

APPLICATIONS OF SEMANTIC WEB IN ERP

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Abstract

Unique The expanding volume of information accessible on the Web just as information's absence of structure, multidimensionality, huge volume and dynamic advancement make data recovery a dreary and troublesome assignment. The Semantic Web is an expansion of the present Web that permits the importance of data to be unequivocally depicted as far as all around characterized vocabularies that are comprehended by individuals and PCs. The center of the Semantic Web is philosophy, which is utilized to expressly speak to our conceptualizations. Cosmology building in the Semantic Web is basically bolstered by dialects, for example, RDF and OWL. We have proposed semantic web digging for an ERP application dependent on instructive space. The proposed framework assists with finding reasonable semantic information identified with understudies, resources and courses for the customers.

1. INTRODUCTION

In the limited ability to focus its reality, the World Wide Web has brought about an unrest in the manner data is moved between PC applications. The objective of information mining is to concentrate or mine information from a lot of information. Information mining[1] includes the utilization of refined information examination devices to find beforehand obscure, legitimate examples and connections in enormous informational indexes. These devices can incorporate measurable models, scientific calculations, and AI strategies. Thus, information mining comprises of more than gathering and overseeing information, it additionally incorporates investigation and expectation.

Information mining can be performed on information spoke to in quantitative, printed, or sight and sound structures. Web mining is the utilization of information mining advancements to consequently cooperate and find data from web reports, which can be in organized, unstructured or semi-organized structure. The Semantic Web [2] is intended to let clients offer unequivocal expressions about any asset, and keep up that

information themselves in an open and conveyed way. To improve productivity of data recovery, a few web mining procedures have been proposed including techniques getting from information examination and calculated investigation. With the capacity of canny examinations, it can assist individuals with securing proper data and revelation the dormant semantic information successfully. These days, semantic web and philosophy have demonstrated their helpfulness in application territories, for example, insightful data reconciliation, data facilitating and Natural Language handling The Semantic Web is fundamentally dependant on a proper significance for the builds of its dialects. The Semantic Web is intended to let clients offer unequivocal expressions about any asset, and keep up that information themselves in an open and circulated way.

2. THE SEMANTIC MINING METHOD FOREDUCTIONDOMAIN ONTOLOGY,RDF, XML

2.1 Ontology:

The center strategy of Semantic web mining is ontology[3]. In software engineering, cosmology speaks to a lot of decisively characterized terms about a particular area and acknowledged by this current space's locale. Metaphysics is an express particular of a conceptualization. a philosophy is a formal express portrayal of ideas in an area of talk (classes (at times called ideas)), properties of every idea depicting different highlights and characteristics of the idea (openings (once in a while called jobs or properties)), and limitations on spaces (aspects (now and then called job limitations)). An ontology[6] together with a lot of individual cases of classes comprises an information base. In actuality, there is an almost negligible difference where the metaphysics closes and the information base starts. Classes are the focal point of most ontologies[8]. Classes portray ideas in the area.

For instance, a class of wines speaks to all wines. Explicit wines are examples of this class. The Bordeaux wine in the glass before you while you read this record is a case of the class of Bordeaux wines. A class can have subclasses that speak to ideas that are more explicit than the superclass. For instance, we can separate the class of all wines into red, white, and rosé wines. Then again, we can isolate a class of all wines into shining and nonsparkling

wines. In commonsense terms, building up a cosmology incorporates:

1. characterizing classes in the cosmology,
2. organizing the classes in an ordered (subclass–superclass) progressive system,
3. characterizing spaces and depicting permitted values for these openings,
4. filling in the qualities for spaces for examples.

2.2 RDF :

The RDF is a straightforward meta model for characterizing and trading data on the semantic web. The premise of a specific method for giving importance to metadata is exemplified in the model hypothesis for RDF [4], the language at the base of the Semantic Web. . The RDF Schema[5] (RDFS) draft determines a little upper philosophy on RDF, however it also is a work in progress and has never been authoritatively distributed. At long last, a RDF Model Theory that officially characterizes the semantics of RDF and RDFS builds is likewise being worked on. Thus, while the establishments of RDF are genuinely strong and surely known, the further developed highlights (that in any case have a place with the item layer of the IMI Reference Model) are still especially a moving objective specifically, RDF has a constrained assortment of syntactic builds, and these are treated in a uniform way in the semantics of RDF. The RDF theory necessitates that no other syntactic develops are to be utilized and that the uniform semantic treatment of syntactic builds can't be changed, just increased.

3. THE SEMANTIC WEB MINING :

Figure 1: Semantic web mining design

The base layer is the Unified Resource Identifiers (URIs) and Unicode[12].The URI is an industry standard of speaking to elements, articles or ideas in the Semantic Web. Unicode is required by present day measures to speak to a one of a kind number for each character and for trading images. The following layer over URI and Unicode is XML and its namespaces.

Semantic web is comprised of XML which is free of any stages, equipment or programming. Remote Access Protocol (WAP) is the standard for data benefits on remote terminals and depends on some web guidelines, for example, XML, TCP/IP, and HTML. WAP[13] utilized Wireless Mark-up Language (WML), which depends on XML. XML Schema Definition (XSD) is an option in contrast to the Documentation Type Definitions (DTDs), which are utilized to depict record structure and the lawful structure squares utilized in a XML archive. A XML archive and its XML Schema Definition (XSD) have namespaces to separate between settings. The Resource Description Framework (RDF) is a W3C standard for depicting assets on the Web, for example, archive creator, creation/alteration date, report title, record substance, and some related copyright data of a Web page. RDF is including metadata to assets the Web with the goal that PCs can comprehend the substance of the subject other than simply showing what it contains. Since RDF follows the XML language structure, PCs can trade RDF reports simply like the trading of XML archives. RDF archives are not for people to see, yet are intended for PC applications to peruse and comprehend. It depicts assets on the Web utilizing basic explanations comprising of subject, predicate and item. The subject can be any asset that has a URI. A property portrays the asset to a worth. OWL (Web Ontology Language)[14] is fundamentally the same as RDF, yet it is a heavier language with more noteworthy machine-interpretability than RDF. It depicts the specific idea of assets and connections between them. Spreading over these measures is the unequalled prerequisite of security through marks and encryption.

4. SEMANTIC WEB ARCHITECTURE FOR TRAINING DOMAIN :

Calculation 1:

Information: Data set R, Attribute set Ai Output: informational index R'

$R' \rightarrow R$

For $I=1$ to n do

Max (Ai) = the most profound hub in the characteristic set Ai

If Max(Ai). Distance_to_max < Ii

Newnode=node.root_path_array[Ii-node.distance_t_max]

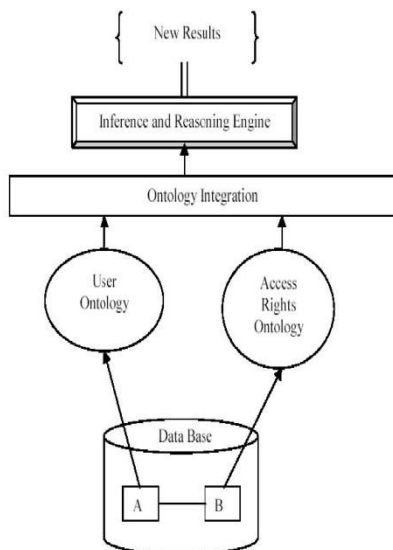
Else

```

Newnode=max(Ai)
Endif
Supplant hub with new hub Endfor
Expel duplication from R' End
Calculation 2 :
Information : Primitive guidelines set R
Yield Generalized standards set R'
R' <-0
N= | R |
For I=0 to N-1 do r <-ri
M <-|r|
For j=0 to M-1 do
On the off chance that ri conflicting with rule rn E, at
that point Restore the dropped condition aj
Endif
Endfor Included in rule r
On the off chance that standard r isn't legitimately
remember for a standard r' E MRULE at that point
MRULE <-r U MRULE
Endif
End

```

A few models, for example, the Resource Description Framework (RDF) and Web Ontology Language (OWL) have been created to understand the layer cake of the Semantic Web. From the perspective of end clients, communicating semantics about understudies,



resources and their connections has accumulated impressive intrigue. We have made cosmology for Training Institute of the Semantic Web [15].

It is basically a jargon for portraying understudies, courses and resources In this paper, we propose a Web digging approach for the Semantic Web for Training Institute. The methodology utilizes a web crawler and the conventional web as a data asset to deliver semantically rich data. Specifically, we inspect one understudy or speaker and concentrate its subjects and related data from the Web.

Figure 2: semantic web miningframework

A: Students, Lecturers, Courses and other staff related tables

B: Role Based Access Control and Security Policy Solutions Tables

Web mining takes parts of information mining and content mining and unites them with regards to the world greatest data asset. The WWW web mining finds the information from web sources, might be from information distribution center and from claim mutual database. There is huge measure of data and information existing on the web and standing by to be found, mutual and used. Understudies, resources, analysts require a great deal of data about instruction and research exercises. Information mining innovation has been assuming a significant job in instruction related field for a long time. Web mining is the utilization of information mining systems to naturally find and concentrate data from the web archives which can be organized, unstructured or semi organized from. XML has gotten famous for speaking to semi organized information and a standard for information trade over the web. The information dependent on XML is self depicted; it tends to be traded and took care of without inside portrayal. The center strategy of semantic web mining is philosophy. Cosmology speaks to a lot of absolutely characterized terms

about a particular area and acknowledged by this current space's locale, metaphysics is an expressly determination of a conceptualization. The RDF is a basic meta model for characterizing and trading data on the semantic web.

Model Ontology for web based preparing <?xml version="1.0"?>

<rdf:RD

```
xmlns:Ontologyowl="http://www.owl-ontologies.com/Ontology1243411901.owl#"
xmlns:rdf="http://www.w3.org/1999/02/22-rdf-grammar ns#">
```

```
<Ontologyowl:Student rdf:about="it02">
<Ontologyowl:studyMemberOf>
<Ontologyowl:Project rdf:about="proj52"/>
</Ontologyowl:studyMemberOf>
</Ontologyowl:Student>
<Ontologyowl:ClassOfCourse rdf:about="class21"/>
</rdf:RDF>
```

We have created semantic web digging for an instructive area. For this we have built up an endeavor web structure that utilizes semantic web mining, Resource Description Framework, Ontology and XML innovation. The framework assists with finding reasonable semantic information identified with understudies, resources and courses for the customers.

5. IMPLEMENTATION :

We have utilized Protage to make Ontologies for understudy, courses. We have utilized Dot Net stage and C# programming language for usage. We have utilized information from our school database. In analyze, we fabricated a PC philosophy and contribution to the model. To test the created technique, we have made metaphysics for understudies and resources from training area. The understudy philosophy was made from complete 14 classes and 34 properties. The personnel comprised of 12 classes and 27 properties. Some idea sets were browsed every metaphysics and the connections between them. The outcomes are appeared in table 1 and table 2.

Table 1:

Student		
Eno	Name	Grade
1	Ashish	A
2	Vijay	B
3	Rahul	A

Table 2:

Faculty		
ID	Name	Sub
1	Shankar	DS
2	Rakesh	JAVA
3	Mukesh	CSO

Client input the inquiry words in metaphysics as extension words and its presentation can be appeared through accuracy and review proportions that are determined from trial results. Through multiple times distinctive data demands, we process review and exactness proportions and make examination with conventional question technique. The trial results are as per the following.

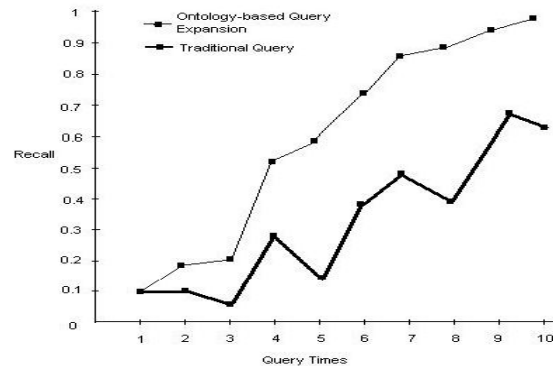


Figure 3 Recall proportion of inquiry techniques

From trial results, we can unmistakably observe that the customary question strategy just match the catchphrases and can't tackle articulation contrast issue, be that as it may, semantic inquiry articulation technique dependent on philosophy

utilizes semantic relations and legitimate thinking in philosophy to grow starting inquiry and better passes on client's eagerness.

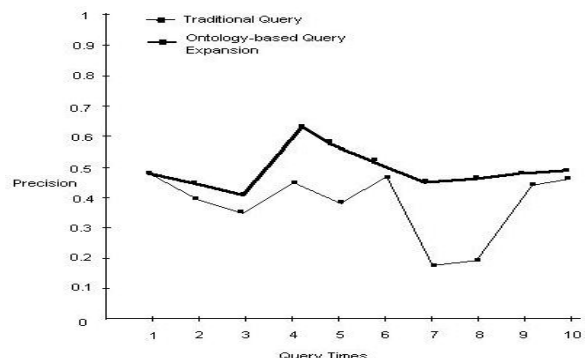


Figure 4: Precision proportion of question

Trial results shows that this technique can improve the accuracy and review proportions of web data recovery.

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