Chapter XIII

Portal Technology and Architecture: Past, Present and Future

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ABSTRACT

When you arrive on a college campus, you often get an immediate sense of the institution’s history and priorities. You may pass a football stadium and residential facilities prior to arriving at the academic core of the university. Frequently referred to as “the quad,” this core area physically links the academic buildings, library, administrative offices and student activity center. All campus pathways lead to this physical center of campus. As college campuses have become more electronically connected, the campus Internet portal can easily be seen as a virtual quad. From the campus portal each member of the university community may be linked to all campus services and information, instantly. Each individual’s view of the portal can easily be tailored to unique as well as common needs and interests. This online campus portal is an extension of the brick and mortar of the university. As such, it provides not only the feel and look of the university, but also a common communication tool for off-campus and distance learning participants in the college community.
One of the primary challenges in learning, especially online learning, is interaction, specifically communication. Most, if not all, higher education learning is geared toward communities of communication. As we’ve seen in other chapters, portals can provide a cornerstone in creating a sense of community on a campus. This chapter explores the origins of online portals. It outlines the technical history of portals including the first portals, the technology underpinnings of today’s portals and the ways in which portals will evolve in the future.

Portals can be defined in two ways. One is by the data that reside within the portal and are aggregated for access by the end user of the portal. The second definition is as a framework for accessing, manipulating and interpreting data. This chapter will discuss both definitions. It will also discuss why the portal’s data offerings are integral to the balance of these two definitions and how portal framework(s) will become essential in higher education. This chapter will focus on the educational benefits of the past, present and future of portals.

BACKGROUND

From a technology perspective, what is a portal? For the purposes of this discussion, we will describe a portal in the following three ways: a front-end “dashboard” or user interface for any service, a set of standards used to pull or aggregate information from disparate sources and an administrative framework including a graphical user interface for managing an environment.

A portal as a user interface is defined by the services it contains and by the value it gives end users. A user interface includes code as well as graphical elements that allow an end user to interact with a computer or a specific application running on a computer. The distinctive “start” button in Microsoft Windows XP is an example of one element in a user interface. The terms “user interface” and “graphical user interface” are often used interchangeably today. They are the dashboard of today’s software. During the 1980s, however, the term user interface often referred to the command line interface in the MS-DOS or UNIX operating system, whereas “graphical user interface” referred to the Microsoft Windows 3.1 operating system or the Macintosh operating system’s way of interacting with the computer through the use of a pointer via a mouse. These first user interfaces allowed applications to be built on top of them, such as a Web browser. These browsers made the evolution of portals possible. They provided the user interface to interact with sites like Yahoo and Excite. A portal is the next generation user interface in education. However, a portal does not necessarily interoperate with only one community system; it can also interrogate and present data from other portal systems such as Campus Pipeline, Microsoft SharePoint, JA-SIG uPortal, as well as administrative systems vendors.
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