Enter Unizin

The commercial is indelibly etched into some part of my brain: a well-dressed couple follows an architect through the hallways of a high-rise office building. As they walk, the architect points out the various buildings he has designed, all of which make a “statement.” When they are seated in the conference room, the architect turns to the couple and asks: “So, what can I design for you?” The woman reaches into her large leather bag and pulls out an elegant bathroom faucet, places it on the conference table, and says: “Design a house around this.”

I remember thinking: “Yeah, right, who would design a house that way? Who would focus on a single feature, or even a small set of features, and design everything else around it?” Well… those of us in higher education information technology design this way—at least when it comes to choosing our technology for teaching and learning. We form committees that look at the latest features of our various options, and then we pick the option with the feature that most catches our fancy. This one has an integrated gradebook. That one has a really slick messaging system. The one over there promises analytics.

But here’s the thing. The technology that supports teaching and learning is increasingly more like the plumbing itself—the basic infrastructure that both enables and constrains—than like a shiny, eye-catching plumbing fixture. More important, this infrastructure is as critical to the future of residential and online education as bricks and mortar have been to our past. We ignore this technology, this infrastructure, at our own peril. Enter Unizin.

The Emerging Digital Learning Ecosystem

When we teach, we ask students to do things with content—write an essay, start a discussion, build a simulation—and then we measure the impact of that interaction on some kind of outcome. Do students pass a test, master a habit of mind, or change the quality of their lives? Some of these outcomes are easy to assess, whereas others are quite difficult to determine.

In the physical world, interaction with content happens in the moment and leaves no direct trace. In contrast, those interactions always leave traces in the digital world. How long did a student spend on each piece of content? Which problems, and in what order, did he/she try to solve? How much time was spent discussing the topic with classmates? Everything is mediated and recorded. Modern learning management systems (LMSs) and their cousins—standalone applications that let students practice problems, annotate lecture notes, or complete any of a host of digital assignments—spew out “data exhaust.”

The existence of data exhaust offers great promise in fueling a more data-driven approach to understanding and improving teaching and learning. But it also creates a high-stakes game in which the platform becomes an essential part of the activity. Therein lies the rub, because those platforms are almost always sticky; getting content and data out of them is very difficult. Anyone who has moved from one LMS to another knows that the switching costs are punishingly high. More important, anyone who has tried to reuse content or data from those systems has discovered that the export feature is often an afterthought—barely functional and highly impoverished. Enter Unizin.

Unizin

On June 11, 2014, four schools (Colorado State University, Indiana University, the University of Florida, and the University of Michigan) announced the launch of the Unizin Consortium (http://unizin.org/). Conceived in the spirit of Internet2, Unizin is a federation of universities that are coming together to acquire shared cloud-based infrastructure based on open-technology standards. These institutions are joining Unizin because they believe that the academy has a vested interest in maintaining control and strong influence over the digital learning ecosystem. Just as the creation of Internet2 allowed colleges and universities to shape the rapidly evolving ecosystem around high-performance networks by imposing a set of common standards and practices, Unizin is designed to shape the ecosystem around content, learning, and data by imposing common standards and practices. Unizin is to digital learning and innovation what common-gauge rail lines were to transportation. By moving to a hosted set of shared services built on open standards, Unizin allows higher education institutions to concentrate on the what and the how of teaching without fear of being held hostage if a technology partner’s business model takes a turn for the worse in the future.

Through Unizin, colleges and universities can innovate above the infrastructure. Like Internet2, Unizin is less a technology play than it is an attempt to disrupt a market moving in increasingly unfavorable ways. Tight coupling, proprietary standards, and customer lock-in appear to be the default drift of the market—especially as textbook publishers enter the LMS space seeking to find new ways to pivot from selling content to selling ser-
vinces. It’s easy to imagine publishers moving to a model in which their content is offered “free” with the high-priced “rental” of their LMS and associated digital tools. In that world, higher education institutions can fall prey to the kinds of dependencies and unfavorable economics seen with journal publishing—where the academy now buys back (or, more often, rents back) the content that its members produce at an annual cost in the billions.

Indeed, the textbook/LMS situation is starting to look significantly worse than the publishing crisis surrounding journals. In the rapidly evolving world of digital learning, the stakes are much higher. Today, colleges and universities are the major consumers of textbooks by virtue of the fact that faculty assign textbooks and instruct students to buy the textbooks. But what if textbook publishers decide to sell content, courses, and credit directly to students? What if higher education institutions find themselves morphing from “customers” and “partners” to “competitors”? At the risk of sounding paranoid, I admit worrying that if we lose control of the digital ecosystem around teaching and learning, we will put the core mission of our institutions at peril. Enter Unizin.

Digital Workflows: The New Holy Grail

One of the challenges that we face as we seek to preserve the scholarly record in a “born-digital world” is that we are only beginning to develop digital workflows that feel natural and that are automatic. The beautiful thing about publishing in the physical world is that we have had 500 years to develop publication workflows that are fairly seamless. Faculty conduct research, they write it up, and they submit their work to the journal of their choice. The system takes it from there. As an author, I never have to worry about where my work is after it has been accepted for publication, nor do I have to worry about whether it will be there in the future. Physical publications are fairly durable, and we know how to collect and preserve them.

In the digital world, all of this becomes more mysterious. What does it mean to “publish” in a world where I can unilaterally make my material available worldwide and instantly? If I choose to “share” a data-set with colleagues in my discipline, is that a publication? If I deposit an open-education resource in Merlot, is that a publication? What control do I want to have over the objects that I share? Can anyone reuse them? What if I want to share them only with members of my department? If I deposit an article in my institution's digital repository, is that a publication? Digital publications are inherently fragile. Who is going to make sure that my bits keep spinning?

I often tell people that the problem with the digital world is that it requires authors to think about the “how” both too much and too little: too much because digital publishing requires more thought than traditional physical publishing; too little because authors often throw a digital publication in the direction of some start-up enterprise, or start a pilot project among a group of scholars, or put a copy on a hard drive and stick it in a desk drawer—and hope that the “publication” somehow works out. Odds are that it won’t work out, at least not for the long haul.

But what if there were workflows built into the system to guide and route digital content to the appropriate destinations, complete with information about the rights that go with that content? What if there were easy ways to tell the system to send things that I write and am willing to release as open access to HathiTrust or the California Digital Library—two multi-institution, sustainable, digital libraries committed to access and long-term preservation? Or maybe I have created a digital simulation/application that I want to share, again with appropriate rights/permission. What if the system could route that kind of material to Merlot? Or perhaps I have created a data-set that I want to share with colleagues in my department. What if the system asked me a few questions (e.g., who, what, and with what rights?) and then routed the data-set to the appropriate place?

By focusing on creating shared hosted services that run at scale and abide by open standards, Unizin is forging a university-owned path to make all of this possible. Once we embrace the notion that content, applications, and data should operate via loose coupling, the opportunity to leverage the whole emerging landscape of repositories and data sharing comes into play. Loose coupling of shared infrastructure enables us to develop digital workflows—to route digital objects to the appropriate locations, all under the control of faculty and their institutions.

Coda

In a blog post that Brad Wheeler and I wrote announcing the launch of Unizin, we concluded with these words, which are equally appropriate here: “Unizin is a means to ensure that members of the Academy shape the future in ways that best serve the noble mission that is higher education. It gives universities and their faculties a renewed, action-oriented, collective voice in this vital conversation. It provides a means to reframe and focus our attention on independence, dependence, and intentional interdependence. It is a beginning. Over the coming months and years, we look forward to working with faculty, students, staff, foundations, other universities, and all who treasure the power that education, in its many forms, has to transform lives.”

Notes


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