Creating the most advanced class-capture and delivery systems for engineering in higher education

The College of Engineering and Computer Science (CECS) at the University of Central Florida (UCF) has been a leader in distance learning for the last 25 years. The Florida Engineering Education Delivery System was initiated by the Florida legislature to promote engineering education in the State of Florida. The early delivery system utilized video tapes and transitioned to the internet in 2000. In spring 2007, the CECS purchased Tegrity Campus 2.0 with the intent of creating one of the most advanced class capture and delivery systems for engineering in higher education. The system launch included 90 faculty delivering 100 courses to 2300 engineering students. Tegrity provided a solution that enabled UCF to scale online content, reduce costs of operation, and increase production quality.

Client Challenge

- Enable UCF to expand upon its 25-year history of distance-learning by increasing its online offerings exponentially.
- Overcome the limitations of current system requiring high-cost equipment and staffing, including:
  - Limited number of expensive “multimedia classrooms” that require high-end PCs, video cards, and cameras, and cable connections to control room.
  - Need to funnel recordings through a Video Control Room, which introduced unnecessary manual processing and bottlenecks.
  - Reliance on expensive video encoding equipment to digitize and stream output to Web.
- Solution requirements:
  - Eliminate requirement for expensive hardware, specialized facilities and staff.
  - Ability to scale across entire college, delivering class capture capability to any classroom with input from a wide variety of inexpensive devices (e.g., webcams, USB microphones, digital tablets).
  - Minimize demands on computing resources, recording capable on notebook and tablet PC’s.
  - Automate class capture, indexing, storage, processing and production.
  - Transmit data asynchronously.
  - Reduce costs associated with creation of online course content.

Tegrity Solution

In 2006, the distance learning program at University of Central Florida’s College of Engineering and Computer Science needed serious rethinking. Innovative when it began 25 years earlier with hand-delivered VHS, the system relied on expensive multimedia classrooms and a process that relied on funneling data through video encoding hardware. CECS wanted to significantly increase the number of courses offered online and eventually offer entire online degree programs, but the cost of scaling the current system was prohibitive.

CLIENT PROFILE

UCF is the 6th largest university in the nation and boasts the second largest undergraduate enrollment in the United States. Serving nearly 50,000 students on 11 regional campuses, UCF offers one of the 100 top-rated engineering programs in the country, including over 300 online courses yearly.

PROGRAM OBJECTIVE

- Overcome the limitations of a legacy class recording system to accommodate the growing demand for online courses and supplemental content. Long-term: offer complete online degrees.
- Improve the student experience by making lectures available 24/7 in multiple formats.
- Improve faculty experience by allowing content capture from any classroom or location without the need for special equipment, staff or processing.
- Simplify content creation and distribution and lower the cost-per-production.

SUCCESS SNAPSHOT

- Increased online course offerings. Approx. 300 courses are now available online with no limits to future scalability.
- Enhanced student experience. 2500 students currently participate and 74-76% report increased ease of learning and review.
- Increased faculty participation, ease of use: 70% of instructors now create online class content, with a large percentage recording content from both office and home.
- Reduced costs. Eliminated physical constraints on capturing classes. Faculty can now record anywhere, anytime. In addition, cost for maintenance and training staff reduced by 50%.
UCF researched technology alternatives with a stringent list of technical and financial requirements. Tegrity was the only solution that met all of them. They opened discussions with Tegrity in October, 2006. By the time classes began just two months later, CECS was ready with Tegrity Campus 2.0.

Less than a week before classes were scheduled to start, 80 UCF faculty and staff attended a one-hour Tegrity training session online. The session provided an overview of the Tegrity system and basic instructions on how to make a recording.

Instructors adapted quickly because Tegrity uses the same hardware and software they're accustomed to using. For students, the recording process was virtually invisible. “Tegrity records everything you’re displaying on the computer screen,” Dr. Ducharme explains. “DVD, PowerPoint, PDF, movie, YouTube video...even if it’s not in your computer, if you’ve got a document recorder and can get it onto your computer screen, Tegrity records it. And when you’re done lecturing and hit the ‘Stop’ button on the screen, the content is automatically packaged on the server. Tegrity generates the chapters and search index, even the iTunes package. Students just hit a button to download the podcast. They can listen to the lecture on an iPod or view it on a 5th-generation video iPod or iPhone—it looks great.”

Project Success

After four semesters with Tegrity, the UCF considers the solution an overwhelming success. Key achievements include:

- **50,000 student questions answered** during the first few weeks of use.
- **Logged 15,000 hours of faculty recording** during the start-up period and the number now exceeds 1Tb/semester.
- **85% of students reported improvement in quality** among the 2500 students currently using Tegrity. Close to half of the CECS’s student body uses Tegrity to view course material. In a recent survey of users, 74% of respondents said Tegrity makes course material easier to review and learn and has a positive impact on performance.
- **70% faculty participation.** After a one-hour online introduction and 5 to 10 minutes of hands-on training, 87 members of the 150-member faculty began using Tegrity the first week of class. Participation has risen to 70%, with 20 faculty recording from their offices or homes.
- **Unlimited recording anywhere on campus with negligible expense.** Any instructor who decides to start making recordings can begin the same day. Total cost: $100 or less for a Webcam. The University considers the expense negligible compared to the cost of adding multimedia classrooms.

After witnessing the success of the CECS program, UCF College of Optics and Photonics also decided to implement Tegrity Campus 2.0 during the Spring 2008 semester and UCF expects the momentum to continue with expansion across other UCF colleges.

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*“I feel confident that I can teach anyone how to record a lecture in Tegrity in 5 to 10 minutes. Anyone. It’s really that simple. We had 87 faculty participate the first week of class—everybody was jumping in and using Tegrity.”*

Alfred Ducharme, PhD
Assistant Dean, School of Engineering and Computer Science, UCF

*“Tegrity gives me some flexibility in completing my coursework. Being able to pause, rewind and skip ahead during lectures is outstanding. Also, the user interface is very intuitive and easy to use.”*

A UCF student

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**About Tegrity Campus 2.0**

Tegrity Campus 2.0 is the leading class capture web service, impacting learning, student satisfaction and retention across the entire institution. Requiring no hardware or software installation, and fully integrated with the institution’s data-set, Tegrity Campus 2.0 makes class time available all the time by automatically capturing, storing and indexing every class on campus for replay by every student.

**For more information:**
Visit: [www.tegrity.com/tegrity_demo/](http://www.tegrity.com/tegrity_demo/)
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