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XPath Views for Documents with Persistent Identifiers

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Publication Date
2008-03-25

Peer reviewed

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UCSD Technical Report

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March 25, 2008

Abstract

The standard approach for optimization of XPath queries by rewriting queries using views techniques consists in navigating inside a view's output, thus allowing the usage of only one view in the rewritten query. Richer classes of rewritings, using intersection or joins on node identifiers, have been proposed, but they either lack completeness guarantees, or require additional information about the data. Our work is the first to characterize the problem of rewriting XPath queries using an intersection of views, by identifying the tightest restrictions under which the problem can be solved in polynomial time. As an additional contribution, we characterize the related problem of deciding whether an intersection of XPath expressions can be equivalently expressed as only one XPath.

A copy of this technical report can be obtained by sending a request to nicola@cs.ucsd.edu