

Abstract

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Understanding the Impact of Using Ontology Matching Tools for Validating Feature Models with Domain Knowledge

Feature models (FM) are a way for modeling and describing the product family of specific domain. They are widely used for describing the requirements in the domain engineering as it describes the commonalities and the differences of related products in specific domain. Currently the research in the feature model analysis and the validation of it focus on capturing the inconsistencies of the feature configurations of software systems. However the semantic web had been used for representing the feature models as ontology using OWL DL to use the Description Logic (DL) reasoners in validating the consistency of the feature model configurations, detecting the semantic contradictions semantic mappings with certain domain is missed. The aim of this research is to detect the semantic mappings between a feature model and a specific domain ontology using the ontology matching tools. In the paper we used the Wireless Sensor Actuator Network (WSAN) feature model for analysis, and the well-known Semantic Sensor Network ontology (SSN) for validation. Two ontology-matching tools are used to map the feature model and the domain ontology, and the results have been compared.