

Web service gateway in e- commerce

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Abstract

We introduce a mechanism about web service gateway which are present in web sites. In future the business to business market exists through the internet e- business. In this process we are try to solve a problem that already present information sources in current internet environment. Websites were developed for the help of users but they are not understand machine language. To reduce this gap we use a system to remove existing presentation- orientated websites.

Initially web Service Gateway developed in Toshiba. Web service gateway developed via a generator and that generator called web service generator, which helps to produce web services wrappers. Features of web services like UDDI publishing connected to each other as a business to business architecture for provide services to end users.

Keywords: web service gateway, e-commerce, web service wrapper, Generic wrapper

Introduction

The internet's success doesn't allow only connection of computers but also provide new way to carry out business transactions. In former days we have to go outside for shopping anything and for this we waste lots of crucial time. But now a day's people are busy and even have not enough time to go shopping outside[10][11][12] . So this internet comes to market. Though internet custom of website start now you have various websites like my aka, flip kart etc. through which you can easily buy desired things online you not have to go outside. You can easily shopping in your house. Websites not only cosmonautic things but also available for grocery.

Not only for these websites are also developed for banks. Banks hires developers for developed websites for them. These are only possible thorough web services gateway. You can see that usage of websites increases day by day due that Web Development come rapidly in market. Web Development [7] is the work which involved developing websites for internet. Web development usually refers to main design aspect of building websites. It's the Maintenance of websites.

Web developers do this but using a variety of coding languages like React. React is a programming language which used as developed websites. React was created with a single focus to create components for web applications. Not React but also other languages used. The basic languages are used to develop websites are HTML, CSS, JavaScript. HTML provide the skeleton of websites , CSS provide the look for websites. It's used to enhance user interaction towards websites. And last not least JavaScript provide functionality.

Existing work and some new approach

The objective of wrapper has been examined for more years. In this process used same basic mechanism, but the method which are applied according to current technology. In 1997 [1], wrapper was used to provide a broad access method for diversified information sources. But the main point is that this wrapper is not originally created by TSIMMIS, but wrapper interface is originally creates on the basis of wrapper templates concept. Initially web Service Gateway developed in Toshiba. Web service gateway developed via a generator and that generator [2] called web service generator, which helps to produce web services wrappers.

To provides more hard code wrappers for differ information sources used TSIMMIS.

These

wrappers can be modified with freshly defined wrappers template s when used in a specific application to give the programme with a suitable user interface. But the main weakness of this approach is that every information sources mandatory a fresh hard code wrapper so that

wrapper totally lacked in TSIMMIS.

The purpose of wrapper-template is generated on the basis of some definition of users to automatically generate wrapper and it is a strong point. The objective is to carry information

sources in Web site, and Jedi [3] procedure used to perusing and already data in a HTML page. Jedi only allow a method and more Java tool kit to create HTML parser and bring out useful data in HTML page .This tool did not analyse the side of wrapper generation. With the

help of plug-in design approach, apply Jedi method and make an efficient HTML parser outside the Web Service gateway.

User can use a GUI toolkit to examine a HTML page and then explain doubt with the help of these two type of language. To receive client's request the generated wrapper not provide a standard interface. Now days Semi involuntary wrapper generation is considered

as the modernist wrapper generation method. With the assistance of a GUI user can examine a HTML page and then define many data extraction rules.

Web Service Gateway And Web Service Wrapper

Web service gateway have two main principals first one is the web service wrapper and second one is Generic wrapper System. Let's explain them one by one.

- Web service wrapper each wrapper have 4 basic modules. These modules are as follows-
 - Web service coordinator described by WSDL, giving entry point. Due to this other operations in web applications develop use of them like normal websites. Business to Business support process like ontology build service, UDDI, etc.
 - Wrapper coordinator takes authority for transfer to request which are received by web service interface to other type form. Because of this internet service become understandable.
 - Information Service Access Protocol gives a setup features for send requests. It also have authority for receive HTML pages. Depending on this, Internet information sources uses CAP(Corresponding Access Protocol) which apply by driving from Coordinator.
 - Data Extractor authority to derived data from pages which are in the form of HTML and also make a proper DS(Data Structure) . Instead of hardcoded integrate HTML data extraction . This helps to communicate various HTML parsers to complete task.

This description have all essential points about internet information source. By designing these gateway can adopted by nearly business atmosphere.

Plug-in an Intelligent HTML parser

In this data derived from HTML executed. These are post in a system named as Generic Wrappers [9]. For this any third party can develop own web servers. For this we need an appropriate framework though which each HTML parsers can execute. These two essential needs are as follows-

- It must be flexible through which third parties can decide freely to develop intelligent HTML parsers.
- A standard communication processed is designed there for each parsers carry communicate with these wrappers.

All pages develop in tree type structure nodes called as path finder sentence. It consist of some node finder components. In this intelligent means that level out theoretical HTML

formatted page but the awareness of these depends on node finder. A node finder can straight forward like “1.0.4.5” as digit position or “second/first div tag” as textual position expression. To take out data from HTML format page for find way finder sentence. It’s order for exchanging details among its Data extractor and these parser.

First step to build tree type structure and second one is frame next node finder. The information which wraps data send to HTML parser through extractor for Establishing path finder which should be confirmed for the implementation. After , receive to a HTML view from appropriate source, then it contract to web service gateway for initialize. It returns references for the web service wrapper. Several times wrapper invokes to parser for node finder sentence. At last, it needs send data back to current node.

Through these planning, we can said that a set of activities which are provide by intelligent HTML parser to invoke through wrappers. A necessary or essential plugin function is getNodePosition() . It calculate and give the position of current node as a result which is based on relative distance between parent node to given node. To find node finder sentence x path, x pointer x query should be applied. In some previous year semi automatic wrapper generator[4][5][6] is known as advanced wrapper generation method.

Toolkit of Wrapper Generator

Define the wrapper description and to generate wrapper code, Web Service wrapper generator toolkit was developed in Toshiba R&D Centre.

This toolkit consists of 2 main components –

1. **Wrapper Generator** :- This tool supports a GUI to analyse information source to define wrapper description. On a single mouse click, the wrapper code is generated and deployed to Web Service gateway.
2. **Plug-in Discovery**:- . This tools helps user to try all the available HTML parse in the Web Service gateway to find most suitable for parsing HTML pages which is returned from a given information source. This tool allows user to define the node-finder sentences.

Methodology

Methodology[8] is designed for help to take maximum benefit of internet technology. These are the steps that take to ensure all devices are developed in required budget and time.

1. Analysis of requirement
2. Prepare according digital strategy
3. Conceptualisation of web page
4. Web Development

5. Evaluation and make improvement
6. Data relocation phase
7. Earlier phase
8. Website deliver
9. Indexing of Search engine
10. e-commerce

Now explain each one by one

Analysis of requirement

First step is to analyse target and it's requirements. What is the purpose, goal of website, who visit our website, can organization will take care of their needs. Analyse current page view, user time spent, search engine ranking, top landing pages, bounce rates, online target audience , differentiate planning for best result are some factors required. Website required analysis of comprehensive search engine twice during development of project.

Prepare according digital strategy

On the base of requirements, determine some factors that provides best results. We have to look what are the trends in market. Because of this you can apply latest technology. Take time for think outside the box. Provide some considerations for that your website can full fill any future needs. In this we also decide the primary and secondary key phrases of your project. These are used throughout the development phases.

conceptualisation of Web page

This phase is one of the most important factor in any project. You have to justify each single aspect of design. Due this we ensure that each component serves a appropriate need. Website is designed for attract and enhance user interaction. Various thought process are go into this phase to make design for serving requirements and sustainable with future growth. In this phase we create design and submit for review.

Web Development

When the design is accept the we moved to HTML development. In this primary and secondary key phases are used. The HTML is prepared through w3c standards. Another W3c standards are CSS, XHTML, etc. Website will develop under these standards. After this website is proceed for testing. Here content management system is rigorously tested. After testing it proceed to multi browser test where websites are tested over other browsers like IE, Safari, etc.

Evaluation and make improvement

Once preliminary testing phase complete then it give to site for UST(User Acceptance Testing). On the basis of user feedback we perform essential changes in in website. After this proceed for Data migration.

Data relocation phase

After receiving UAT signoff, we migrate all data to new website from current website. Depending on project, it's done manually one by one page. Also keep primary and secondary keywords so can take maximum benefit for the search engine.

Earlier phase

When data is ready, submit the website for final feedbacks. After clear, setup website on server. After setup, website goes for testing again for ensure data integrity.

Website deliver

When website setup on server upon approval, final testing are complete then the website is complete handover to user.

Indexing of Search Engine

Website is live, submit website to various search engine for index website on servers. We can submit website upto 80 search engines.

e- Commerce

In this phase, conduct analysis on Comprehensive Search engine to access 100 factors that can affect website's ranking.

Application of Web Service Gateway

By using Toshiba WSGen, many wrappers were generated for certain CGI Web sites like Yahoo, Amazon, etc... and deployed to Toshiba Web Service gateway. Wrapper gateway provides Web Service interfaces in order to test the feasibility of several Web Service in future business environment.

Web Service in future business environment, we introduce our applications based on this the Patent Looking & Translating (PLT) service system. Users to looks their patents and related documents by the help of PLT, and then translate them into a requested language. This service was developed in our group in Toshiba is demonstrated in the exhibition of Toshiba R&D Centre on December 2003.

Now days, there are a lot of CGI Web sites providing online document and patents search. IT Papers (www.itpapers.com), NEC CiteSeer (www.citeseer.nec.com), US Patent (www.uspto.gov), etc... are those examples. For searching a appropriate documents an

agent is created and migrates to several hosts. It brings all documents found to a translation host and translates them into the requested language.

Conclusion and Future Works

In the field of Internet PLT is not the earliest searching service and translating service. There are already presents many web sites which providing these type of service. But these sites only provide only one type of service at particular time either searching or translating feature, not continuously both. With the help of these Web Service gateway, we provide a standard method for Business-to-Business with already presented Internet resources.

Reference

- [1] J. Hammer, H. Garcia-Molina, S. Nestorov, R. Yereni, M. Breunig and V. Vassalos, "Template- based Wrappers in the TSIMMIS System, "Proceedings of 23rd ACM SIGMOD Conference on Management of Data, 1997.
- [2] Hoang PHAM HUY, Takahiro KAWAMURA , Tetsuo HASEGAWA, "Web service generator" in Toshiba R&D Center,2001.
- [3] G. Huck, P. Frankenhauser, K. Aberer, and E. Neuhold, "Jedi: Extracting and Synthesizing Information from Web", Proceeding of 3rd Conference on Cooperative Information Systems, 1998, pp. 32-43.
- [4] R. Baumgartner, S. Flesca, and G. Gottlob, "Visual Web Information Extraction with Lixto", 2001, Proceeding of 27th Conference on VLDB, pp. 119-128.
- [5] L. Lui, C. Pu, and W. Han, "An XML-Enabled Wrapper Construction System for Web Information Sources", 2000, Proceeding of 15th Conference on Data Engineering (ICDE), pp. 611-621.
- [6] M. Christoffel, B. Schmitt, and J. Schneider, "Semi-Automatic Wrapper Generation and Adaption", Proceeding of Conference on Enterprise Information Systems, 2002.
- [7] "What is web development? Definition from Techopedia". Techopedia.com. Retrieved.
- [8] Methodology <https://synapseworldwide.com>.
- [9] Bubble Wrap is trademarked brand of Sealed Air Corporation in 1960.
- [10] AccuWeather: <http://www.accuweather.com>
- [11] Amazon book shop: <http://www.amazon.com>
- [12] Isbn.nu book shop: <http://www.isbn.nu>