Letter from the editor in chief

This issue of JBCS, unlike previous issues, does not cover a special topic. It contains papers that have been submitted to the Journal recently and have gone through the regular editorial process (rather than being selected by a specialized group of reviewers for a special issue). It also contains a paper that was selected as the best paper of the Brazilian Computer Society Programming Languages Symposium (SBLP) of 1999. I thank the special interest group on programming languages of SBC and the program committee of SBLP for indicating this paper for publication.

The issue starts with with the SBLP award paper, by Durham and Johnson. This paper was selected by the program committee of the Programming Languages Symposium to be reviewed and published in JBCS. This paper is concerned with an important issue in programming languages, namely, implementation of primitive data types for compilation within a high level language. The main goal is how to provide efficient code generation for these types. The approach taken is to develop modular type implementations, by handling format and semantics separately. Primitive types are specified according to a specific model, and automatically implemented into a compiler using a prototype system developed to this purpose. This allows generating types which are consistent with a formal specification.

The second paper, by Breitman, Leite and Finkelstein consists of a survey on the area of Requirements Engineering. JBCS does not usually publish survey papers, but an exception was made here because it was felt that this topic is new and with very many practical and theoretical implications. Furthermore, it has a tutorial approach, which will make it useful for both researchers and students. The survey compares different approaches to requirements engineering based on the analysis of a real life case study, the London Ambulance Service. The survey is divided into four topics: viewpoints, social aspects, evolution and non-functional requirements. The text shows advantages and shortcomings of present approaches, and points out to new developments in the area.
The third paper, by Stolfi, Mendonca and Nascimento deals with heuristics for producing drawings of directed graphs, and describes a software tool for testing and evaluating them. Graph drawing is a complex problem, which involves many issues from actual layout, based on available display space, to cognitive problems related to user-perception of a display. The set of heuristics presented and the tool implemented are based on the notion of asynchronous teams, and use an aesthetic function ratings in order to decide which heuristics to apply, and in which order.

Finally, the paper by Fong and Hui deals with combining computer networks and database systems. More specifically, it proposes a methodology to design a three-tier Client/Server database system, concentrating on the role of middleware development as temporary storage for better performance and as database gateway for DBMS connectivity. The next issue will also concentrate on regular papers and papers which received awards in recent SBC symposia.

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