Abstract

As e-learning continuously gains the interest of the scientific community, industry, and government, a wide variety of learning technology products have been incorporated into the marketplace. Advances in information and communication technologies are in favor of the incorporation of innovative services and functionalities in such systems, though content creation and delivery remain the two key factors in any e-learning system. Therefore, in this chapter, we present the design and implementation of a tool targeted at building and accessing learning objects and online courses through the Web.
This tool aims to facilitate instructors and trainers to easily develop accessible, reusable, and traceable learning content that can meet their distant students’ needs for anytime and anywhere learning. Learners are able to access learning content, in addition to consulting, at any time, reports on their interactions within a course and get support by subject experts. Furthermore, all users can request to upgrade their role in the system and, thus, actively participate in the learning process. Special attention has been paid on the utilization of reliable and qualitative open source technologies and Web standards so that the proposed solution can form an easily accessible system.

Introduction

Nowadays, the wide expansion of the Internet, in combination with the time and place limitations that traditional learning implies, as well as the current Web infrastructure, are in favor of the effective and efficient application of distance learning, otherwise e-learning. In many cases, actually, e-learning is used as a complement to face-to-face education in order to meet students’ need for “anytime” (and/or “anyplace”) learning.

Depending on whether learners interact in real time with their instructors and/or with each other, distance learning is distinguished into asynchronous and synchronous learning. According to Midkiff and DaSilva (2000), synchronous and asynchronous distance learning classes each have their own strengths, which allow them to meet the needs of different markets. Asynchronous distance learning, though, gains the interest of a wider audience and thus, it is likely to grow at a faster rate than synchronous distance learning, due to its inherent flexibility and the ever-increasing bandwidth of Internet connections and capabilities of Internet applications. In this mode of learning, learners and instructor(s) can be separated in both time and space, and neither must be physically tied to anything except a computer and the Internet. More to the point, studies have shown that the achievements of individually tutored students may exceed that of classroom students. As a result, the majority of the up-to-date e-learning systems support, mainly, asynchronous distance learning in the sense of the asynchronous mode of learning content delivery. They include, though, some kind of real-time interaction among the users so that learners have the feeling that they are not isolated, but active members of a virtual community, and that they can get support whenever they need it.

Despite the different characteristics and services up-to-date e-learning platforms present, according to the pedagogical approach they follow for serving their end-users needs, as well as the technological solutions they adopt to support the learning
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