Global Journal of Computer Science and Technology
Network, Web & Security
Volume 13 Issue 13 Version 1.0 Year 2013
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals Inc. (USA)
Online ISSN: 0975-4172 & Print ISSN: 0975-4350

Enhancement in Semantic Web using Web Services

By Dr. Meenakshi Sharma & Vikas Goyal
HCTM/Kurukshetra Univeresity, India

Abstract - The Semantic Web is a mesh of data connected up in such a way as to be effortlessly method apply on a international scale .It as being efficient way of comprising data on World Broad Web, or as a globally connected Database. The significance of Semantic world wide web is to comprise the data at a lone or location. This can be done likely with the World Wide Web service methods, which allow the Functionality of various web sites into a lone which is called web services. This paper shows the implementation minutia of web services and also display that how the semantic web can be applied using World wide web services. The conceive of these web services is based on genuine servers which contains World Wide Web information.

Keywords : *semantic web, web s ervices, WWW, W3C, RDF, HTTP, HTML, URL, DAML.*

GJCST-E Classification : *H.3.5*

Strictly as per the compliance and regulations of:

Enhancement in Semantic Web using Web Services

Dr. Meenakshi Sharma [α] & Vikas Goyal [σ]

Abstract - The Semantic Web is a mesh of data connected up in such a way as to be effortlessly method apply on a international scale .It as being efficient way of comprising data on World Broad Web, or as a globally connected Database. The significance of Semantic world wide web is to comprise the data at a lone or location. This can be done likely with the World Wide Web service methods, which allow the Functionality of various web sites into a lone which is called web services. This paper shows the implementation minutia of web services and also display that how the semantic web can be applied using World wide web services. The conceive of these web services is based on genuine servers which contains World Wide Web information.

Keywords : *semantic web, web services, WWW, W3C, RDF, HTTP, HTML, URL, DAML.*

I. Introduction

The Semantic world wide web was considered up by Tim Berners-Lee, inventor of the WWW, URIs, HTTP, and HTML. There is a dedicated team of persons at the World broad world wide web consortium (W3C) employed to improve, continue and standardize the scheme, and numerous languages, publications, tools and so on have already been evolved. although, Semantic Web technologies are still very much in their infancies, and whereas the future of the project in general seems to be brilliant, there seems to be little agreement about the expected main heading and characteristics of the early Semantic Web What's the rationale for such a system Data that is usually hidden away in HTML files is often useful in some contexts, but not in other ones. The problem with the majority of facts and figures on the world wide web that is in this pattern at the instant is that it is tough to use on a large scale, because there is no international scheme for announcing facts and figures in such a way as it can be easily processed by any person. For example, just believe of data about local sports events, weather data, plane times, foremost League Baseball statistics, and TV tour guides all of this data is offered by many sites, but all in HTML. The problem with that is that, is some contexts, it is difficult to use this facts and figures in the ways that one might desire to do so the Semantic world wide web can be seen as a gigantic technology answer but it is more than that and will find that as it becomes easier to release facts and figures in a to blame form, so more people will desire to release facts and figures, and there will be a knock-on or domino effect. and may find that a large number of Semantic Web applications can be used for a kind of different jobs, increasing the modularity of submissions on the Web [9].

Thus it can be said that the Semantic World Wide Web is a Web of facts and figures. There is a lot of data use every day, and it is not a part of the www. For demonstration, bank declarations on the web, and images, and appointments in a calendar. But cannot glimpse the photos in a calendar, because don't have a world wide web of facts and figures. Because data is controlled by submissions, and each application keeps it to itself. The vision of the Semantic Web s to continue values of the World Wide Web from articles to facts and figures [1],[4],[7].

Facts and figures should be accessed utilizing the general www architecture utilizing; URI-s; facts and figures should be associated to one another just as articles are currently. Semantic world wide web is furthermore used for common structure that allows facts and figures to be distributed and reused across submissions and community boundaries, processed mechanically by devices as well as manually, encompassing disclosing likely new relationships amidst parts of data [9],[8].

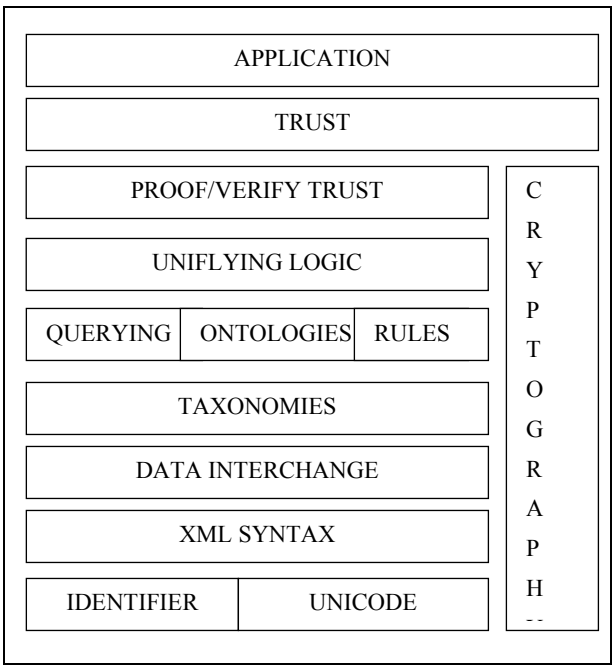

Figure 1 : Semantic Web Stack[24].

Author α : Assistant Professor, CS Department HCTM, Kaithal.
E-mail : minnyk@gmail.com
Author σ : Research Scholar HCTM, Kaithal.
E-mail : vikasgoyal2211@gmail.com

II. Building Blocks of Semantic Web

In order to accomplish the goals described overhead, the most significant is to be able to characterize and recount the relatives amidst data on the World Wide Web. This is not unlike the usage of hyperlinks on the present Web that connect the present sheet with another one: the hyperlinks characterize a connection between the present page and the target. One major difference is that, on the Semantic World Wide Web, such connections can be established between any two assets, there is no notion of "current" sheet. Another major distinction is that the relationship itself is named, while the connection utilized by a human on the customary World Wide Web is not and their function is deduced by the human book reader. The delineation of those relations permit for a better and self-acting interchange of facts and figures. RDF, which is one of the fundamental construction blocks of the Semantic Web, gives a prescribed way for that interchange of facts and figures [4],[7].

III. Type of Semantic Web

a) *Static Semantics*

A semantic snare is a snare work of concepts connected by relatives. The World Wide Web is, of course, a mesh of pages, each containing text, pictures, other newspapers kinds, and connections to other World Wide Web sheets. Though the World Wide Web has far less structure than usual AI semantic snares, the World Wide Web sheets that constitute the nodes of the Web's mesh often represents concepts and the connections between them comprise relations between those concepts. For demonstration, the home sheet is the Web's representation, in a sense. The connections premier off to dwelling page - to the publication registered-mail address that educate, etc.-represent the relative of me to, e.g. the articles that have released. The only difficulty is that these relations are conveyed in human-understandable natural language and human-understandable images. Short of full natural dialect comprehending, it is difficult for a computer program to mechanically extract those notions and relations in alignment to do query responding, inference and other jobs. The Semantic Web action, comprised in numerous of the articles in this publication, and in Web measures initiatives such as RDF, DAML, is an try to insert widespread formal dialects for expressing notions and relatives in a machine readable way. To leverage living world wide web devices and emulate the world wide web's social success, such efforts strive embed the descriptive information o sheets alike to the way text, pictures& conventional media are currently recounted utilizing HTML and XML[2],[3],[6].

b) *Dynamic Semantics*

In addition to the static semantics of Web pages, links, and Web markup, there is also what are called dynamic semantics. Dynamic semantics has following features:

- Is represented procedurally. It can be computed by programs running on the client or server side, based on immediate interactive user input. This computation can depend on the immediate context – including time, personal information about the user.
- Changes relatively rapidly. A single user click can cause the semantics to be generated or to change, or it can be changed by the actions of programs continuously in real-time. As the web matures, there are manyways in which static semantics are being augmented and supplanted by dynamic semantics. As a simple example, some URLs are not addresses of static pages stored on Web servers, but rather act as directives to the server to initiate some computation. CGI scripts are an example of this. The question-mark in the URL is a signal for the server to retrieve some named program and execute it, possibly with arguments. An Active Server Page queries a database and constructs a page on the fly. Even search engine results pages, and customized ads based on cookies are examples of dynamically created Web pages. Streaming audio, video and other media also make the Web more dynamic [2],[3],[6],[17].

Web services allow a range of new functionality to be added to web pages because the page can request a function to be run on the server and then change based on the results. Another way web services are helpful is in communication between applications. When a client communicates with the server using Web Services, the communication is language independent. This means that a Client can be written in any programming language and communicate with the server without knowing what knowing in which language the server web services were implemented in.

c) *Web services*

Web services are a relatively new technology that allows a client to communicate with a server by sending messages using the HTTP protocol. In a web service, the server invokes a function based on the message sent from the client and then sends a response back to the client. Web services allow a range of new functionality to be added to web pages because the page can request a function to be run on the server and then change based on the results. Another way web services are helpful is in communication between applications. When a client communicates with the server using Web Services, the communication is language independent. This means that a Client can be

written in any programming language and communicate with the server without knowing what knowing in which language the server web services were implemented in. There are a number of potential uses for web services because they are versatile and implementation independent. An two applications can communicate together through a web service regardless of how they are implemented.

The architecture identifies the technologies necessary for Web services to be used, described, discovered, how Web services interact with each other The architecture document delimits the boundaries of each identified functional area, and models the interfaces between them, so that the scope of web services related specifications created to address each piece of functionality is unambiguously defined. The architecture provides a model of the Web services concepts used in various specifications in order to ensure that the specifications actually work together and use the same concepts and terminology [8].

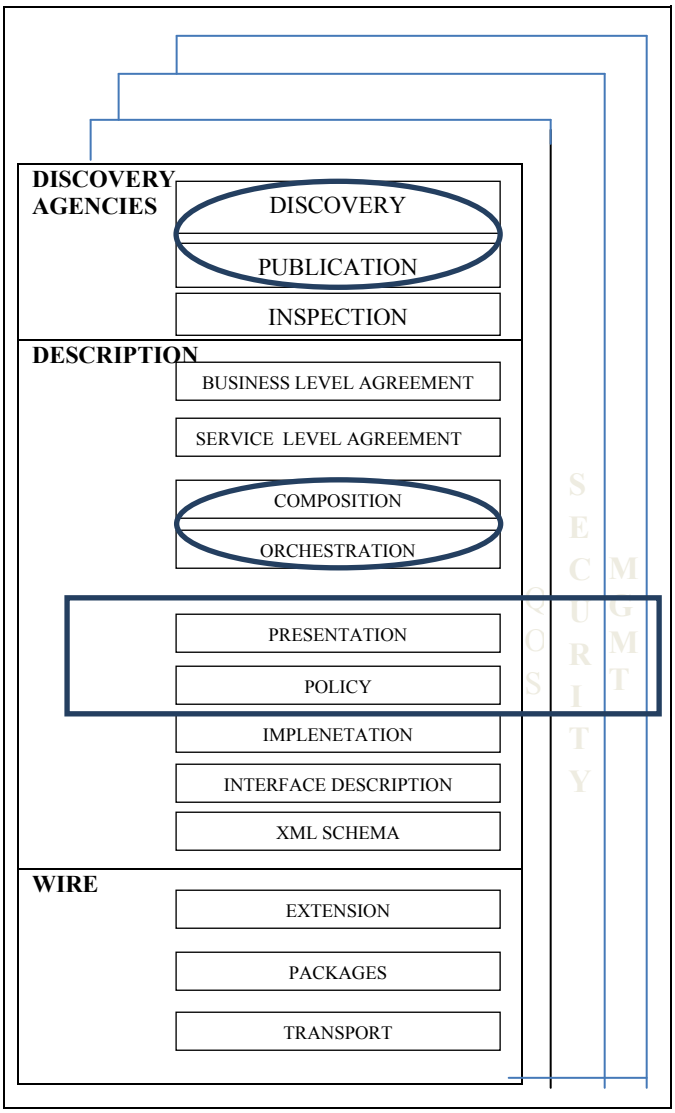

Figure 2 : Web Services Architecture

IV. Implemention Screenshots of Web Services

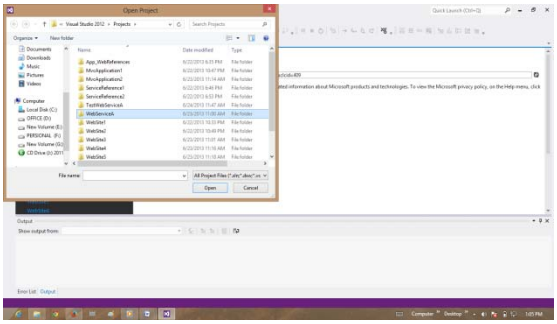

Figure 3 : Web Service A

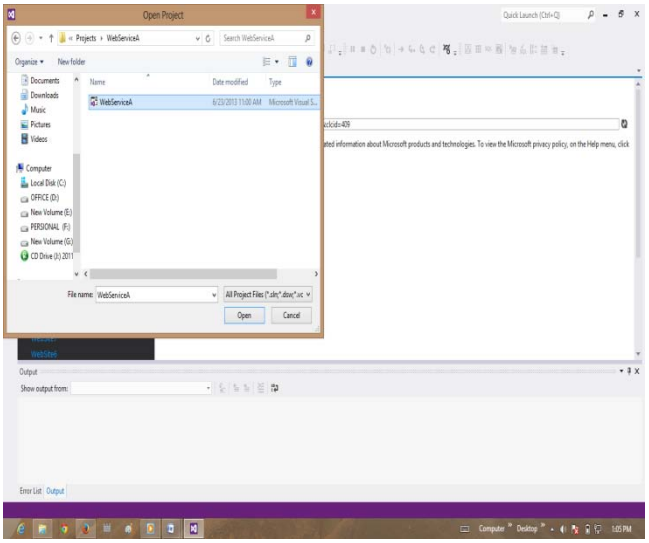

Figure 4 : Running Web services A

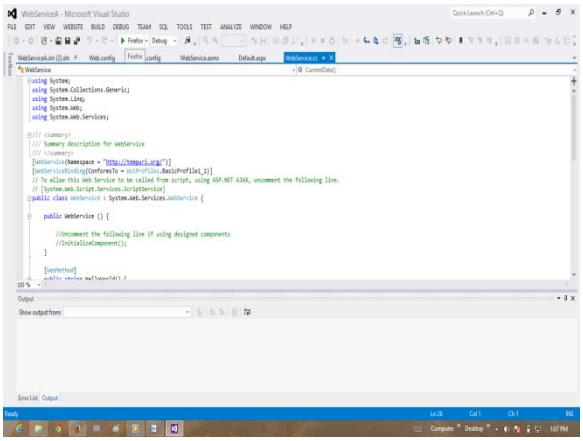

Figure 5 : Coding View

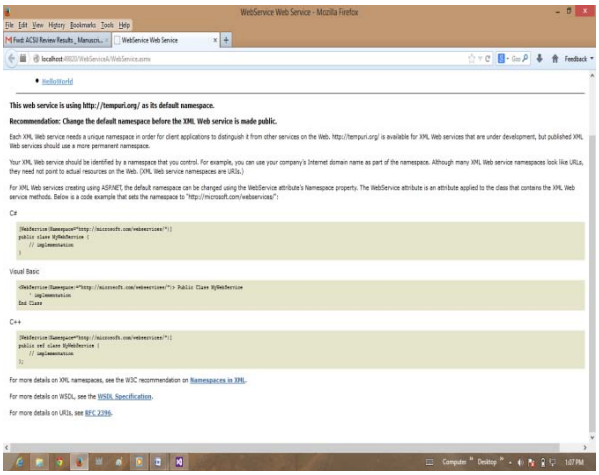

Figure 6 : Coding View of Implemented web services

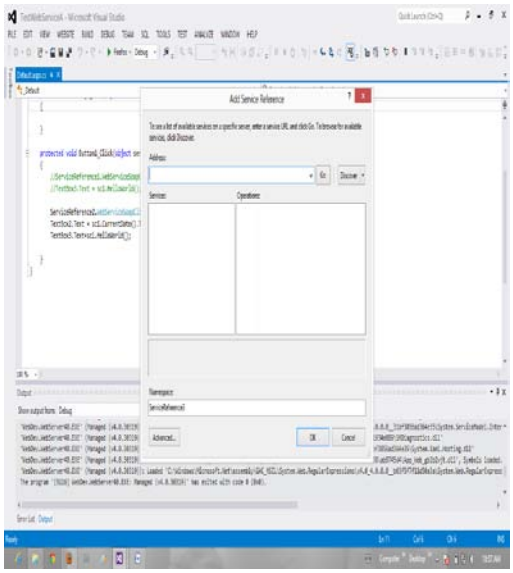

Figure 7 : Using Web Services

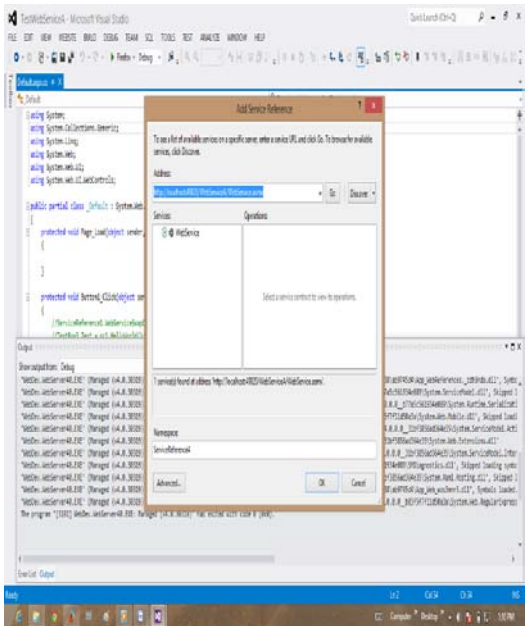

Figure 8 : Adding Reference of web services

V. Conclusion

This study illustrates the notion of semantic world wide web by implemented the world wide web services. world wide web services make the semantic world wide web more significance and powerfull. It is fast growing technology, especially in the e-commerce area. Web services have a allotment to offer when it arrives to creating web-based applications for selling things over the internet. They are also a good way for applications to broadcast with each other over the internet. This allows the applications applied in distinct dialects to help seamlessly in a bigger system. This makes web services a good option for the Mimesis task. A game motor on a user's computer desires to demand a design from a centrally established Advisable Planner to decide what activities the engine will take. These two schemes are in writing in distinct languages and should broadcast over the internet. The World Wide Web service will provide this connection link between the game motor and the Advisable Planner. Web Service as a circulated middleware to facilitate the interoperability of the entire scheme with the support of distributed technologies. This study proposes as a scheme base platform to coordinate the various services coming from heterogeneous environment. Resources administration devices are utilized to support the deployment and administration of web services and Grid are utilized in circulated entire mesh. The architecture of heterogeneous schemes based on the Web Services is put forward, through the module of virtual data warehouse for recognizing facts and figures mapping and interoperability and the implement of architecture is limited to the merchandise facts and figures of heterogeneous schemes. Study display this approach is a feasible approach to support a distributing and interoperability for multi-source facts and figures circulated in heterogeneous stages. therefore by applying the world wide web services semantic world wide web becomes more power full and meaning full for the users so that they can all the applicable data by one click or from a specific point and share the available resources on world wide world wide world wide web and internet. world wide world wide web allows the identical mix and agree approach of the real world service.

VI. Future Enchantments

Although some of the major differences that should be kept in mind while matching the supreme user of a real world service say a human being with that of the user of the world wide web service say a computer. Delight note that the supreme end client may still be the human being even in web services. But it is another computer that aggregates the services before presenting to the end user of the world wide web services. The lowermost denominator, the human being, ultimately bounds a genuine world service. With all the

technologies and tools, still the human being has restricted mental space, time and power to do things locally.

References Références Referencias

1. Alexander Maedche [2002]; "Clustering ontology-based metadata in the semantic web".
2. Andrej Uszok [2004]; "Policy and Contract Management for Semantic Web Services".
3. Boanerges Aleman-Meza [2006]; "Semantic Analytics on Social Networks Experiences in Addressing the Problem of Conflict of Interest Detection" May 23–26, 2006, Edinburgh, Scotland. ACM 1-59593-323-9/06/0005.
4. Claus Pahl [2009]; "Applications of Semantic Web Technology to Support Learning Content Development" Interdisciplinary Journal of E-Learning and Learning Objects; Volume 5, 2009.
5. C. Pedrinaci, D. Liu, M. Maleshkova, D. Lambert, J. Kopecky, J. Domingue, iServe: a Linked Services Publishing Platform, in: Ontology Repositories and Editors for the Semantic Web Workshop at ESWC 2010, Vol. 596 of CEUR Workshop Proceedings, 2010.
6. Dejing Dou [2010]; "onto grate: towards automatic integration for relational databases and the semantic web through an ontology-based framework"; international journal of semantic computing vol. 4, no. 1 (2010) 123–151.
7. Demetrios G Sampson [2004]; "Ontologies and the Semantic Web for E-learning"; Sampson, D. G., Lytras, M. D., Wagner, G., & Diaz, P. (2004). Ontologies and the Semantic Web for E-learning. Educational Technology & Society, 7 (4), 26-28.
8. Dejing Dou [2006]; "Integrating Databases into the Semantic Web through an Ontology-based Framework"; Proceedings of the 22nd International Conference on Data Engineering Workshops (ICDEW'06) 0-7695-2571-7/06 $20.00 © 2006 IEEE.
9. Dimitrios-Emmanuel Spanos; "bringing relational databases into the semantic web: a survey"; semantic web 0 (0) 1–41 1 ios press.
10. Dejing Dou; "Towards Populating and Querying the Semantic Web".
11. D. Fensel "Semantic Web Application Areas";
12. Danielm Schwabe; "Design and implementation of different Web Applications".
13. J. Koch, T. Franz, LENA {Browsing RDF Data More Complex Than Foaf, in: International Semantic Web Conference (Posters & Demos), 2008.
14. J. M. Garcıa, D. Ruiz, A. Ruiz-Cortes, A Model of User Preferences for Semantic Services Discovery and Ranking.
15. L. Aroyo, G. Antoniou, E. Hyvonen, A. ten Teije, H. Stuckenschmidt, L. Cabral, T. Tudorache (Eds.), ESWC (2), Vol. 6089 of LNCS, Springer, 2010, pp. 1–14.
16. J. Urbani, S. Kotoulas, E. Oren, F. van Harmelen, Scalable Distributed Reasoning Using Map Reduce, Web Challenge, 2009. in: International Semantic Web Conference (ISWC 2009),vol. 5823, Springer, Washington DC, USA, 2009.
17. J. Volz, C. Bizer, M. Gaedke, G. Kobilarov, Discovering and Maintaining Links on the Web of Data, in: International Semantic Web Conference, 2009.
18. G. Cheng, Y. Qu, Searching Linked Objects with Falcons: Approach, Implementation and Evaluation., Int. J. Semantic Web Inf. Syst. 5 (3) (2009) 49-70.
19. G. Tummarello, R. Cyganiak, M. Catasta,S. Danielczyk, S. Decker, Sig.ma: Live views on the Web of Data, in: Semantic .
20. H. Halpin, P. J. Hayes, J. P. McCusker, D. L. Mc Guinness, H. S. Thompson, When owl: same As Isn't the Same: An Analysis of Identity in Linked Data, in: International Semantic Web Conference (1), 2010.
21. R. Delbru, N. Toupikov, M. Catasta, G. Tummarello, S. Decker, Hierarchical Link Analysis for Ranking Web Data, in: poceedings of the Extended Semantic Web Conference (ESWC 2010), 2010.
22. www.csc.ncsu.edu/academics/undergrad/honors/lehman/clehman.doc.
23. https://www.google.co.in/imgres?imgurl=http://www.w3.org/TR/2002/WD-ws-arch20021114/Extended.png.
24. https://en,wikipedia.org/wiki/semantic_web.

Global Journals Inc. (US) Guidelines Handbook 2013

www.GlobalJournals.org