



Generating Language Based Environments (Paperback)

By Thomas W. Reps

MIT Press Ltd, United States, 2005. Paperback. Book Condition: New. 254 x 178 mm. Language: English . Brand New Book. This book addresses a fundamental software engineering issue, applying formal techniques and rigorous analysis to a practical problem of great current interest: the incorporation of language-specific knowledge in interactive programming environments. It makes a basic contribution in this area by proposing an attribute-grammar framework for incremental semantic analysis and establishing its algorithmic foundations. The results are theoretically important while having immediate practical utility for implementing environment-generating systems. The book's principal technical results include: an optimal-time algorithm to incrementally maintain a consistent attributed-tree of attribute grammar subclasses, allowing an optimizing environment-generator to select the most efficient applicable algorithm; a general method for sharing storage among attributes whose values are complex data structures; and two algorithms that carry out attribute evaluation while reducing the number of intermediate attribute values retained. While others have worked on this last problem, Reps's algorithms are the first to achieve sublinear worst-case behavior. One algorithm is optimal, achieving the $\log n$ lower space bound in nonlinear time, while the second algorithm uses as much as \sqrt{n} space but runs in linear time.



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Reviews

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Undoubtedly, this is the best work by any author. It is really simplified but shocks within the 50 % in the publication. Its been written in an extremely straightforward way and is particularly just following i finished reading this publication by which basically altered me, modify the way in my opinion.

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