PREPARING FOR THE
UNEXPECTED

NOTIFICATION SOFTWARE LEVERAGES EXISTING CRESTRON EQUIPMENT TO **ALERT** UNIVERSITY STAFF AND STUDENTS TO **OUT-OF-THE-ORDINARY SITUATIONS**

By Wendy L. Ellis

The snow had been falling for hours in Marquette, Michigan, and as the inches piled up, residents of the Upper Peninsula were watching it closely. Just 90 miles away, at Michigan Technological University, David Chard, manager of instructional resources, was wondering how he would get a message out quickly to faculty and students in the classroom — the school would be shutting down early if the storm got worse. In the end, Marquette received 25 inches of snow, but Houghton, home to Michigan Tech, received only six.

"We were lucky this time," says Chard, "But we realized it would be prudent to have a way to communicate with the class-rooms directly and effectively." With that in mind, Michigan Tech is about to install new software conceived and designed by Kurt Elfers of AVI Systems in New Berlin, Wisconsin. The software, AVI Emergency Message Transport (EMT) is designed specifically to display messages on the Crestron touchpanels so prevalent on university and college campuses across the country. Forty of Michigan Tech's newly renovated math and science classrooms already have Crestron panels controlling the AV systems. With the technology already in place, the new software promis-es a cost-effective, efficient way for real-time communication across campus.

Crestron in Control

At the heart of Michigan Tech's classroom technology are networked MPS-100 systems, which provide AV control, switching, and audio amplification. "We designed the classrooms according to their primary use," says Chard. "Some have one projector, some have two, and some have multiple plasma monitors and projection screens." In the same way, the classrooms are equipped with touchpanels ranging from 4 to 15 inches diagonal, depending on the sophistication of the system. "We have three lecture halls with video cameras mounted on the ceiling that we use for physics experiments. The instructor can

zoom the cameras in on the experiment and show it on the plasma screens or the large projection screens so every student can view the information clearly." Each MPS-100 is tied into the university's network, and the entire system is monitored by Chard and his team using RoomView software from the AV office.

The EMT software itself actually resides on a Windows PC. "The idea was that the users who need to send the message in an emergency would be more comfortable with a program on a Windows machine,"

says Elfers. "True emergency situations don't happen very often, so they don't want software that's confusing and hard to remember." The message is currently limited to four lines of text with 20 characters each, and the font adjusts to the screen size of the touchpanel receiving it.

A Crestron AV2 controller acts as the head end of the messaging system. "The Windows software actually talks to the AV2 controller over the network and the information is then disseminated to every wired Crestron touchpanel on campus. Linking
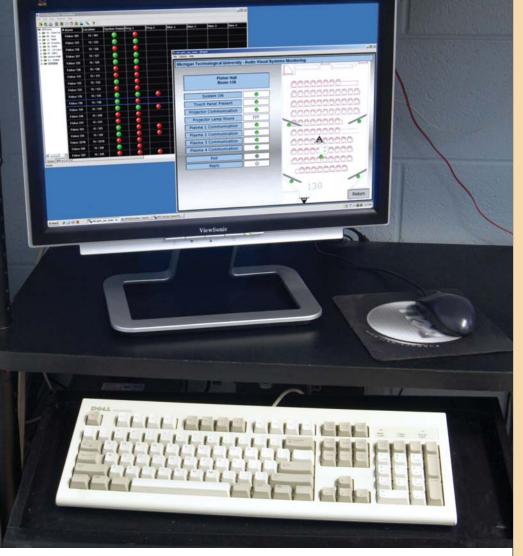
the Crestron to the Windows software was the key to the whole thing." Elfers says a small modification to each touchpanel's programming, allowing it to "listen" for incoming messages, is all it takes to add the EMT software to the classroom.

Chiming In

Elfers' software takes advantage of a feature of all Crestron touchpanels: two way communications. "If you want a button on the touchpanel to close the drapes," he explains, "that's one direction — just the panel sending a message to the control system." But then the control system gives the panel feedback to confirm that it has received the message. If the panel does not receive that feedback, it sends the message again. "In the same way, if we want to put a message on the panel, it has to come from the system to the panel, and that requires communications in the second direction as well." Though every Crestron touchpanel provides communications in both directions, for a number of reasons — not the least of which is that very few universities buy wireless panels because of possible loss — Elfers designed his software to work with wired touchpanels only.

If university staff decides to send a message, an alert tone will emanate from any touchpanel equipped with speakers. Different tones and loudness levels indicate different degrees of urgency, as does the color of the message screen. "We can use this system for any kind of notification," says Elfers. "The message doesn't have to be bright red and accompanied by a loud tone if it's just about the team's big win last night. For informational messages we use a mild chime. For more urgent messages we use something more like a telephone's ring tone." For those classrooms equipped with touchpanels without speakers, the message comes through without the tone.

ROOMS WITH A VIEW AT MICHIGAN TECH

It's a Sunday afternoon in Houghton, Michigan. Bob Hansen, manager of institutional resources, is logging on to his home computer just to make sure all is well in the 40 classrooms at Michigan Tech where sophisticated AV systems play a major role. Hansen is one of a handful of Michigan Tech employees who have access to the status of those systems on a 24/7 basis with Crestron's RoomView Enterprise software.

Hansen and other tech specialists no longer spend hours crisscrossing campus checking on equipment and offering solutions to equipment problems. When there is a problem, most often the techs can diagnose and solve the problem using RoomView. Maintenance, too, is simplified. "Every hundred hours you have to clean the filters in these projectors. Now rather than having to run to every classroom to check, I can just open up my Crestron software, click on a room, and see how many hours it's been since the filter's been cleaned."

Security, too, has been simplified. "If somebody disconnects a projector or cuts the wires, an alarm goes off letting us know it's been disconnected," says Hansen. "On our screen there would be audio and then a red flashing light that tells us the projector in this room has been disconnected."

For Paul Raymond, the AV specialist who programmed RoomView to fit Michigan Tech's needs, flexibility was the key. "The Crestron control systems have two programming components — a logic component and a user interface component. The user interface is the Crestron touchpanel consisting of various sources and destinations. Available features vary in different installations. The RoomView monitoring system allows us to organize the monitored systems any way we want. In our case, we have organized the rooms according to buildings and room classifications. RoomView was designed to be flexible and customizable to fit our needs."

Whatever the day brings, Michigan Tech's AV support specialists are now equipped with real-time knowledge of the equipment in their care. As the university expands its classroom technology, RoomView reaches out and welcomes it into the fold.

More to Come

At the suggestion of another Michigan university also implementing the software, Elfers is adding two new features. The classroom's sound system will be muted if a message comes in, assuring that the class will hear the touchpanel chime should they be watching a video or listening to a lecture. The other programming change will allow a university to target a message to individual buildings rather than the whole campus. This change eliminates the need to interrupt a class unnecessarily if the message isn't meant for them.

The main goal of the system is to reach the maximum number of staff and students in the minimum amount of time. Elfers says AVI is exploring the possibility of allowing the EMT software to address campus digital signage programs like those from Scala. The EMT software would override the messages posted on monitors in lobbies and hallways around campus and post the emergency message instead, effectively reaching anyone not in class at the time.

AVI is also considering linking the EMT software to cell phone messaging systems.

A redundant system has its advantages, as it may take a combination of technologies to achieve full coverage. "We could link to their systems, or they could link to ours," says Elfers. "Then when the message goes out to all the cell phones it also goes out to all the touchpanels." Cell phone messaging alone has its drawbacks. Cell phone reception can be nonexistent inside some buildings, and many phones are turned off during class time.

In the meantime, the EMT software offers an exciting solution to the problem of sending last-minute messages to teachers and staff. "Right now, we are looking at a relatively low-cost, effective method of doing this," says Elfers. "We're leveraging existing Crestron systems that are already in each room to display the message. It's much less expensive than installing new hardware and it gets the message across." The AVI-EMT software can be put to use in any educational or corporate setting where Crestron touchpanels are found.

So the next time the snow begins to fall ominously at Michigan Tech, David Chard will have one less thing to worry about. ∎