

Semantic Web Role in Business

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Abstract—This paper explains the role of Semantic Web in E-Commerce. One of the most common problem for consumers in purchasing items from online shops is the identification of websites selling the desired item at the best price. There exists websites which sell several items at reasonable price. But these online shops are difficult to be identified at this moment because their URL appear in the last of search engine result set. So consumers are deprived of buying items at best price available on the Internet. After implementation of concept of Semantic Web, users will be able to locate such online shops and get the desired item at the best price.

Keywords: Semantic Web, E-commerce, Agent, XML

I. INTRODUCTION

Searching items on web is a very common activity. More than 300 million searches are conducted daily on web for purchasing some items. So a lot of people hour is spent on web for searching best online shop. The implementation of concept of Semantic Web will be able to save this people hour significantly and will also eliminate asymmetry in finding best price for a given item. The implementation of Semantic Web will also be able to handle business processes automatically through agents. These business processes include selling, buying and negotiating automatically.

II. E-COMMERCE

It refers to the buying and selling of products and services over electronic systems such as Internet and other computer networks. The amount of trade conducted electronically is growing day by day due to easy access of Internet throughout the world. The implementation of Internet Banking in public sector banks has also increased the customer base for E-Commerce in our country.

III. SEMANTIC WEB

Semantic Web is the next generation of the web which will enable the information published on a website machine readable. At this moment most of the information available on a website is readable by human being. Information sharing among websites is still not an easy task. Semantic Web aims to change this scenario by making information on one website easily sharable by another website. Its main aim is to improve the

searching process simpler and faster by making use of artificial intelligence with web.

IV. AGENT

An agent is a program which gather some information or process some task in the background. A personal agent in Semantic Web will receive some task and preference from the person, search information from the web, communicate with user agents, compare information about user requirement, select choices and give options to the user. It is important to note that the agent will not replace the human users on Semantic Web nor it will make decisions. It will only be responsible for collection and organization of information and present options for the users to select from those.

V. CURRENT E-COMMERCE

In the current scenario, information asymmetry is one of the most common problem. Information asymmetry implies incomplete and inconsistent information while searching for an item in the search engine for buying it online. So the user will have to waste a lot of time while searching for best website while purchasing an item online. This leads to the problem of price dispersion. The term price dispersion implies availability of same good at different prices. This occurs due to the fact there are some websites which provide discount on items and there are some websites which provide facility of free shipping. So a person can purchase same items from different websites at different prices. This is one of the main problem of current E-Commerce There are several websites which provide the facility of price comparison from several websites for a given item. But their search result is not up to the mark and they don't consider most of the online shops while comparing prices for a given item. Such website only compare prices from those online shops with whom there is an agreement in this regard. So again the consumer is not able to get the best price for an item while purchasing it from the web. Some of the common examples of such websites are pricegrabber.com, naptol.com etc.

VI. IMPACT OF SEMANTIC WEB ON CURRENT BUSINESS

The process of an online transaction normally starts by searching for an item on a search engine by consumer. However the search results are far from the perfection. The consumer has to visit one by one each of the web page addresses appearing in the result. This leads to the wastage of time, money and energy of consumer. Sometimes the consumer can become irritate and stop the transaction. Sometimes the consumer can get link of dead websites which are not active at this moment. However if the consumer will search for same item on an online shop such as ebay then he will get lot of available shops from where he can purchase that item easily. After implementation of Semantic Web, the problem of price dispersion will be reduced significantly. This will increase the efficiency of e-market make it more convenient for consumers. However it should be noted that the implementation of Semantic Web will not reduce the price dispersion to zero as there will still be differences in the services provided by various websites. The quality and reliability of service providers on Internet will always differ from each other.

VII. HOW SEMANTIC WEB SERVICES WILL BE IMPLEMENTED

In order to implement the Semantic Web, the method of representation of data on a web page has to be changed. Currently all information of a web page is being displayed in the form of HTML. When a page is being developed in HTML then all concentration is on the display format of the page. The meaning of the information is not mentioned on such pages. Due to this search engine are not able to search for accurate pages available on web. In order to solve this problem, different types of scripting languages have been defined such as RDF (Resource Description Framework) and OWL (Web Ontology Language). In addition to this, some frameworks have also been developed such as FOAF(Friend of a Friend). With the help of these formats the meaning of information being displayed on a web page can be embedded in its source page. It will help search engines to find accurate result for a given item.

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