Proceedings from Workshop on Experimental Algorithmics

ALCOM-FT Deliverable D4

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The deliverables D4 and D10 from the ALCOM-FT project are the outcome of a workshop on *Experimental Algorithmics* held at Schloß Dagstuhl, Wadern, Germany. The workshop took place in the period September 10 to September 15, 2000, and was initiated and organized by Rudolf Fleischer of ALCOM-FT site MPI, and Erik M. Schmidt of ALCOM-FT site Aarhus, in cooperation with Bernard Moret of University of New Mexico, Albuquerque.

The aim of this seminar was to bring together two groups, theoreticians and practitioners, to start establishing a methodology of experimental algorithmics by discussing problems like

- What are relevant experiments?
- What can be learned from experiments?
- What is a good benchmark test set?
- What is a good experimental paper?

In all, 45 researchers with affiliations in Austria, Canada, Denmark, France, Germany, Great Britain, Greece, Hong Kong, Italy, the Netherlands, Spain, and the USA participated in the meeting. Three invited keynote speakers, Jon Bentley, David S. Johnson, and Kurt Mehlhorn, gave one-hour position talks. The remaining 26 presentations given by participants of the meeting covered a wide range of topics in experimental algorithmics. The report of the seminar

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contains the abstracts of most of these presentations, as well as a summary of the plenum discussions held, and a list of participants.

To help disseminate the knowledge gained during the workshop, papers on experimental algorithmics were solicited from the participants. These papers will form a set of proceedings from the workshop, for which world-wide publication as a volume in the series *Lecture Notes in Computer Science* from Springer-Verlag, Germany has been arranged.

This volume will constitute Deliverable D10. The editorial process is still underway, and publication is expected in the first half of 2002. As Deliverable D4, we give the table of contents of this forthcoming volume.

Contents of forthcoming LNCS Volume

1. D. Bader and B. Moret: *Issues in experimental parallel algorithms.*
2. J. Bentley, R. Fleischer, D. Johnson, B. Moret, and E. Schmidt: *Overview.*
3. C. Demetrescu, I. Finocchi, G. Italiano, and S. Näher: *Tools and techniques for algorithm visualization.*
4. M. Fellows: *Parameterized complexity.*
5. R. Fleischer, C. McGeogh, and P. Sanders: *Searching for big-Oh in the data: inferring asymptotic complexity from experiments.*
6. R. Ladner, R. Fortna, and B. Nguyen: *A comparison of cache aware and cache oblivious algorithms using program instrumentation.*
7. C. Meinel, H. Sack, and A. Wagner: `www.bdd-portal.org` - *An experimentation platforms for binary decision diagram algorithms.*
8. C. Meinel and C. Stangier: *Experimental work with BDD-based data structures in the field of formal verification.*
9. B. Moret and T. Warnow: *Computational phylogeny.*
10. P. Sanders: *Presenting data from experiments in algorithmics.*
11. P. Spirakis and C. Zaroliagis: *Distributed algorithm engineering.*
12. C. Zaroliagis: *Implementation and experimentation of dynamic graph algorithms.*

We also include the report from the workshop.