

*Abstract*

## Design and Implementation of Memory Profiler for Ruby

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We developed a memory profiler for Ruby programming language that fulfils the requirement for measuring and analyzing memory usage of Ruby applications. Ruby has become one of most popular programming language. However, it was lack of profiling tools, especially memory profiler. The memory profiler is able to provide basic information for each object allocated in Ruby interpreter. With this information, it can be used to expose the memory leak problem, to verify performance issue, to optimize Ruby code and to detect patterns of memory usage for Ruby. Our profiler can be attached dynamically to not only local but also remote application to show the result in real time way. The memory profiler is designed for Ruby 1.9. It consists of a back-end part which collects information about memory management from Ruby interpreter and a front-end part which generates profiling reports for users. To construct the back-end, we extended inspection methods of Ruby interpreter. In this presentation, we will describe the design and implementation of the memory profiler. We will also show the performance evaluation and our practical experience on use of the memory profiler.

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