INTRODUCTION

Educational portals, for distance learning courses, have a broader and more focused set of objectives and requirements that, typically, go well beyond the basic and commonly used portal definition as the *gateway* to the information, Web services and networks.

As a matter of fact, portals, when adopted in distance learning strategies, are among the most important embedded design elements in course methods, have a direct relation with the pedagogical strategy used and, as such, have a set of requirements with concise and frequently customizable specificities in terms of the pedagogical approach used and course model adopted (Martins, 2002, 2004).

This article elaborates on the requirements to specify and design portals focused on supporting distance learning courses. The basic design principle adopted consists to consider the portal itself a embedded element in course design and, as such, all the implications concerning its design, technology flexibility, multiple media support, ludic interfaces, among others aspects, are considered.

PORTALS

Portals, in general, have an evolving and broad concept and, as such, may be perceived in different ways and perspectives:

- A gateway to information is one of the most commonly used definitions for portals.
- A portal is a place that lets you go somewhere else or, in other words, a portal is a "doorway" (Boettcher, 2000).
- A portal is a goal-based Web application that enables you to combine and pull in sets of relationships with specific and oriented objectives (Boettcher, 2000; Mack et al., 2001).

In effect, portals differ from Web pages and may be considered as an evolution of these information displaying systems. Web pages are more focused on displaying information and, typically, are institution-centric.

Portals have broader objectives in relation to users and processes involved. In general, portals are user-centric and their concept include customization, integration, and attractiveness, among other characteristics. As such, portals add customization for users, allow collaboration, and may have a set of applications, services, and facilities to stimulate relations and optimize the process being supported.

PORTALS DESIGN AND IMPLEMENTATION: THE DEVELOPMENT AND CUSTOMIZATION PERSPECTIVES

The design and implementation phase for portals have two conceptually different perspectives:

- The portal’s design and implementation perspective for platform developers (Figure 1); and
- The portal’s design and implementation perspective for users (managers) at customization phase (Figure 2).

The portal’s design and implementation phase for developers’ concerns, for instance product manufactures creating a new tool, platform, or portal for a specific domain of application. It also concerns the developer’s team in any institution involved in creating, improving, or adding new functionalities, services, or applications to an existing platform, tool, or portal. The final result under this perspective is a set of functionalities, applications, and services customizable by portal users.

The portal’s design and implementation perspective for users (managers) at the customization phase consists, roughly, of giving some specific purpose or focus for the portal. It consists mainly of making choices among available applications, services, and functionalities in order to identify and customize the adequate ones for portal’s purpose, whatever it might be.
Educational portals are portals customized for educational purposes. Educational portals for distance learning or distance learning portals are educational portals further customized to consider the specificities existing in distance learning courses. Fundamentally, educational portals and distance learning portals support the pedagogical process on behalf of students and other actors (teachers, coordinators, tutors, others) involved in the teaching-learning process.

Following the basic definition of portals, educational portals or distance learning portals (Figure 3) are mainly intended to be the focal point and/or gateway for the actors (teachers, students, tutors, others) in the pedagogical process. Distance learning portals have to support basic service and application invocation on behalf of users and, certainly, have to provide a delivery mechanism for course contents in various media formats and access methods, among others pedagogical and operational requirements.

The benefits of customizing educational portals for distance learning are, among other advantages, customization and community for the actors involved in the educational process. The customization feature allows actors to define a unique and focused view of the educational process through the portal. The community characteristic is a necessary component to build relationship, a fundamental requirement for any pedagogical process.

Distance learning portals have a set of generic characteristics as follows:

- Distance learning portals integrate in various ways and strategies actors (teachers, students, tutors and coordinators, among others) in the pedagogical process.
- Distance learning portals, typically, promote ludic interfaces, an important requirement for distance learning courses.
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