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Ontology-based multiperspective requirements traceability framework
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Abstract

Large-scaled software development inevitably involves a group of stakeholders, each of whom may express their requirements differently in their own terminology and representation depending on their perspectives or perceptions of their shared problems. In view of that, the heterogeneity must be well handled and resolved in tracing and managing changes of such requirements. This paper presents our multiperspective requirements traceability (MUPRET) framework which deploys ontology as a knowledge management mechanism to intervene mutual "understanding" without restricting the freedom in expressing requirements differently. Ontology matching is applied as a reasoning mechanism in automatically generating traceability relationships. The relationships are identified by deriving semantic analogy of ontology concepts representing requirements elements. The precision and recall of traceability relationships generated by the framework are verified by comparing with a set of traceability relationships manually identified by users as a proof-of-concept of this framework. © 2009 Springer-Verlag London Limited.

Author Keywords

Knowledge management; Multiperspective software development; Ontology; Requirements traceability

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