ONTOLOGY AS AN E-LEARNING RESOURCE FOR DEVELOPMENT TEAM PLANTED ON SELF DETERMINATION THEORY

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Abstract— Ontology is one of the resources of semantic data. There is various type of user in World Wide Web. A user can be a developer or any person who uses its data for various purposes. In the view of emerging demand of E-learning, Ontology is one of the suitable Resources for it. This paper presents a detailed survey on ontology as new e-learning resource. In modern life everyone wants to make his own unique database to connect with other. There are various ontology tools available to use for the said purpose like Protégé etc. The primary goal of this paper is to present the ontology as a data resource for developers.

Keyword: Ontology, Data Set, Resources, E- learning etc.

INTRODUCTION

The term ontology has been adopted from two Greek words: on which means "being," and logia, where it is defined as the "theory of existence". Ontology is a backbone technology for semantic web [1].

The term resources mean the available data for helping the user to solve their query. There are various search engines which is open source to help the user to provide data related to the problem domain, but the limitation is that the data available can be relevant, ordered or authentic.

The World Wide Web data is growing rapidly in the database due to different factors such as users, systems, rapid change in environment and applications. For example, billions of transactions that occur in a day and the social media tools such as Face book, Twitter, LinkedIn, Google+, and Messenger add vast of information. These vast data create challenges that called V's attributes named as: Velocity, Volume and Variety. Clearly, the velocity means the data flows at high speed, while volume focus on large and growing files and the variety deals with the files come in various formats (e.g. text, sound and video).

These problems enable a challenge between the developers to search about a method that help to extract the required data and overcome the present issue in order to get a semantic search. In a semantic, the data is stored in different levels as it is highlighted in Fig. 1, the position of layers to purview a proposed well formed search. It starts from XML (Extensible Markup Language), RDF, RDFs (RDF Schema) and OWL (Ontology). Each concept is a complementary for the next and the last two concepts are the crucial to get semantic search.

There are three types of ontology based on the scope of intellection into three types, which are Top-level Ontology, Domain Ontology and Application Ontology [10].

ONTOLOGY COMPONENTS

The ontology is expressed by various types of factors, which could be split into three categories according to the ability to describe the entities of domain, such as Classes, Individual and Relation.

ONTOLOGY CLASSES

Classes are the essential element of most ontology's. According to the various tongue, which are used to implement ontologies, it is called a approach or a form. Classes are collection of individuals that share common features. Sometime one class can be a super class, sub class to another class. For example, if the Class

Student is a subclass of the Class College. Then, every individual of the Class student is also be individual of Class College.

In addition, classes could share relationships that will describe how the individual of one class relate to another.

ONTOLOGY INDIVIDUALS

Individual show the objects of domain of concern. It is called instance of class. Ontology is described the individual so that, it is considered as the core of ontology. Individual could show concrete objects like people, machine, or abstract object like article or function.

ONTOLOGY RELATIONS

Relation is usually called slots in some system. It is represent how the individuals of classes are related to each other, or describe the way how each individual relate to specific class, or sometimes how the classes of specific domain relate to each other's. For example, the relation between classes, if we have a class person and a class country the relationship between them is lives in. That means every person lives in country. Besides, if we want to make relation between individuals related to classes. For instance, if we have individual called Preeti in class person and in class country have India. If Preeti lives in India then the relation will be between individuals Preeti and India.

Figure 1 Hierarchy of Semantic Search.
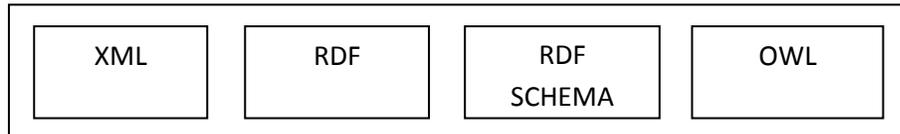
2. RELATED WORKS

Ontology is called as a portal to make the engines more intelligent and powerful. It is a respectful missions for the current generation of the web which known as Web 3.0 and the future mission for Web 4.0. Ontology is powerful and has a correct and reliable data that stores in its repositories that called the ontological graphs. It enables user to get and retrieve a direct answer without any complexities. There are several ontological graphs developed according to the developers' interest some of them serve one domain while others develop to involve multiple domains such as the electronic government. As in [2] author performed a survey on ontology construction tools in which they briefly explained the different tools and finally compared the features of different tools. Author of [5] explained gave detail about different ontology development tool and give the methodological support according to the features of the tool. Author of [6] performed a survey on web ontology editing tools and gives the comparative case study of ontology tools according to their feasible needs of development. Author of [7] give the detail features of ontology schema and layered architecture with their features. Author of [8] performed comparison of ontology tools based on ontology language, formalism, & their features. Author of [9] give the description of ontology tools, their needs & comparative study on re-engineering of ontology tools. Authors of [10] performed the comparison of tools based on experience of different group of person and their experience of using the tools. [11] The authors explained the ontology tools, their features and aspect of selecting best tool among them. [12]The authors explained the multilevel structure of ontology tools. [13]The authors explained the Question Answering based on tools language.

E-LEARNING RESOURCES

E-learning and E-resources are interrelated terms. It helps the user to get new knowledge through electronic media and enhancing the knowledge base to improve the skills. It gives a chance to people interaction with the other around the World Wide Web. There are various resources like YouTube, Twitter, and Google etc. ontologies are also good example of e-learning.

Figure 2 E-learning Methodology

Fig. 2 represents the e-learning methodology of developer that how a developer uses ontologies and how they help to control the cost and activity factor of the application development.

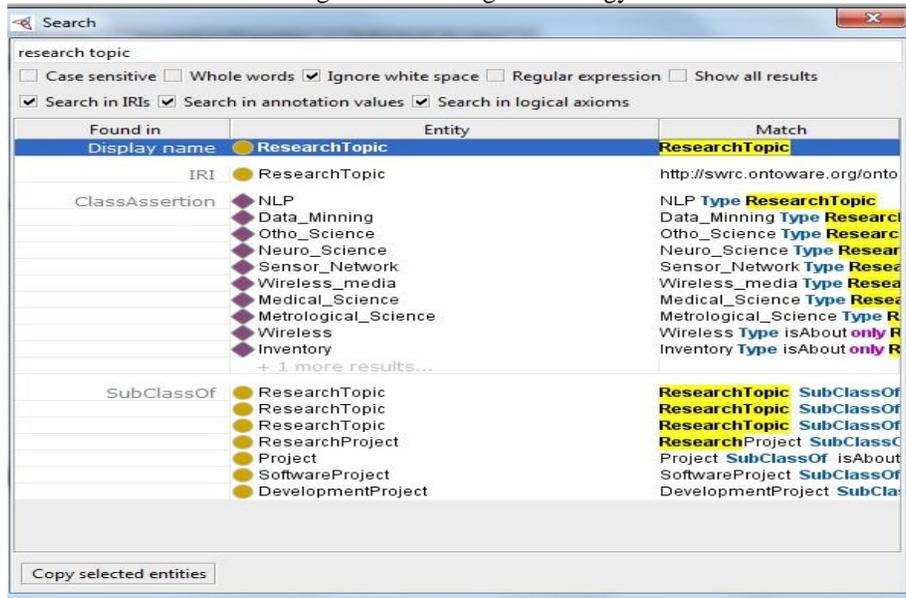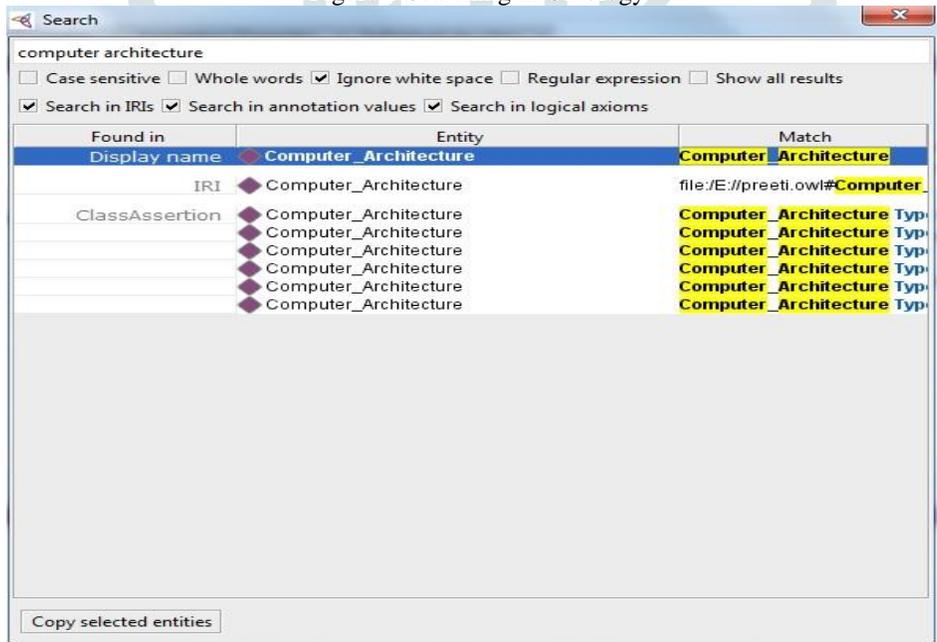Figure 3 Searching in Ontology

Figure 4 Searching in Ontology

CONCLUSION

In conclusion, though new improved technologies for developing application WWW are evolving constantly, the growth rate of these improvements is likely to be slight. Problems of imprecise and irrelevant results will continue to hinder Web searchers, especially with the continued expansion of the Web. Search engines based on a new concept as the semantic Web technology, are effectively able to handle the above-mentioned problems.

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