Compatible upper ontology assignment

Art & Culture

According to Grant [1], knowledge is the most strategically important resource f the firm and primary role of any organization is application of knowledge in its everyday activities. However, the application of existing knowledge has always been a sophisticated task. A holistic view of end-to-end business process knowledge is required because knowledge of jurisdictional processes is distributed across departments, documents, regulations and applications. Different standalone applications and documents contain explicit process knowledge and tacit knowledge is “ stored” in heads of employees.

Business process knowledge must be reusable and applicable across many business processes. O represent knowledge as a set of concepts and relationships among the concepts. As described by Ixia et al. [2] anthologies are widely used for knowledge representation and sharing. There exist many definitions about what ontology is; however, in the scope of this paper, ontology is a formal specification of a shared conceptualization, as described by Gomez-Perez et al. [3]. According to Gomez-Perez et al. [3], there exist different types of anthologies identified in the literature based on their conceptualization.

Anthologies exist at several levels of abstraction. According to Seem et al. 4], upper ontology is defined as a high-level, domain- independent ontology from which more domain-specific anthologies may be derived. Domain anthologies are reusable in a given specific domain (e. G. , medical, law, enterprise, engineering, etc.) providing vocabularies about the activities taking place in that domain ISBN: 978-1-61208-254-7 and their relationships, as described by Gomez-Perez et al. [3]. As

described by Mascaras et al. 5] upper ontology contains general concepts that are the same across all domains. Thus, upper ontology can be used as a understructure for defining domain anthologies. Motivation for this research is described as follows. BPML 2. 0 (or Business Process Model and Notation 2. 0 is the De-facto standard for representing in a very expressive graphical way the processes occurring in virtually every kind of organization, as described by Chinos et al. [7]. However, the goal of any modeling activity is a complete and accurate understanding of the real-world domain.

In this research authors evaluate the state of the art and applicability of upper anthologies using consideration of the ontology purpose, ontological content decisions, licensing restrictions, structural differences, and maturity [4]. Mascaras et l. [5] are finding correspondences between entities belonging to different anthologies describing a set of algorithms that exploit upper anthologies. The analysis presented by Mascaras et al. [5] shows under which circumstances the exploitation of upper anthologies gives significant advantages with respect to traditional approaches that do not use them.

Mascaras et al. [9] are analyzing 7 upper anthologies namely BOO, icy, DOLCE, GOOF, PROTON, sowsвЂўs ontology and SUMO, according to a set of standard software engineering criteria. Rosemary et al. [10] address the issue of modeling information yester by presenting a meta model of the BOW ontology using a meta language that is familiar to information systems professionals facilitating the application of the BOW theory to other modeling techniques that have similar meta models defined. Fractionation et al. 1 1] propose an automated technique to support the business designer both in

domain ontology creation/extension and in the semantic annotation of process models expressed in BPML 2. 0. NaturalΓ?? egger et al. [12] present BPML 2. 0 ontology. The defined BPML 2. 0 ontology can be used as a knowledge base for learning BPML, as a syntax checker to validate separate BPML 2. 0 models and to identify contradictions in specification. Kbps (or Semantic Business Process Management) was introduced to solve the problem of inconsistency between various process models in a domain using semantic annotating of process models with concepts from ontology.

That facilitates reusing of process model parts and ambiguity of the domain concepts. Fractionation et al. [13] show how semantic web techniques can be applied to formalize, verify and integrate the domain knowledge in BPML 1. 1 diagrams. Wang et al. [14] propose the approach f ontological descriptions of semantics of supply chain processes. Nicola et al. [15] propose the approach of representing a BPML diagram by using ontology based formalism.