Rafik Henia, Razvan Racu, Rolf Ernst, and Michael Gonzalez Harbour. This paper investigates the precision of several performance-analysis methods based on different abstractions for a benchmark of systems with different characteristics. The benchmark consists of a set of five rather simple systems, each with different characteristics. This is a timely paper on a carefully done experimental study about a highly relevant topic.

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