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Chapter 3

Intelligent Business Portals

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ABSTRACT

Portals can be regarded as an information gateway for exchanging business information over the Internet. They are for delivering the right information to the right user, at the right time, to the right place, to make the right decisions. A portal is a packaged piece of information with the properties of self-servicing, personalization, and real-time delivery. From a business point of view, a portal is a mobile, self-explanatory, and just-in-time delivered piece of information. In e-Commerce, business information is the set of timed transactions that can be triggered by events in business activities. This chapter will illustrate and explain the architecture of intelligent business portals for Web-enabled business applications.

INTRODUCTION

The portal concept was introduced by Merrill Lynch (Shilakes & Tylman, 1998). It was estimated that by the year 2002, the portal market value in Business Intelligence (Bergert, 2000) will reach US$7 billion, in Content Management will reach US$ 4.5 billion , and in Data Warehousing & Mart will reach US$ 2.5 billion. The main reason for this fast growth is because of the World Wide Web on the Internet and the high-speed network infrastructure.

Portals can be regarded as an information gateway (Li , 2000a & 2000b; Finkelstein, 2000; Firestone, 1999; Nielsen, 1999; Sullivan, 2001; Walker et al., 1999). Portals originated from the question of how we could deliver the right information to users. In traditional *pull technology* (Arnold, 1999; Buchwitz,1999; Käpylä, 1999), individual Web users have to initiate the search operation to find information from the Web, while when we consider *push technology* (Arnold, 1999; Buchwitz, 1999; Käpylä, 1999), information is sent to the individual users with or without solicitation. On the other hand, a user may need to interact with a system to provide information (such as filling a survey form). Thus, there is a need to provide an application independent mechanism for switching information between information providers and requestors. This requirement has generalized the traditional many-to-one client-server relation into a many-to-many client-server relation. Inevitably, an information explosion is

introduced on the Web. Many Web users are frustrated in dealing with the overwhelming information bombardment. To solve the problem, the Portal as a packaged piece of information is used for delivering the right information to the right person, at the right time, to the right place, to make the right decisions (Li, 2000a & 2000b). A portal has the properties of self-servicing, personalization, and real-time delivery. For **self-servicing**, a user would be able to use pre-defined templates to re-design personalized Web pages. An example is given in Figure 1 (Wei, 2000). In this case every university student is given a Web site. The individual student can modify the Web site according to personal interests.

For **personalization**, a user would be able to deliver and receive information that is dedicated to the person. Figure 2 and Figure 3 show two implemented portals that are used for the students to select subjects and view personalized enrolment information. For **real-time delivery**, a portal is used as a messaging tool to deliver instant messages to an individual. For example, Oracle9iAS (http://www.oracle.com) Wireless Edition can provide information to any wireless device, such as mobile phones, hand-held computers, and pagers.

From a business point of view, a portal provides mobile, self-explanatory, and just-in-time delivered information. The information could be supplied as a set of timed transactions

Figure 1. A sample self-servicing personalised website.

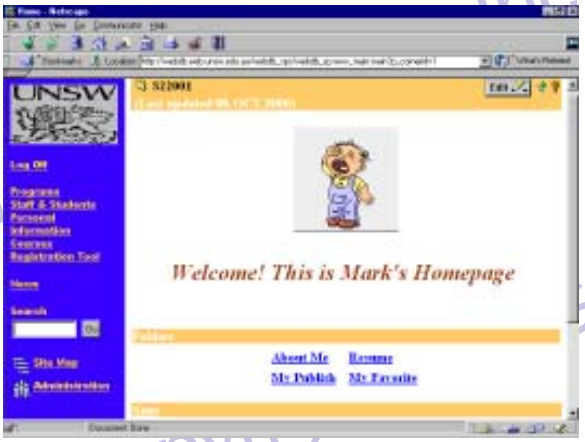

Figure 2. A sample personalised website with user input.