

FRED THOMSEN (Left) and TERRY HILL at the University of North Carolina tapped advanced video production gear.

IT finds running room in university athletic departments.

Twenty or thirty years ago, when essential sporting equipment consisted mostly of towels, ice packs and first-aid kits, locker rooms weren't considered high-tech. But today's locker rooms — and the university athletics departments they're in — have changed. New locker rooms in some professional sports venues come complete with notebook-computer and MP3-player jacks, as well as wireless access. University athletic departments are following suit, developing their own IT centers that serve many different audiences inside and outside the university.

Fans, who have seen local sports coverage decline in recent years along with local newspapers, look to universities for information on their favorite teams and athletes. Athletic

departments seek support for their growing computing needs and athletes look for new technologies to improve their performance. Each of these groups has had a hand in shaping athletic department IT operations to meet their myriad needs.

Defensive Shift

"Newspapers are cutting back, so more fans are going to our website to get the latest information," says Dean Buchan, Georgia Institute of Technology's Assistant Director of Athletics for Media Relations in Atlanta. "It has become more than a source of information for people; it's also where people come to be entertained." That means universities' athletic departments and associated operations are honing their IT skills and capabilities as never before to meet the demand.

The University of North Carolina at Chapel Hill's School of Journalism and Mass Communication, for example, produces its own Emmy Award-winning biweekly news program, called *Carolina Week*, which includes sports coverage.

"The students have passes to sporting events so they can be on the football field or on the court," says Fred Thomsen, the school's Director of Information Technology and Services "We usually do about a seven-minute section devoted to sports."

The school is moving to improve its broadcast quality by using Sony high-definition (HD) video equipment, purchasing 20 Sony HVR-V1U DV camcorders and 20 HVR-Z1U DV camcorders. The Sony format provided an easy transition path from HD to standard-definition video, says Thomsen.

Forward thinking is essential to evolving technical capabilities, say Thomsen and television engineer Terry Hill, who also has worked on the project. "Keep an open mind on technology and plan for it in advance. Don't wait too long for something new to come out. Plan, then once you have the money, buy it," says Hill.

UNC is also utilizing Sony GV-HD700 high-definition video Walkman devices to load video from the cameras onto the storage area network (SAN), which consists of twin 20TB Promise Technology's VTrak E-Class hard-drive arrays with additional Promise J-Class arrays. Students will edit the video using Apple Xserve servers and Final Cut Pro software. The school is building a private Gigabit Ethernet network to facilitate the process.

"We will pull fiber throughout the school to Mac Pros, which do the primary HD editing, and that will enable us to



MODEL BEHAVIOR

Since 1980, Professor Alfred Finch has been researching sports biomechanics at Indiana State University's Physical Education Department in Terre Haute, using 3D modeling and other technologies to evaluate sports equipment and to help individual athletes hone their performance. Two years ago, for example, he used three cameras to record every free throw taken by the women's basketball team during the regular season.

"After 300 free throws, I could tell when an athlete was going to miss — even before they shot it — because of the movement pattern that created the miss," he says.

Finch uses a variety of tools and equipment to analyze athletes' performance. In the lab, he has a device that measures the force applied by an athlete's foot in 3D, 2,000 times a second. The platform can connect to any notebook through an analog/digital board. In the laboratory, he uses 32-inch, high-definition televisions as monitors. He also has a projection system with a 20-inch screen, and a 77-inch smart board he can use to control his computer and create drawings. He can also tap a wireless setup to stream video feeds from cameras on the track into the lab for instant analysis.

Out on the field, Finch uses multiple camera setups to capture practices or sporting events, recording at up to 240 frames per second. His notebook, loaded with about \$25,000 worth of imaging software, takes the feeds from the different cameras and creates 3D images for study.

GAME TIME

BY DREW ROBB

ship huge files over fiber,” says Thomsen. “A lot more people can access the servers from multiple places, so this will enable us to do editing at much lower cost.”

IT Plays Backup

Video news is just one of the many ways that IT supports college sports.

“IT has become a vital lifeblood for the Athletic Department,” says Trevor Baglien, senior computer specialist for the University of Washington (UW) Athletic Department in Seattle. “People cannot live without technology these days.”

There was a time when athletes and tech-savvy students rarely mingled. But as new applications have developed to support athletics, coaches have become tech enthusiasts. When they see something new at a conference, they want it,

and it is up to the IT staff to figure out how to support it.

“Smart phones, PDAs — whatever is out there, our coaches have it,” says Baglien. “We are testing and trying new gadgets all the time.”

In one year, UW went from Palm Treo 600 smart phones to 650s and then 700s.

“They want to walk out of their office and have something in their hand that can do everything,” says Baglien.

This enthusiasm has led many athletic departments to hire their own IT staff. Their responsibilities and how they interface with the campus IT department vary widely from one school to another. Many, for example, outsource the hosting of their sports website as part of a conferencewide contract. Virginia’s Polytechnic Institute and State University in Blacksburg, however, has its own webmaster, Damian Salas, who maintains the hokiesports.com website and writes code for various needs of the department, such as the student sports ticket lottery. In addition to posting photos and text, Salas provides streaming video of events using two Apple Xserve servers. The rest of the site, all of which fits in a single rack, sits in the University data center, but Salas is working on moving it to the football stadium where it will be more accessible. The department has additional IT staff to provide user support and a separate video office that uses Avid editing software, and the volleyball staff uses Apple Final Cut Pro. Salas admits he has little interaction with the university’s IT staff.

“Every now and then we will brainstorm web ideas with each other, but we are our own separate entity,” he says.

Howard Goodman, Manager of Information Systems for the University of Virginia’s Athletic Department, has a more structured relationship with the Charlottesville, Va., university. The Local Support Providers group, managed by the campus IT staff, provides help desk and desktop support. There are regular monthly meetings, conferences twice a year, and e-mail lists for support. Hardware support is contracted out. That leaves Goodman and four staff members time to troubleshoot the department’s specialized software and train end users.

UW’s Baglien says he interacts with campus IT on a daily basis. Although he created a separate network to support the sports facilities, he contacts the campus staff for such things as DNS registration and e-mail password changes.

“It’s not collaboration, but day-to-day interaction,” he says.

Yesterday, Today, Tomorrow

When Salas started working at Virginia Tech in 1995, there was no website. Now being the school’s webmaster is a full-time job. When Baglien arrived at UW in 1997, there was what he calls “a prehistoric computer department that had evolved from a typing department.”

Now coaches are texting recruits, editing video on the bus ride home from a game, and scouting opponents over smartphone video. With the current pace of innovation, sports IT departments can only get bigger.

“The nature of technology is there is always something new, and the pace of change increases,” says Goodman. “Nothing stays static.”

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GAME DAY DEJA VU

More than five million people play Electronic Arts’ Madden NFL 08 video game, but most don’t use it to exercise more than their thumbs. Louisiana State University in Baton Rouge, however, is harnessing the game’s underlying software as an integral part of its quarterback training program. LSU uses XOS Technologies’ football-coaching suite, which is based on Madden NFL. It isn’t the same video game you would use on your PlayStation or Wii device. This version incorporates the team’s own playbook, making the electronic players on the video screen a virtual version of the LSU Tigers. Play simulations can run on a notebook, or the quarterback can wear a head-mounted display and physically participate in virtual play.

In addition to the simulator, the suite includes scouting and recruiting software, play drafting, video editing, game analysis and reporting modules. Coaches have two computers on their desks — one connects to the campus network for e-mail and Internet access, the other for the school’s private video network.

LSU has the software set up on a private network, with 30 terabytes of storage for video. The team records all their practices, then removes the hard drives from the cameras and replicates them onto the server. Coaches can review the practice as soon as they walk off the field. In the conference room, coaches can display the drawing of a play, and then follow it up with a video shot of the play in action so the players can easily make the connection between the drawing and how it is carried out on the field.

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