Ontology-based Program Comprehension Tool Supporting Website Architectural Evolution

Submitted by rene [1] on Sun, 2010-08-15 09:46

- Automated Reasoning [2]
- Ontology [3]
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Title	{Ontology-based Program Comprehension Tool Supporting Website Architectural Evolution}
Publication Type	Conference Paper
Year of Publication	2006
Refereed Designation	Refereed
Authors	Zhang, Y. [9], R. Witte [10], J. Rilling [11], and V. Haarslev [12]
Conference Name	Eighth IEEE International Symposium on Web Site Evolution (WSE 2006)
Pagination	41–49
Date Published	September 23–24
Publisher	IEEE
Conference Location	Philadelphia, PA, USA
ISBN Number	0-7695-2696-9
Keywords	Automated Reasoning [13], Ontology [14], program comprehension [15], Software Evolution [16]
Abstract	A challenge of existing program comprehension approaches is to provide consistent and flexible representations for software systems. Maintainers have to match their mental models with the different representations these tools provide. In this paper, we present a novel approach that addresses this issue by providing a consistent ontological representation for both source code and documentation. The ontological representation unifies information from various sources, and therefore reduces the maintainers' comprehension efforts. In addition, representing software artifacts in a formal ontology enables maintainers to formulate hypotheses about various properties of software systems. These hypotheses can be validated through an iterative exploration of information derived by our ontology inference engine. The implementation of our approach is presented in detail, and a case study is provided to demonstrate the applicability of our approach during the architectural evolution of a website content management system.
DOI	10.1109/WSE.2006.15 [17]
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Attachment	Size

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Zhang_etal-WSE2006.pdf [18]	307.26 KB

Source URL (retrieved on *2025-12-22 09:21*):

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