Report on AGTIVE 2003

Applications of Graph Transformations with Industrial Relevance
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D. Janssens
Dirk.Janssens@ua.ac.be

This workshop was a successor to AGTIVE 1999, held at Kerkrade, the Netherlands. The aim was to continue the exploration of graph transformation (GT) techniques in software development. Although there were also some more theoretically oriented presentations, most of the attention was devoted to work aimed at supporting software development in practice, e.g. by providing tools based on graph transformation techniques. Much of the research about graph transformation systems has been concentrated in Europe, more specifically in Germany, and so the participation of that country was quite strong – some 20 out of 50 participants. However, there were also participants from the US, Canada, Italy, France, the Netherlands, Belgium, Brazil, Sweden, Spain, the United Kingdom and Poland. Many of the participants are also involved in the SegraVis project (`www.segravis.org`).

The workshop was organized by John Pfaltz (University of Virginia), assisted by P. Reed, and held in the Omni Hotel in Charlottesville, which also provided the other accommodation. Charlottesville, located some 180 km southwest of Washington DC, is the seat of the University of Virginia, which was founded in 1819 by Thomas Jefferson, and is the oldest University in America. As the participants could experience for themselves, Charlottesville is a small, pleasant city with a friendly atmosphere and an unusual concentration of restaurants, cafes, small shops and theaters.

Two events could have hampered the event, but had little impact in the end: hurricane Isabel, and the football game of Sept 27. The serious power outage caused by Isabel had been repaired just in time, and the local organizers did manage to find suitable accommodation for everybody in spite of the shortage of hotel rooms caused by the game. For those interested: the University of Virginia "Cavaliers" narrowly defeated the "Deamon Deacons" from Wake Forest.

Scientific program

The program committee, co-chaired by J. Pfaltz and M. Nagl (RWTH Aachen), had selected 29 papers for a presentation, as well as 12 tool demos. They also organized two invited talks. The proceedings will be published in the LNCS series of Springer Verlag, probably early in 2004.

The morning of the first day, Sunday 28, was devoted to a tutorial on graph transformation and its use in software engineering, by L. Baresi and R. Heckel. In the afternoon, the first two regular sessions were scheduled: one on picture and visual languages, and one on graph models and graph reduction.

The second day started with the first invited talk: H. Rising (Sony Research Labs) reported on the role of graph transformation in the MPEG-7 standard, in particular in semantic description schemes and graphical classification schemes. This was followed by a session about GT-based tools for the support of engineering applications. The next two sessions were devoted to various uses of GT semantics for agent-oriented, distributed, object-oriented and aspect-oriented systems, and the last regular session of the day concerned the use of graph transformation in the analysis of natural languages and in authoring support. Afterwards we had the opportunity to have a closer look at various tools during a two-hour demonstration session.

The next day was even more oriented towards software engineering than the previous one: firstly the second invited speaker, G. Karsai (Vanderbilt University), gave his view on the use of graph transformation in OMG's Model-Driven Architecture, and the subsequent sessions covered the use of graph transformation for reengineering, reuse and integration, and modeling languages. In the afternoon, there was time for the main social event: a visit to the homes of Thomas Jefferson and James Monroe, followed by the workshop dinner.

The last day of the workshop was devoted to applications of graph transformation in bioinformatics and biochemistry, in the management of development processes and in managing web applications. After lunch, there was an interesting "workshop summary" session in which five participants presented their views on the area, each from his or her own perspective: G. Taentzer (theory), H. Vangheluwe (applications), B. Westfechel (tools), M. Minas (graphical specifications) and A. Rensink (newcomer to the field). I liked this much more than the more common panel discussion: having a number of experts (possibly the same ones that would have been on the panel) synthesize and summarize the contents of those presentations that were most relevant to their area proved to be an excellent way to wrap up the proceedings.

Finally, two awards were assigned by popular vote: one for the best presentation, to Colin Smith (Calgary) for his talk "Local Specification of Surface Subdivision Algorithms" (joint work with P. Prusinkiewicz and F. Samavati), and one for the best tool demo, ex aequo to M. Minas (DiaGen) and A. Rensink (GROOVE).

Social events

On the evening of Saturday 27, the organizers had arranged a welcoming reception, giving the participants a first opportunity to meet and get to know each other. The main social event was a tour to Monticello and Ash Lawn, the homes of Thomas Jefferson and James Monroe, respectively. Jefferson, the third president of the United States, was also the author of the Declaration of Independence and founder of the University of Virginia. The guides provided a lot of information about this remarkable personality, including his interest in architecture, natural sciences and many other aspects of life, his passion for books as well as the contradiction between the fact that he opposed slavery but at the same time was a slave owner. The tour also included a visit to the Jefferson Library, where members of the staff gave a brief introduction into their scientific work.

James Monroe, the fifth president, was a friend of Jefferson and gave his name to the Monroe Doctrine, which became the cornerstone of America's foreign policy. Ash Lawn, his residence, was perhaps slightly less impressive than Monticello, but it was a pleasant setting for the barbecue-style outdoor workshop dinner.

Summarizing, this had been an excellent meeting: the talks were of a high scientific quality, and there had been a lot of lively and constructive discussions. The aim of the workshop, which was to contribute to the further development of the area of graph transformation, and in particular its applications to software engineering, has certainly been achieved.