Performance of Object-oriented Software Code: Profiling and Instrumentation

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Abstract
Profiling is necessary for a better analysis of the software code performance. It consists of evaluating, at execution time, one or several metrics on the individual code components. In this paper, we present a scalable software profiling model (SPM) that is a weak coupling of an exhaustive software code components structural model and a software metrics model. Moreover, we propose an automatic instrumentation method which is based on SPM and implemented on top of the O2 object-oriented database management system. Finally, the code components and their associated profiling data must be stored in order to ensure the maintenance of the software. The structural and profiling data are stored as persistent objects in a component repository according to SPM.

Keywords: Performance, Profiling, Metrics, Instrumentation, Object-oriented Languages.

An Industry Perspective on Decompilation

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Abstract
Decompilation is the process of recovery of high-level language code from executable code. Decompilation has recently been used in industry to aid in the recovery of lost source code needed for the process of fixing the Year 2000 problem.

This paper presents the state-of-the-art of decompilation practice in the 1990s and its economics. We describe and contrast two decompilers that are currently available: the commercial SRC decompiler, and the academic dcc decompiler. Different approaches were used in both decompilers, with similar results achieved by both.