Letter from the Editor – in – Chief

In this issue we publish two papers selected by our Guest Editors Alesssandro Garcia, Christina Chavez, Paulo Borba and Carlos Lucena for the special issue on Aspect-Oriented Software Development. The first paper by Cacho, Batista and Fernandes presents an aspect-oriented infrastructure to support dynamic aspect-oriented programming based on Lua, a dynamically typed language. The proposed infrastructure combines a range of features to make aspect-oriented programming easier and powerful. In particular, an original feature is to allow the association of aspects with undeclared elements of the application code, which the authors have called "anticipated join points". The second paper by Dantas, Cirne, and Saikoski reports the authors' experience in using AOSD in the process of redesigning the OurGrid middleware. The essential direction of their approach was to get the project (and the software) "back in shape". They present an event-based solution designed to better isolate the middleware concerns, including aspects for managing the system threads and for aiding the testing of multithreaded code. The authors also highlight the lessons learned in the aspect-oriented process of regaining control of the software.

The third paper, by Vieira, Traina Jr., Chino and Traina, was chosen as the best paper of the 2004 Brazilian Symposium on Databases (SBBD04). It presents a new dynamic Metric Access Methods called DBM-tree (Density-Based Metric tree) that, in a controlled way, relax the height-balancing requirement of access methods, trading a controlled amount of unbalancing at denser regions of the dataset for a reduced overlap between subtrees. The experiments performed over synthetic and real datasets showed that the *DBMtree* outperforms the main balanced structures existing so far: the Slim-tree and the M-tree.

The fourth paper, by Flores, Polidório and Lotufo, was chosen as one of the best Image Processing papers of the 2004 Brazilian Symposium on Computer Graphics and Image Processing (SIBGRAPI04). It proposes a method for color gradient computation applied to morphological segmentation of color images. The weighted gradient applied in conjunction with the watershed from markers technique, provides excellent segmentation results, according to a subjective visual criterion. The weights to each gradient are estimated by a systematic method that computes the similarity between the image to compute the gradient and an "ideal image", whose histogram has an uniform distribution.

The last paper, by El-Khamy, Hadhoud, Dessouky, Salam, and El-Samie has been submitted to the JBCS. It describes a non-iterative regularized inverse solution to the image interpolation problem. This solution is based on the segmentation of the image to be interpolated into overlapping blocks and the interpolation of each block, separately. A global regularization parameter is used in interpolating each block. In this solution, a single matrix inversion process of moderate dimensions is required in the whole interpolation process.

Last but not least, our thanks to the many anonymous reviewers that dedicated their time to the Journal of the Brazilian Computer Society and to the Guest Editors who helped us to prepare this issue, as well as the program committee of SBBD04 and SIBGRAPI04.

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