

Abstract

Optimization for Dynamic Parsing with PEGs

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A dynamic parser is an interpreter-based parsing runtime that loads grammar rules and then recognizes an input stream. It differs from the conversional parser generators in that it requires no compilation step. Simultaneously, this implies that compiler-based optimizations are not expected in dynamic parsers. As parsing performance is crucial in many applications, alternative performance considerations are strongly demanded. In this paper, we address several optimization techniques that have first attempted in the context of dynamic parsing with PEGs. New optimization attempts include indiscriminate inlining, specialization and byte-wide prediction. These optimization techniques are integrated in Nez parser implementation. This paper will demonstrate that our optimized dynamic parser achieves a competitive performance with static generated parsers.

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