

Chapter XI

From Information Dissemination to Information Gathering: Using Virtual Exhibits and Content Databases in E-Learning Centers

Joan C. Nordbotten, University of Bergen, Norway

Abstract

Concurrently, large multimedia databases, termed content databases, are being created to store and manage digital representations of a museum's physical collections, such as scanned images, text documents and videos. These databases can also provide valuable information and data for use in the development of e-learning centers¹ for tasks ranging from presentation of information about the museum's educational resources to providing a full interactive learning experience for students and casual information seekers. There are at least three ways an e-learning center can support learning: first, by providing information on a given set of topics, second, by providing educational activities to reinforce learning, and third, by supporting information gathering. In this chapter, we will present and discuss how different e-learning center architectures support these different forms of learning.

Background Assumptions and Definitions

Figure 1 shows the three basic components of an e-learning center, the user/learner, the learning site and the (optional) content database.

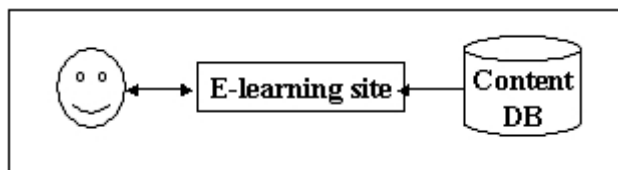
The users of a museum e-learning center include anyone who ‘discovers’ the Web site. The users most commonly thought of during design of an e-learning center include teachers – who are expected to guide their students in their use of the site – and students – who are expected to use the site as a learning tool. However, since the site will also be available to the general public, it is important to consider the needs of interested information seekers. We can assume that these users are interested in the site topic (most likely they found the site through a search engine), but will not have other guidance in the use of the site than that which is given on the site. In order to assure effectiveness, it is important that the e-learning site is designed for these multiple user types. In the following, both the student and interested information seeker will be termed a *learner*.

A database can be generally defined as “a logically coherent collection of related data, representing some aspect of the real world, that is designed, built, and populated for some purpose” (Nordbotten, 2000-2004). In a museum² context, a *content database* contains digital representations — scanned images, text documents, videos, and etcetera — of physical objects in the museum’s collections. In the following, we assume that a content database contains such representations and that the e-learning site can utilize them.

An *e-learning site* consists of a set of Web pages that present material intended to educate its users, the learners. A site’s architecture can be classified according to the degree of user control over the material that is presented. A basic *virtual exhibit* presents topic material as a hyper-linked story that the viewer can navigate, much as one finds in traditional museum exhibits. An *interactive* site also presents its topic as a hyper-linked story but adds a variety of interactive activities aimed at increasing the learning effect for the learner. An interactive e-learning site is based on the idea of a “hands-on” physical exhibit, in which experiments can be run and questions answered. Typical for both of these architectures is that they are museum controlled in the sense that the user is presented with prepared material that is to be explored within a pre-defined site.

Increasingly, Internet users, both students and casual information seekers, search for information about a specific topic of individual interest. The topics of these searches vary widely and many, though well within the interest areas of the museum community, may not be well covered by existing virtual exhibits. Alternatively, if the topic is popular

Figure 1. E-learning center components



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