ARTES-STUD-26
ARTES graduate student report on the workshop participation: SPIN'2000 - the 7th International Spin Workshop on Model Checking of Software

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SPIN'2000 workshop took place in Stanford University, California, USA. Atmosphere of the workshop was very friendly and it was firstly because of very good organization which was done mainly by Klaus Havelund (QSS/Recom at NASA Research Center, USA). It was a tree days workshop where new tools and theoretical work have been presented.

Presentation given by me about the work done by prof. Bengt Jonsson (Uppsala University) and me considered a case study on abstraction of contents of communication channels in Promela. There we described abstraction technique applied to the Five Packet Handshake Protocol which is used in TCP for transmission of messages.

Another work on abstraction was presented by Wayne Liu (University of Waterloo) - Interaction abstraction for Compositional Finite State Systems.

Gerard J. Holzman (Lucent Technologies) was presenting work "Logic Verification of ANSI-C Code with Spin". There was described a tool, AX (Automaton eXtractor), that can be used in combination with Spin to verify logical properties of distributed software systems implemented in ANSI-standard C. AX can extract verification models from C code at a user defined level of abstraction. Target applications: telephone switching software, distributed operating systems code, protocol implementations, client-server applications.

Very interesting presentation was given by Theo C. Ruys (University of Twente) "Low-fat recipes for Spin" where he described several techniques to optimize both the modeling and verification activities when using Spin.

- Random number generation problem
- Array of bits - Bitvector
- Atomicity
- Invariance
- a lot of other recipes which make less state space of models

Those recipes are very useful for modeling and could be implemented in Spin.

Among the tool presentations one of the interesting tutorials was by Jerry J. Harrow (Compaq computer Corporation) - Runtime Checking of Multithreaded Applications with Visual Treads. Here was shown a runtime debugging and analysis tool for multithreaded applications called Visual Threads and described automatic runtime checking for multithreaded applications incorporated in Visual Threads.

Proceedings of the workshop are published in Lecture Notes in Computer Science, vol. 1885.