

Ontology-Based Semantic Approach for Communication in Engineering Design Evaluation

ABSTRACT: The primary objective of this paper is to conceptualize and develop an approach using semantics to integrate engineering applications for design evaluations. Our approach, coined OADE (Ontology-based Adaptive Design Evaluation), will have as components representation tools, ontology builders, ontology projecting tools, custom tools, and communication tools. In the proposed integration framework, ontologies in different domains will be built and integrated with the domain-specific applications. Semantics will be represented in domain-specific ontology and translated using ontology projection. The process of ontology projection calculates the similarities between concepts related to diverse viewpoints and then translates them. A design decision can thus be described using the common concepts across the diverse entities.