

Einladung

zum Informatik-Kolloquium des
AB Programmiersprachen und Übersetzer am
Mittwoch, den 9. Juni 2010, um 16 Uhr s.t.
in der Bibliothek E185.1, Argentinierstr. 8, 4. Stock (Mitte)

Es spricht

Prof. Dr. Björn Lisper

Mälardalen University, Västerås, Sweden

über

Parametric WCET Analysis

The purpose of Worst-Case Execution Time (WCET) analysis is to compute a safe upper bound to the execution time of a sequential program executing uninterrupted on some given hardware. Such bounds are important when verifying the timing requirements on hard real-time systems. WCET analysis has been an active research topic for the last 20 years, and today there exists a large body of theory, methods, and algorithms. Both academic and commercial tools have emerged during the last decade, and the technique is becoming established in industrial use.

Traditional WCET analysis computes a single number. For programs whose execution time varies strongly with the inputs, a single upper bound may provide very large over-estimations in most situations since it has to take the program executions for all possible input values into account. It may then be advantageous to have a parametric WCET analysis, which computes the WCET bound as a symbolic formula in the unknown inputs rather than as a single number. When the formula is instantiated for the specific inputs at hand, the resulting number is likely to provide a much tighter bound for the actual WCET. Thus, it is highly interesting to develop good methods and tools for parametric WCET analysis.

In this talk we will first give a short primer to WCET analysis. We then give an account for the past, present, and planned future research at Mälardalen University regarding parametric WCET analysis.

Biography: Björn Lisper has been full professor in Computer Engineering at Mälardalen University since 1999, where he leads the Programming Languages group. For the last ten years, he has focussed his research mostly on WCET analysis. He is the coordinator of the EU FP7 project ALL-TIMES, and he is responsible for the Timing Analysis activity in the FP7 NoE ArtistDesign. He received his PhD from the Royal Institute of Technology in Stockholm.
(<http://www.idt.mdh.se/~blr/>)

Zu diesem Vortrag lädt der *Arbeitsbereich für Programmiersprachen und Übersetzer am Institut für Computersprachen* herzlich ein.

Tea: 15:30 Uhr in der Bibliothek E185.1, Argentinierstr. 8, 4. Stock (Mitte).