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## **Universities Offer Homegrown Course Software**

### **A group of colleges has released a competitor to commercial vendors**

By JEFFREY R. YOUNG

A cooperative venture by several major universities to build free course-management software released the first version of its product last week, together with the complete source code, so that any college or individual can customize and enhance the program.

The effort, called the Sakai Project, named for a chef on a popular cable-television cooking show, could draw business away from commercial vendors -- mainly Blackboard, which went public this year, and WebCT -- that sell similar software to thousands of colleges worldwide.

But even the developers of the new software concede that version 1.0, which is available free from the project's Web site (<http://www.sakaiproject.org/>), is not a mature product, and that they don't expect many colleges to use Sakai extensively until version 2.0 is released, next summer.

Those developers hope that colleges will kick the tires of the initial release and begin to build tools that can be added to the system. To encourage just such a reaction, the developers of the venture started the Sakai Educational Partners Program, which now has 44 institutions, including 7 foreign colleges, as members. Although the software is free, partners pay \$10,000 per year to get advance releases and to be part of a community of college developers.

The University of Michigan at Ann Arbor, one of four institutions leading the software-development effort, has agreed to use the software campuswide this fall. Indiana University, the Massachusetts Institute of Technology, and Stanford University have pledged to begin using the software across their campuses by the fall of 2005.

"One thing that distinguishes us from any other open-source project is our commitment to eat our own dog food," says Amitava (Babi) Mitra, executive director of academic-media-production services for MIT. If every professor at MIT is asked to use the software, he says, the institute has an unusual incentive to make sure the software is well built. Many colleges have come to rely on course-management systems to create Web pages for courses, to hold online class discussions, and for other communications among students and professors.

The other partner institutions will not necessarily switch to Sakai, however. They are planning to evaluate the software or run small pilot tests, for now.

Sakai is a Frankensteinian creation, stitched together from the computer code of existing course-management software developed at the four lead universities, as well as from uPortal software, a Web-based application made up of open-source-software parts created by several hundred universities. Drawing on existing software allowed the developers to craft a program in just six months.

Some college officials see Sakai as a declaration of independence from commercial providers, many of which have raised their prices greatly over the past few years.

But others wonder whether open-source course-management software will be stable enough and will contain enough features to stack up to commercial products that have been under development since the late 1990s. And even though the Sakai software is free, it comes with costs, since it takes staff time to install, customize, and maintain.

It is too soon to say whether Sakai will succeed, say several college leaders who have seen demonstrations of the new software. But even if it is a flop, the project might pressure companies that design course-management software to be more responsive to customer complaints.

### **Applying Pressure**

The vision of Sakai's creators is to collectively harness the software development already under way at many colleges, which have long counted on homegrown software to help support teaching and research, but generally have not distributed the software beyond their own campuses.

The project has an unusual amount of backing for a university-led software effort, having won a \$2.4-million grant from the Andrew W. Mellon Foundation and a \$300,000 grant from the William and Flora Hewlett Foundation. The four lead universities have pledged about \$1-million each in staff time, with several programmers at each institution working full time on Sakai.

Even so, a major focus of the effort is to convince enough colleges to use and develop the software on an informal basis that the project will be self-sustaining within three years, even without continued grant support.

Joseph B. Hardin, chair of the Sakai Project's board of directors and director of the University of Michigan's Collaborative Technologies Laboratory, says he hopes that working together on software will become routine behavior for colleges.

For instance, if campus software developers want a better tool for professors to record and submit grades online, they would go to a Sakai discussion forum to find out what grade-book tools have been built by others. If they found one they liked, they could

simply download it and plug it into their system. Or they could create their own and make it available free to any other campus that wanted to use it. That model has worked for other open-source software, like Linux, a computer operating system.

If hundreds of colleges adopted Sakai, that would mean hundreds of programmers available to develop the software.

And that means, according to Mr. Hardin, that by next year's version 2.0 release, Sakai will be "at least as good" as any commercial course-management system.

Robert Taylor, director of academic technologies at Northwestern University, says he would love to see a viable open-source alternative to expensive course-management systems. But he also hopes that Sakai has a more-immediate effect: to prompt commercial vendors to make their software more open so that colleges can more easily customize it.

"One scenario is that some of the commercial CMS vendors could decide to build compliance" with Sakai, he says, meaning that their software would operate seamlessly with Sakai software.

Northwestern uses Blackboard's course-management software. The company has developed a system called Building Blocks that lets colleges build add-on features, but Mr. Taylor says the system does not allow college officials as much access to Blackboard's source code as they would like. WebCT allows customization of its software, but some of its customers say they would like to see the company be more open, too.

"Blackboard and WebCT have not quite figured out how to do graceful interoperability" with the software developed by colleges, says Mr. Taylor.

## **Price Control**

A major goal of the Sakai Project's leaders is to help control the rising cost of commercial course-management software.

"One of the things that open source has done is cap the price they can ask" by giving colleges an alternative, says Jim Farmer, director of Sakai's partner program.

Meanwhile, officials of Blackboard and WebCT say they are hoping to work with Sakai.

"In general, we support the vision and the activities of Sakai," says Matthew Pittinsky, chairman of Blackboard. "We have had conversations with Sakai's leadership. ... We have very much expressed our strong desire to join the program."

The company is willing to make its software interoperative with Sakai's, Mr. Pittinsky says, although making the necessary changes would take time. "It's not a question of

vision or desire," he says. "It takes time to get new releases out."

Chris Vento, chief technology officer of WebCT, also expresses a desire to form a partnership with Sakai. The company is open to altering its programs to make it compatible with the new software, he says: "We will definitely assess what they have and try to perform some level of interoperability with it."

Sakai's leaders say they are still deciding whether they will form such partnerships, and are asking for proposals from any company that wants to join the project.

They have already named four "commercial affiliates" -- Embanet, the RSmart Group, SunGuard SCT, and Unicon -- which plan to offer user support for a fee.

"The Sakai commercial-affiliates program has been designed to grow as commercial interests want to work with the Sakai Project," says Bradley Wheeler, vice chairman of Sakai's board and associate vice president for research and academic computing at Indiana University at Bloomington.

Are Blackboard and WebCT worried about colleges' dropping commercial products in favor of Sakai?

No, say both Mr. Pittinsky and Mr. Vento.

For one thing, while open-source software is free, it can be costly to install and maintain, they say. And by buying a commercial product, they argue, colleges can be sure that programmers are available to offer support and to keep the software stable.

"If you're the chief information officer of a university looking at an application that is going to be used by every student and every instructor," Mr. Pittinsky says, "you will want to call up a vendor and know that you'll have their support in a very structured way."

Affordability is certainly "a critical issue" for users of course-management software, says Mr. Pittinsky, but commercial software might still be cheaper for colleges to use than Sakai, he maintains.

"A typical license to a Blackboard learning system is less than a [programmer's salary] in an IT shop that is trying to build an alternative or make one of the community-source products work for their specific needs," he says. He acknowledges that his company has altered the way it has priced its software several times in recent years -- meaning higher costs for some colleges -- but says he expects pricing to remain more consistent in the future. "It's going to be a lot more predictable over time the way pricing will move," he says.

Mr. Vento, of WebCT, says most colleges do not have enough information-technology staff members to provide the support needed for programs like Sakai's: "There's a select

set of potential customers that are capable of dealing with an open-source initiative."

### **Difficult to Switch**

College officials agree that open-source software always comes with indirect costs, and many officials at colleges working with Sakai say the most exciting thing about the open-source model is the potential for innovation rather than savings.

When college officials from Sakai's 44 partner institutions held a meeting in Denver last month, two forthcoming features of the software generated the most buzz: an advanced online grade book and an online testing tool. Officials say both of these features appear to have elements that are more advanced or more flexible than those offered in commercial products.

Some say Sakai will have to develop compelling features if colleges are going to switch from what they are using now.

But even when presented with attractive new features, some college officials say they are too entrenched to make a switch in course-management systems.

"Open source would have been a great thing a few years ago, when we were making hard decisions about this," says Anthony F. Turrin, online-learning-technology coordinator for the University of North Florida. It chose Blackboard, and despite occasional frustrations has no plans to switch to Sakai, he says.

"We're not looking at it at this point," Mr. Turrin says, "mainly because we have a course-management tool that faculty are happy with and provides a functionality that they're looking for."

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