Mooovng from eCOW to eCOW2

The college of engineering makes the official switch to a feature-rich Learning Management Software

By Dylan Liebl

Students and professors in the college of engineering have a powerful new learning tool at their disposal, and with the help of fellow graduate and undergraduate students, they can learn to use this tool to its full potential.

For almost 15 years, college of engineering students and professors have depended on Engineering Courses on the Web (eCOW) to share and view course materials over the Internet. This past summer, eCOW was shut down and the official switch to eCOW2 was made.

The learning management system (LMS) eCOW was a software designed to support learning through technology. It provided a space for professors to upload files and an easy-to-use interface for students to access them.

“Well, eCOW1 was a fantastic product, and actually still is in terms of its simplicity and interface … but it was also built in the mid to late-90’s by an employee who is no longer here, with a technology that’s kind of getting old and we needed to update it.” Paul Oliphant, computer-aided engineering (CAE) consultant for the Technology-Enhanced Learning (TEL) project, says. CAE spent years just trying to figure out what to do with eCOW and eventually agreed that maintaining it just wasn’t feasible.

Around the same time, UW-Madison purchased the Desire2Learn (D2L) license and used it to craft a campus-wide online LMS known as Learn@UW. Unfortunately, usage of Learn@UW didn’t skyrocket in the college of engineering and eCOW retained market share. “What it really boils down to is that we found that the D2L product wasn’t really effective for foreign languages. And engineers talk a foreign language. It’s called mathematics,” Oliphant says. Thus, the search began for a new LMS that could fulfill the special needs of engineers.

“We found that Moodle is the lead in the open-source area for learning management systems. It’s the front-runner all over the world. Lots of people use it,” Oliphant says. In fact, as of the writing of this article, over 26 million people from 204 countries are Moodle users. Thus Moodle became the backbone of eCOW2, but the college of engineering still needed a team to support this new technology.

Representatives from CAE, including Oliphant, joined forces with Dr. Sandy Courter, director of the Engineering Learning Center (ELC), in hiring a team to explore eCOW2, and work with instructors to produce a set of example online course homemages. The typical route would have been to hire instructional designers who also had a focus on technology. Instead, they made the unprecedented decision to hire a team of motivated and computer-savvy graduate and undergraduate students to take on this role.

“I think that this model of the undergraduate TEL consultants working with the graduate students is an awesome way to get undergraduates involved in the process of improving the way we are learning in our college of engineering,” Courter says. “The faculty are learning in the process and the undergrads are learning, but they’re also helping instructors teach better. I think that there’s been a missing link for a while, and it’s just the beginning.”

Funded through the offices of Aaron Brower, vice provost for teaching and learning, and Steve Cramer, associate dean for academic affairs, this team of students was tasked with integrating eCOW2 into courses in the college of engineering, providing support to faculty in their transition to eCOW2 and producing long-term instructional materials for its use.

Every week throughout the summer, these students held three-hour team meetings with Courter, Oliphant and other CAE consultants to share new things they discovered in Moo-
eCOW2 allows for users to personalize their home page and allows students to communicate instantly with other students or professors.

de, problems they encountered and to discuss plans for the upcoming week. While the meetings have been cut down due to class schedules, the students continue to flood the meeting room with knowledge of the college of engineering’s new LMS. “There’s a reason I’ve been coming to the meetings. It’s not just to contribute, it’s to learn,” Oliphant says.

However, even with a support team at their disposal, many college of engineering professors have yet to integrate eCOW2 into their courses. “The major challenge was helping the faculty to make the change. There weren’t any choices. The old eCOW was going away. And we believed, and still believe, that the new system is better, but it is difficult to change,” Courter says.

The main advantage of eCOW2 is that it’s based on open-source software. “One of the reasons that we went to open-source and not a commercial product is that engineers are not necessarily mainstream. Many of the learning systems that are out there are tailored to the mainstream because that is where the cash flow is, but engineers are a little more special, with the mathematics especially,” Oliphant says.

Because Moodle is open-source, CAE developers are able to tweak eCOW2 specifically to engineers by integrating new features like the MathML Editor, which allows professors and students to type complex mathematical expressions into any text box equipped with an HTML editor. The expressions appear just as they would if someone had written them by hand.

The new eCOW2 provides an abundance of features that can reduce the workload for professors and enhance the learning experience for students. The different interactive activities allow professors to provide students with engaging material at a more frequent rate than they could ever achieve in class.

Automatically graded activities like quizzes and lessons free professors from the hours it takes to grade them by hand, while at the same time provides students with instant feedback. In addition, a feature called the “feedback manager” cuts down on the time needed to grade answers to essay questions for large classes.

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ECOW2 provides an organized structure for professors to store and display material, and for students to view and interact with that material. As Courter says, “It’s a one-stop-shop. It’s really handy to have all of your resources in one place.” Once all of those resources are on an eCOW2 page, the “label” resource can be used to display text, images and videos directly onto a course’s page, giving it a personalized feel.

Perhaps one of the greatest advantages that Moodle has over other LMSs is its emphasis on collaborative “Web 2.0” activities, which help enforce group-based learning. Forums, wikis and chats allow students to work together to solve complex problems or document projects.

One common use of the “chat” activity has been to replace scheduled office hours. Instead, professors can set up a chat room for a specific time where students can ask questions and receive answers from the professor, as well as other students, in real time.

Of course with all these advantages there must be some drawbacks. Since the technology is relatively new, bugs continue to be discovered by the support team, professors and students. So far, CAE developers have been able to squash the bugs or find temporary ways to work around them while a permanent solution is researched.

In addition, eCOW2 is feature-rich, it demands a more complicated interface than eCOW did. This fact has been a turn-off for many professors. Some professors continue to demand the same functionality of eCOW, “[but] can you imagine a Moodle site that is used in the exact same way as the old eCOW? You can, but you don’t want to. It’s like moving into a modern house and still having an outhouse out in the back and hauling in water every day to your sink,” Oliphant says.

The official switch to eCOW2 has been made, and in the process a model for linking undergraduates to professors has been created. There is still work to be done and TEL support team is hard at work creating long-term instructional materials and supporting professors in their transition.

Only time can tell how eCOW2 will become a foundation of engineering courses at UW-Madison. But if the hundreds of course home pages already created are any indication, eCOW2 is here to stay.

Author bio: Dylan is a junior in materials science and engineering. This is his first semester with the magazine.

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