Learning Ontology from Relational Database

Review
The paper proposes an approach to learn OWL (Web Ontology language) ontology from data in relational database. OWL facilitates greater machine interoperability of web content in comparison to that supported by XML, RDF and RDF schema. It facilitates interoperability by providing additional vocabulary along with a formal semantics. The paper presents various definitions and rules associated with the relational database. Learning OWL ontology from relational database depends on a group of learning rules. According to the paper, the rules are organized into five groups: rules for learning classes, rules for learning properties, rules for learning hierarchy, rules for learning cardinality and rules for learning instances. This is a short paper discussing the definitions and rules needed for learning OWL from relational databases. We will be reading another paper where we learn how to learn ontology from free text. We can see the difference in both but this process of learning ontologies from a certain domain is very popular.

Topic/Facts learnt
The first step in the learning process is to extract schema information from a database using a database analyzer. The information is then transferred to ontology generator. Then the user can modify and refine the ontology using ontology reasoner and ontology editor.

Contribution of the paper to the field
This paper helps readers in understanding how ontology can be learnt from a relational database. Learning and Understanding of ontology is a very crucial topic. This way of learning ontology can be reliable as we can take into account a real world relational database and reverse engineer to know about the ontology associated with it.

Status
The field of ontology is still a very volatile field. Researchers are trying to look for ways to understand, create and manipulate ontologies. This paper presents one way to learn ontology and still there is research going in this area. There has been other research like learning ontologies from semantic web. Also people call this approach as reverse engineering i.e. relational databases to ontologies.

The author states that this framework is applied to Semantic Web. They wanted to acquire OWL ontology automatically from the existing digital library. The result of this ontology learning comprised of twenty classes, four hundred properties and thirty thousand instances. This seems to be a recent research as the paper has been published in August 2005.

Future research suggested
The author plans to integrate other learning techniques into this approach to obtain better learning result.

References from the paper


