Automatic Traceability Recovery: An Ontological Approach

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Abstract	Software maintainers routinely have to deal with a multitude of artifacts, like source code or documents. These artifacts often end up disconnected from each other, due to their different representations and levels of abstractions. One of the main challenges in software maintenance therefore is to recover and maintain the semantic connections among these artifacts. In this research, we present a novel approach that addresses this traceability issue by creating formal ontological representations for both software documentation and source code artifacts. The resulting representations are then aligned to establish traceability links at semantic level. Ontological queries and reasoning can be applied on these representations to infer and establish additional traceability links to support specific maintenance tasks.
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