

AN ONTOLOGY MAPPING APPLICATION USING A SHARED ONTOLOGY APPROACH AND A BRIDGE ONTOLOGY

ABSTRACT: This paper presents our continuing work to develop methods to exchange product knowledge in the semantic level in the CAD/CAE domains. We present an approach based on a shared ontology, in which a higher level of ontologies are shared among lower levels of ontologies. Key mapping strategies, such as Equivalency, Attribute Similarity, Composition Similarity, and Inheritance Similarity are defined to map concepts and properties defined in a product design domain and an assembly simulation domain. In addition, a *Bridge Ontology* is designed to store information obtained from mapping processes and construct a link between different knowledge repositories. An Ontology Mapping Application (OMA) which brings together all these elements has been designed and implemented. It is a Java-based application that allows the user to load source and target ontologies, calculate concept and property similarities between them, display the mapping results, and output a corresponding *Bridge Ontology*.