

AN ONTOLOGY-BASED ONLINE COMMUNITY TO MAINTAIN ENGINEERING KNOWLEDGE IN A TRAINING DOMAIN

ABSTRACT

The research presented in this paper seeks to develop an ontology-based online community for knowledge exchange between expert engineers and new engineers. We call this community CREEK (Community for Retention of Engineering dEsign Knowledge). This paper seeks to develop methods and tools related to knowledge acquisition, knowledge modeling, knowledge management, and knowledge presentation that can support activities in this community in engineering design and training domains.

An important consideration is to design and deploy the on-line community and the underlying ontology model such that they will not exist in isolation but will be connected to a product data ontology and a training ontology. In our previous work engineering knowledge related to product data in engineering design and assembly has been modeled. In this work procedural knowledge and knowledge in the training domains related to these procedures are also modeled and populated using ontologies. We have designed an architecture that will allow the ontology of the on-line community to tap into the engineering knowledge from these two supporting domains. In addition, there is a connection the other way too. The online community also allows new knowledge to be captured from experts and be (semi-)automatically transferred to product design and training domains.