Developing Digital Libraries: Four Principles for Higher Education

By Donald Waters

Higher education will surely be well served if it supports and maintains the development of digital libraries that capture intellectual value, including both primary sources that open up and support new lines of scholarship in the arts and sciences and secondary sources that record and disseminate scholarly activity. But what priorities and policies should guide higher education in its approach to the development of digital libraries?

Ofﬁcially launched in April 2001 and funded with a $5 million start-up grant from the Andrew W. Mellon Foundation, ArtSTOR may offer some answers to these questions. The mission of this emerging digital library is to develop, store, provide access to, and electronically distribute collections of high-quality digital images and related materials for the study of art, architecture, and other humanities and social science disciplines. Its first research collection will be the Digital Design Collection, containing nearly 8,000 images with related documentation of coherence and integrity, including e-mail correspondence, electronic manuscripts, software programs, electronic games, digital art, and other uniquely digital artifacts that would help serve as a record of modern culture for future scholars. Though the services are free of charge, many have experimented with digitizing existing collections of primary sources in order to make them more accessible. Many of these projects have digitized the materials simply in the hope, often unrealized, that an audience will emerge that is willing and able to sustain the collection. Avoiding the risky “field of dreams” approach requires, in part, a careful appraisal of how the technology can be exploited for primary sources to create scholarly value. For example, although most primary sources are one-of-a-kind items, many colleges and universities maintain slide libraries of reproductions of works of art. These slide libraries typically contain images of the same canonical artworks taught in nearly all undergraduate curricula. ArtSTOR’s Image Gallery aims to create scholarly value by systematically building digital collections of images that it can deliver economically from a central repository (or a small set of replicated repositories), thereby taking advantage of the technology to avoid the substantial system-wide expense of duplication across institutions. Other ways that ArtSTOR plans to exploit technology is by using high-quality illumination and detail of the digital photography and by providing tools to display these features in a variety of ways, including replication and analysis of the MoMA, Dunhuang, and other materials at a level of sophistication that could not otherwise be attained.

Many digital library projects aim low, with several such projects simply illustrating a collection of thumbnail images as a way of skirting these critical issues. The legitimate rights of content owners must of course be protected, but I believe the guiding principle is for higher education to do so in ways that protect and foster an intellectual commons for scholarly and educational use. The Mellon Foundation’s experience in developing both ArtSTOR and JSTOR suggests that several distinctions are essential for striking a productive interplay between the intellectual property rights of content owners and the interests of scholarly users. Above all, commercial uses of copyrighted materials must be distinguished from noncommercial, educational uses. In the agreements that ArtSTOR has made, for example, content owners retain full ownership rights for commercial and other uses while ArtSTOR is granted a limited and nonexclusive license for noncommercial educational use. Furthermore, JSTOR’s approach is to provide a well-regulated environment for such use, one in which content is available not to all comers but only to authorized users of subscribing institutions, which are subject to a strictly enforced user license.

Fourth, the guiding principle for the development of digital libraries is to be realist about costs, especially the costs of distributing content and sustaining ongoing operations. Building digital libraries is expensive; the costs are not just technical but, as we have seen, involve aiming the technology at scholarly uses that make possible access to content, and managing intellectual property. There are other significant costs, including those that are more easily overlooked. There is no one set of solutions that works for all institutions. However, the most important and most overlooked costs are those associated with distribution and ongoing support. Many individuals and institutions are armed with the necessary digital capabilities and materials, but with rare exceptions the projects are relatively small-scale, are isolated in data structure, and are surrounded by a thicket of legal safeguards and appropriate means of distribution. Entry costs may be low, providing an illusion of the costs of infrastructure, but the long-term trajectory is expensive. To achieve such economies for the distribution of digitized scholarly products, especially when there is little prospect of attracting commercial investment, a provider must be willing to implement a business model that includes a levy of modest user charges as well as a strategy for building a user community that not only wants but also is able to pay to help support the products through the costs of rapidly changing technologies. Otherwise, the products are doomed to a Hobbesian life: nasty, brutish, and short. Achieving an economy of scale also requires an efficient means of aggregating content through cross-project and cross-institutional collaboration. One of the most important considerations in crafting a standard agreement with early collaborators in ArtSTOR has been to strike the right balance between the need for aggressive entry in the academic market and the interests of the participants in preserving the distinctiveness and identity of their contributions.

Waving digital libraries into the fabric of higher education following these four basic principles will require much creative energy and an ongoing commitment to the academic mission. Institutions that have begun the task find that they are creating new institutional authorizations for the liberal arts and sciences. Such institutions are revamping themselves as virtual and physical spaces in which digital content can come together in shared enthusiasm for the academic mission of creating, collecting, and disseminating works of last intellectual value.