

Chapter 5

DACS Scheme–Based Web Service and Application

DACS SCHEME-BASED WEB SERVICE

Background

Nowadays, Web pages are often used as a communication means other than e-mail and telephone in an organization. As a first method, information is transmitted by using the static Web page. Then, as another method, information is conveyed dynamically through the Web service which can change contents of Web pages in increments of the user as a portal system. The portal system can display the information differently for each user by using programs such as CGI (Common Gateway Interface).

In this chapter, the portal system is called “personal portal”. Personal portal indicates the information window which is displayed for each user. The static Web page is suitable to deliver information to an unspecified number of users. In this sense, the use of the static Web page, has some advantages. Firstly, the user needs to create and to release the static Web page on the network, such as the local area network in an organization and Internet. On the other hand, it is necessary for the system administrator to start up the Web server. The Web server stores the static Web page and releases it on the network. However, the static Web page is unsuitable to communicate to individual users or to certain plural users (e.g., a user group). As it is possible to perform access control for the communication which is sent from a user by introducing the user authentication mechanism, only the admitted user

can see the Web page. The other user cannot see the Web page. However, this method is not an effective method.

To display the necessary information for the individual user on a Web browser, the method which is used to change Web pages dynamically was devised. In order to use this method, it becomes necessary to search and extract the information for the user from an information storage, such as databases. In addition, it is necessary to notify the information to the user by a program, such as CGI, on the Web server. These mechanisms can be activated either by introducing a commercial product or by building it from scratch. In both cases, it is possible to create Web pages dynamically. Both methods are also very convenient, because the information for each user is displayed on one window.

On the other hand, it is necessary to build a mechanism in which databases cooperate with the Web server. The user can access through the Web browser and each system with database is distributed on the network. The mechanism to pick up the information from them will be large-scaled. Since anonymity network use is a precondition at the side of the Web server and Web browser, it is necessary to identify the user on the Web server side to display the information for every user on the Web browser. Consequently, data for the user are searched and extracted from the databases based on the identification. In the conventional network scheme, it is necessary to introduce such a mechanism for extracting the data from the distributed system on the network. However, it is difficult for the system administrator to cope with the increase of mass data in this conventional mechanism because it is often necessary to modify the software of the system and to change the database. Since the interruption of the system operations is required, it is a big problem for the system administrator and the user. If the information can be collected easily and effectively in the distributed environment, it becomes very convenient. Therefore, in this chapter a new application form of the information usage is proposed by an extended version of the DACS Scheme. On the basis of the explanations that have been developed so far, the DACS Scheme is the network scheme for the new operation and management by communication control on a client computer (client). In the conventional DACS Scheme, different IP addresses and port are assigned for the same host name by a user unit. Thus, it becomes possible to control the communication on the client. The network service on the server side does not have to be extended.

This chapter highlights that a new use of the network service is enabled by the extension of the DACS Scheme and the correspondence of the network service to the extended DACS Scheme. As a concrete example, the Web service, which is provided with the Web server and the Web browser, is outlined.

55 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: www.igi-global.com/chapter/dacs-scheme-based-web-service-and-application/168864

Related Content

Can Human and Technical Resources be In Sync to Advance Resourceful Inclusive Enterprise?

Mambo G. Mupepi (2014). *Learning Models for Innovation in Organizations: Examining Roles of Knowledge Transfer and Human Resources Management* (pp. 173-191).

www.irma-international.org/chapter/can-human-and-technical-resources-be-in-sync-to-advance-resourceful-inclusive-enterprise/105871

Proactive Review

Ditte Kolbaek (2015). *Utilizing Evidence-Based Lessons Learned for Enhanced Organizational Innovation and Change* (pp. 82-100).

www.irma-international.org/chapter/proactive-review/117327

Environmental Rationality: Innovation in Thinking for Sustainability

Enrique Leff (2012). *Technological, Managerial and Organizational Core Competencies: Dynamic Innovation and Sustainable Development* (pp. 1-17).

www.irma-international.org/chapter/environmental-rationality-innovation-thinking-sustainability/59820

Entrepreneurial Ecosystem Research: Bibliometric Mapping of the Domain

Hannes Velt, Lasse Torkkeli and Igor Laine (2020). *Journal of Business Ecosystems* (pp. 43-83).

www.irma-international.org/article/entrepreneurial-ecosystem-research/259927

Ethical Negotiations: A Trust-Building Approach to International Negotiations

Francisco A. Espinoza and Norma E. Velasco (2019). *International Journal of Responsible Leadership and Ethical Decision-Making* (pp. 13-24).

www.irma-international.org/article/ethical-negotiations/227743